CORPORATE GOVERNANCE AND FIRM PERFORMANCE IN SAUDI ARABIA

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A Thesis Submitted in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

Faculty of Business and Law
The University of Newcastle

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Statement of Originality

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository**, subject to the provisions of the Copyright Act 1968.

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Ashraf M. Alsahafi
16-01-2017
Dedication

I dedicate this thesis to the memory of my father who sadly passed away during my study.
Acknowledgment

All the praises and thanks be to Allah, the Almighty, who has given me the strength, patience and knowledge to complete this thesis.

I would like to take this opportunity to extend my thanks and appreciation to every individual who lent me a helping hand and gave me support during my study. I would like particularly to express my special thanks to my supervisors Prof. Jim Psaros and Dr. Paul Docherty for their valuable guidance, encouragement and support throughout my research. Their valuable time spent on reading with prompt feedback, insightful comments and generous response to every request for guidance during my study have been much appreciated. I am very grateful for the opportunity to work with them as I have learned a great deal from their knowledge and experience. Without their contributions, I would not have been able to accomplish this thesis.

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<td>Firm Age</td>
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<td>Capital Expenditure</td>
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<td>CEO Tenure</td>
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<td>Capital Market Authority in Saudi Arabia</td>
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<td>Department of Zakat and Income Tax</td>
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<td>EBIT</td>
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<td>Family CEO</td>
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<td>Market to Book Ratio</td>
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<td>NPM</td>
<td>Net Profit Margin</td>
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<td>OECD</td>
<td>Organization of Economic Co-operation and Development</td>
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<td>OLS</td>
<td>Ordinary Least Square</td>
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<td>OPEC</td>
<td>Organization of the Petroleum Exporting Countries</td>
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<td>OROA</td>
<td>Operating Return on Assets</td>
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<td>The Saudi Organization for Certified Public Accountants</td>
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<td>Saudi Telecom Company</td>
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<td>UAE</td>
<td>The United Arab Emirates</td>
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<td>VIF</td>
<td>Variance Inflation Factor</td>
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<td>WTO</td>
<td>The World Trade Organization</td>
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Abstract

Corporate governance in a specific country relates systematically to its social, economic and legal structures. From this standpoint, and since Saudi Arabia has unique cultural, economic and political features, this study aims to explore corporate governance practices in Saudi Arabia. A close look at the influence of these features on the Saudi business environment reveals that agency theory is not the appropriate theory that can be applied in the Saudi context, despite its widespread adoption in the extant studies of corporate governance. Alternatively, stewardship theory seems to be the most relevant theory to the Saudi business environment. Therefore, stewardship theory is adopted as the main theoretical framework for this study, augmented with other theories including stakeholder, resource dependency and institutional theories.

Taking these multiple theoretical frameworks as a key point of departure from previous studies, this thesis seeks to examine the relationship between corporate governance and firm performance, focusing on three main areas: board of director characteristics, ownership structure and capital structure. The study uses secondary data obtained from annual reports of all non-financial listed firms in Saudi Arabia over a six-year period from 2009 to 2014. Multiple performance measures including both accounting-based and market-based measures are adopted. A number of firm characteristics including firm size, age, growth, capital expenditure, leverage and industry are employed as control variables. The study utilises quantitative analysis techniques including both descriptive and inferential statistics such as ANOVA, t-tests and regression analysis. A lagged structure method is also employed to address endogeneity problems.

The findings of this study, in terms of accounting-based measures of performance, indicate the existence of a relationship between firm performance and the three areas of focus in the directions that would be expected when examining the impact of corporate governance through the lenses of stewardship theory and resource dependency theory. The results related to the board of director characteristics indicate that while there is a negative relationship between board independence and firm performance, other board characteristics, namely board size, CEO duality, CEO tenure and family CEO, are positively associated with firm performance. Regarding ownership structure, the results reveal a positive relationship between ownership concentration and firm performance. Among the types of ownership, only family and managerial ownership have a positive impact on firm performance. Interestingly, family ownership is found to have a positive impact on firm performance only when family owners are on the board of directors. With respect to capital structure, the findings indicate a negative relationship between capital structure and firm performance. In addition, the study reveals a positive impact of Islamic debt on firm performance. On the other hand, the results based on market-based measures of performance show no significant impact of the board of director characteristics, ownership structure and capital structure on firm value.

In light of the recent adoption of the OECD principles of corporate governance across a range of emerging markets, a key implication of this thesis is that such regulations may need to be refined to better reflect the specific context of the countries within which they operate. The findings of this study provide valuable implications for policymakers, regulators, firms, shareholders and investors in Saudi Arabia.
Chapter One: Introduction

1.1 Introduction

There has been a growing international interest in corporate governance over the last two decades, and therefore corporate governance has become a key element in the global economy. The importance of corporate governance has been highlighted by a considerable body of research which emphasizes the strong link between corporate governance and the health and vitality of financial markets and a country’s economy. Implementing corporate governance is essential to protect shareholders’ interests and enhance firm performance. It helps accelerate capital market development, attract foreign investments, improve market efficiency and minimize vulnerability to financial crises (Greuning & Bratanovic, 2009; Shank, Hill, & Stang, 2013).

In emerging markets, the need for corporate governance is more pressing than developed countries, given that both the capital markets and the legal systems in emerging markets are not well developed and shareholder rights are not fully protected. It is claimed that one of the major reasons behind the 1997 Asian crisis was poor corporate governance practices (Johnson, Boone, Breach, & Friedman, 2000; Lemmon & Lins, 2003; Nam & Nam, 2004). The 2008 financial crisis in the United Arab Emirates, known as the Dubai crisis, was also attributed mainly to the lack of effective corporate governance practices. In response to increasing international pressure following the global financial crisis, many developing countries established corporate governance codes. The contents of these codes were largely extracted from the Organization of Economic Co-operation and Development (OECD) principles of corporate governance. However, due to the vast differences between the contextual settings of developing countries and those of developed countries, it is unlikely that simply transplanting the principles espoused by the OECD across countries with diverse cultures, legal and business environments will provide an effective governance regime across all contexts (Licht, Goldschmidt, & Schwartz, 2005; Senaratne, 2011).

Corporate governance practices have been reported to vary significantly from country to country according to a number of factors including cultural, social, economic and political factors. Koerniadi and Tourani-Rad (2012) argue that good corporate governance practices are not universal and factors such as firm characteristics and market structure...
need to be considered to achieve effective implementation of corporate governance. In addition, ownership structure is an important determinant of the effectiveness of corporate governance practices in any country (Shleifer & Vishny, 1997). Since there are variations in ownership structure between developed and developing countries, corporate governance practices are expected to vary significantly across these countries (Krivogorsky, 2006; Miguel, Pindado, & Torre, 2004; Sing & Sirmans, 2008).

Like many developing countries, corporate governance was overlooked for a long time in Saudi Arabia until 2005, when the Capital Market Authority (CMA) in Saudi Arabia began to draw attention to some problems regarding Saudi firms’ performance (Al-Matari, Al-Swidi, & Fadzil, 2012). In addition, the Saudi Stock Market crash in 2006 highlighted the need for sound corporate governance practices to enhance the effectiveness and efficiency of financial markets in Saudi Arabia (Alghamdi, 2012). In parallel with a global trend towards the adoption of corporate governance frameworks, the CMA established the Corporate Governance Regulations (CGRs) at the end of 2006, aiming to ensure that Saudi listed firms comply with the best governance practices that would protect the interests of both shareholders and stakeholders (CMA, 2006). These regulations are mainly derived from the OECD principles of corporate governance and the 1992 UK Cadbury Report (Al-Abbas, 2009; Seidl, Sanderson, & Roberts, 2013). As an initial step, these regulations only provided a guideline for Saudi firms until 2009 when compliance with the CGRs became mandatory for all listed firms.

1.2 Motivation of the Study

Corporate governance in a specific country relates directly to its social, cultural and economic background (Bhasa, 2004; Keong, 2002; Licht et al., 2005). In addition, firm-specific characteristics including ownership structure and capital structure significantly influence the effectiveness of corporate governance implementation (Agrawal & Knoeber, 1996; Ali, 2010; Denis & McConnell, 2003). Therefore, it is important to consider the impact of these factors when investigating corporate governance practices in a specific context. The Saudi corporate context has unique features and characteristics in terms of religion, culture, ownership structure and capital structure, compared to both developed and developing countries. These factors are expected to have a direct impact on corporate governance practices in the Saudi corporate context.
Since Saudi Arabia is an Islamic country, its legal system is based on Islamic law (Sharia) (Al-Harkan, 2005). Islamic religion has a deep and direct impact on all aspects of life in Saudi Arabia including the legal system and social behaviour. Islamic principles heavily influence the business environment in Saudi Arabia, placing more emphasis on high ethical standards such as accountability, fairness, transparency, truthfulness and justice (Kamla, 2009; Moustafa, 1985). The implications of the commitment to these values highlight challenges to the most dominant theory of corporate governance, namely agency theory, in terms of its perspective regarding the existence of agency problems between managers and shareholders, and between majority and minority shareholders (Safieddine, 2009).

In addition to the impact of Islamic values, Saudi culture also has a strong effect on the Saudi corporate context. The Saudi culture is a unique blend of Islamic traditions and Arabic tribal customs, which shapes the behaviour of Saudi society (Long, 2005). The collective nature of Saudi society and the importance given to informal social relationships have a great influence on the business environment in Saudi Arabia (Al-Harkan, 2005). According to Falgi (2009), socio-cultural factors such as family ties, favouritism and tribalism have many implications for corporate governance practices in Saudi firms such as the appointment of independent directors, the role of the CEO and chairman, and CEO tenure.

Another distinct feature of Saudi Arabia that influences the business environment is the political structure. The political system in Saudi Arabia is a near-absolute monarchy and the king holds the position of the head of state as well as the prime minister. Moreover, the king assumes the three fundamental powers: executive, legislative and judicial. In such a political system, political connections are extremely important in the business environment. In addition, corporate governance practices such as board appointments are affected by political connections.

The nature of corporate ownership in Saudi Arabia presents a unique setting to study corporate governance practices. Unlike developed countries, the Saudi market is characterised by high concentration of ownership which is dominated by the state and families (Alghamdi, 2012; Attar, 2014). Such ownership concentration is considered as an internal control mechanism to monitor managers, which in turn mitigates agency
conflicts between managers and shareholders. It is argued that agency problems are fewer and less significant in countries with higher ownership concentration (Clark, 2004). This raises a question regarding the appropriateness of the CGRs to the Saudi context since they are predicated on agency theory considerations. From another perspective, the existence of ownership concentration, especially in forms of family and government, may limit institutional ownership in the market which negatively influences stock market efficiency.

In Saudi Arabia, both firm and country factors such as the financial system and firm’s capital structure provide a unique natural environment that differs from developed and developing countries. The financial system in Saudi Arabia includes a combination of both Islamic and non-Islamic sources of capital. According to Al-Ajmi, Abo Hussain, and Al-Saleh (2009), more that 75% of Saudi listed firms rely on Islamic banks operating in Saudi Arabia to obtain external finance. The nature of Islamic financing, which is based on the prohibition of compound interest and the sharing of profit and loss, differs substantially from the ‘traditional’ or non-Islamic financing used in developed countries (i.e. interest-based financing). The capital structure of a firm, particularly the use of non-Islamic debt, has been viewed as an important corporate governance mechanism, given the additional monitoring imposed on managers by debt holders which can help mitigate agency conflicts between managers and stakeholders (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; Williamson, 1988). The existence of the dual financing system in Saudi Arabia provides a new insight into the study of the impact of capital structure and the type of finance on firm performance. In addition, while most firms in developing countries finance their investments through debt and equity markets (Singh, 1995), Saudi firms rely heavily on internal sources of financing due to the weakness of the debt market in Saudi Arabia (Fallatah & Dickins, 2012). This distinguishes the capital structure of Saudi firms from the capital structure of other firms in developed and developing countries, and thus corporate governance mechanisms that are suitable for some countries may not be appropriate to the Saudi corporate context.

Besides the unique contextual settings of the Saudi business environment that influence corporate governance practices in Saudi firms, this study is also motivated by other aspects related to corporate governance in Saudi Arabia. Firstly, although the CGRs were established in 2006 by CMA, the concept of corporate governance is still nascent to firms
in the Saudi market (World Bank, 2009). The implementation of corporate governance by Saudi firms is in its early stages, and many of the CGRs are still untested (World Bank, 2009). Secondly, even though there are vast differences between the corporate context in Saudi Arabia and those of other countries, the majority of CGRs in Saudi Arabia were mainly derived from the OECD principles (Riyadh Chamber of Commerce and Industry, 2007). This raises a question about the appropriateness of these regulations to the Saudi context and the extent to which they can enhance Saudi firms’ performance, since effective corporate governance practices may not be achieved by simply adopting international corporate governance practices without considering local distinguishing factors.

Although corporate governance has been thoroughly investigated in developed countries (Alali, Anandarajan, & Jiang, 2012; Brown & Caylor, 2006; Jensen, 1993; Jensen & Meckling, 1976; Lee, 2012), the issues of corporate governance in developing countries still remain ambiguous or uncovered (Manawaduge, 2012). It is argued that the findings of studies concerning corporate governance issues in developed countries have limited applicability in developing countries due to the variation in the contextual setting between developed and developing countries (Durnev & Kim, 2007; Kouwenberg, 2006). As discussed above, the Saudi business environment has unique features in terms of culture, religion, ownership structure and capital structure which are expected to significantly influence corporate governance practices in Saudi firms, and thus the findings of previous studies conducted in developed or even in developing countries cannot necessarily be generalized to the Saudi corporate context.

A review of previous corporate governance research in Saudi Arabia indicates a number of gaps. Firstly, almost all previous studies rely on agency theory for the analysis of corporate governance issues, even though the features of the Saudi business environment do not support agency theory which assumes that managers are self-interested and make their decisions based on their own interests rather than shareholders’ interests. Due to the influence of Islamic values and Arabic tribal customs, people in Saudi Arabia are not expected to be motivated by self-interest, but rather they share concern for the affairs of others (Sharif, 1996). Saudi society is characterized by a high degree of empathy for others, strong social bonds and mutual aid among members of the society (Sharif, 1996). In addition, ownership structure in Saudi firms, which is characterised by concentrated
ownership (Al-Nodel & Hussainey, 2010; Alghamdi, 2012), supports the argument raised in this study regarding the inappropriateness of agency theory to the Saudi corporate context. In this setting, ownership concentration is considered as an internal control mechanism that helps reduce the likelihood of managerial opportunism (Earle, Kucsera, & Telegdy, 2005; Laiho, 2011; Pornupatham, 2006).

Secondly, previous studies have limitations in terms of sample sizes and research methods employed (Al-Hussain & Johnson, 2009; AlNodel & Hussainey, 2010; Alsaeed, 2006). Most extant studies of corporate governance in Saudi Arabia examine a small sample of firms and a single year period, which limits the generalizability of their findings. Fosberg (1989) claims that using a single year of data is not sufficient to make judgments about the effectiveness of corporate governance practices. Thirdly, most studies of corporate governance in Saudi Arabia use either a single performance measure or rely only on accounting-based performance measures, which may fail to provide a complete picture of the impact of corporate governance on firm performance.

Fourthly, there is a paucity of studies that investigate the impact of some board characteristics such as CEO tenure and family CEO, even though there are many Saudi firms that have a family CEO. Investigating these characteristics is particularly important in the Saudi context, given that many listed firms in Saudi Arabia were family firms converted to joint stock companies. Those firms still operate like family firms, with the CEO positions often being held by family members. In addition, Saudis believe more in the ability of their family members to take a responsibility as a CEO (Adeyemi-Bello & Kincaid, 2012; Fischer & Manstead, 2000). Moreover, the nature of ownership structure in Saudi firms which is dominated by families enhances CEO tenure, given the direct impact of those families on selecting CEOs (Al Kahtani, 2013). Adeyemi-Bello and Kincaid (2012) report that the CEO position in Saudi firms is usually held by a person who has a strong and trusting relationship with the main shareholders, which in turn leads to an increase in the CEO tenure.

Fifthly, little attention has been drawn to the impact of ownership structure on Saudi firms, even though Saudi firms are characterised by concentrated ownership which is dominated by the state and family. In addition, although Saudi firms are expected to have a high level of managerial ownership due to the participation of controlling shareholders...
in the board of directors, the impact of managerial ownership on the performance of Saudi firms has not been investigated. Moreover, the impact of institutional ownership on Saudi firms’ performance has not been examined, even though institutional ownership is expected to play an important role in improving firm performance as well as market efficiency. Sixthly, despite the availability of both Islamic and non-Islamic financing systems in the Saudi market, there is a lack of studies that examine the relationship between the type of financing (Islamic or non-Islamic) and firm performance. Given the differences in the operations of Islamic and non-Islamic financing systems, it is important to investigate the impact of each type of financing on firm performance.

1.3 Objectives of the Study

Given the uniqueness of the Saudi corporate environment and the limitations of previous studies, this study aims to fill some key gaps in the corporate governance literature in the Saudi Arabian context. The study seeks to examine the impact of board of director characteristics, ownership structure and capital structure on Saudi firms’ performance. The board of director characteristics that are examined are board independence, board size, CEO duality, CEO tenure and family CEO. The relationship between ownership structure and performance is examined by investigating the differential performance of firms with different ownership concentration, as well as government, family, institutional and managerial ownership. The study also examines the relationship between both the proportion and type of debt employed by Saudi firms and their performance. In particular, the study aims to achieve the following objectives:

1. To investigate the relationship between board of director characteristics (board independence, board size, CEO duality, CEO tenure and family CEO) and Saudi firms’ performance.
2. To examine the relationship between ownership structure (ownership concentration, government ownership, family ownership, institutional ownership and managerial ownership) and Saudi firms’ performance.
3. To investigate the relationship between capital structure (debt ratio and type of debt) and Saudi firms’ performance.
1.4 Research Questions and Hypotheses

The study is guided by the following key research questions:

1. What is the relationship between board of director characteristics and Saudi firms’ performance?
2. What is the relationship between ownership structure and Saudi firms’ performance?
3. What is the relationship between capital structure and Saudi firms’ performance?

The three key research questions are formulated to several testable hypotheses. The unique features of the Saudi business environment support the assumptions of stewardship theory regarding the board of director characteristics, ownership structure and capital structure. Therefore, the study adopts stewardship theory as the main underlying theoretical framework that motivates the hypotheses. Since corporate governance relates to a number of factors such as culture, economics, politics and organizational behaviour, the study adopts multiple theoretical frameworks by augmenting stewardship theory with stakeholder, resource dependency and institutional theories to account for these factors. Using these multiple theoretical frameworks results in the following hypotheses.

To answer the first research question, the following five hypotheses are developed:

H1: There is a negative relationship between board independence and firm performance.
H2: There is a positive relationship between board size and firm performance.
H3: There is a positive relationship between CEO duality and firm performance.
H4: There is a positive relationship between CEO tenure and firm performance.
H5: Firms with high family ownership that are run by a family CEO perform better than firms run by a non-family CEO.

To answer the second research question, the following five hypotheses are formulated:

H6: There is a positive relationship between ownership concentration and firm performance.
H7: There is a positive relationship between government ownership and firm performance.
H8: There is a positive relationship between family ownership and firm performance.
H9: There is a positive relationship between institutional ownership and firm performance.
H10: There is a positive relationship between managerial ownership and firm performance.

To answer the third research question, the following two hypotheses are developed:

H11: There is a negative relationship between capital structure and firm performance.
H12: Firms that are wholly financed by Islamic debt perform better than those financed by non-Islamic debt, either partially or wholly.

1.5 Research Methodology

As appropriate to the nature of this study, it is oriented in a positivist theoretical perspective, and a deductive approach is adopted to carry out this study. Under the deductive approach, quantitative analysis is often used in the empirical investigation. The quantitative approach is the most commonly adopted approach in corporate governance studies (Albassam, 2014; Boyd, Santos, & Shen, 2012; Cassell, Buehring, Symon, Johnson, & Bishop, 2005).

The population of this study is made up of all non-financial firms listed on the Saudi Stock Exchange (Tadawul)\(^1\) over a six-year period from 2009 to 2014. Restricting the sample only to non-financial firms is due to the differences in the regulatory requirements between financial and non-financial firms. In addition, the capital structure of financial firms is significantly different from other firms. Although the CGRs were established in 2006, most Saudi listed firms did not comply with them until 2009 when the CGRs became mandatory. Therefore, the sample period commences in 2009 due to the unavailability of corporate governance data for the majority of firms prior to this year. The final sample of the study includes 646 firm-year observations from 13 industries.

The study is based on secondary data obtained from annual reports and the Tadawul website. In order to investigate the relationship between corporate governance mechanisms and firm performance, the study uses both accounting-based and market-based measures of firm performance. The study also uses a number of control variables

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\(^1\) Tadawul is the official stock exchange in Saudi Arabia and is supervised by the CMA.
that are expected to affect firm performance, including firm size, age, growth, capital expenditure, leverage and industry. The study employs quantitative analysis techniques including both descriptive and inferential statistics such as ANOVA, t-tests and regression analysis. The study also adopts a lagged structure method to address the problems associated with endogeneity which have been identified in previous studies concerning the relationship between corporate governance and firm performance (Chenhall & Moers, 2007; Schultz & Tan, 2010; Wooldridge, 2009).

1.6 Significance of the Study

Since the study attempts to explore corporate governance practices in Saudi firms with special consideration given to the unique contextual settings of the Saudi business environment, this study contributes to the literature on corporate governance through the advancement of knowledge on the interaction between national culture and corporate governance practices. Corporate governance research has mainly focused on the context of developed countries. As such, governance knowledge in the context of developing countries is limited, given the vast differences between these countries in terms of social, cultural, economic and political factors which may have an impact on corporate governance practices. Therefore, this study makes an important contribution to the body of knowledge on corporate governance in developing countries, particularly in the Saudi context that has had only limited investigation. In addition, given that the OECD governance regulations, which were developed based on the context of developed countries, have been rolled out across most developing countries regardless of the differences between the contextual settings of these countries and developed countries, this study has important implications for the applicability of homogeneous governance regulations by demonstrating the importance of country-specific factors.

The theoretical contribution of this study is that the development of a theoretical framework to investigate corporate governance in a specific context should consider all theoretical drivers affecting the business environment in that context rather than assuming one theory can provide a full explanation across all countries. The study contributes to the literature by adopting multiple theoretical frameworks to understand corporate governance practices in the Saudi corporate context. In addition, the study fills a gap in the existing corporate governance literature regarding the implications of Islamic
principles for agency relationships by providing an analysis of how agency relationships can be different from one context to another. In this regard, the study extends the literature on the agency relationships in an Islamic context such as Saudi Arabia. The study also contributes to corporate governance literature as one of the few studies that connect to the theoretical debate between agency theory and stewardship theory, by providing empirical evidence that challenges the dominance of agency theory and supports the appropriateness of stewardship theory to the Saudi corporate context, thereby strengthening its theoretical foundations and relevance to corporate governance literature.

The findings of this study contribute to the growing literature on the relationship between corporate governance practices and firm performance, with a particular focus on three main areas: board of director characteristics, ownership structure and capital structure. Investigating these areas is very important in establishing an effective corporate governance code, given that corporate governance practices are not developed in a vacuum, but rather reflect underlying firm-specific characteristics as well as socio-economic factors. Therefore, this study provides a comprehensive explanation and understanding of corporate governance practices in the Saudi corporate context and their impacts on firm performance. To the best of the researcher’s knowledge, this study is the first study that has provided a comprehensive examination across all these three areas in the Saudi context. Therefore, the study contributes to the extant body of literature by providing new evidence on the main factors that influence corporate governance practices from a country with a different business environment and regulations. In addition, the results of this study are expected to be of great relevance to other Arab countries, particularly the Gulf Cooperation Council (GCC) countries, which share similar social, political and economic environments.

Given that the mandatory adoption of corporate governance practices in Saudi Arabia is in its early stages, this study can help elucidate issues and potential implications of current corporate governance practices in Saudi firms. It would be beneficial for both policy makers and regulatory bodies to identify deficiencies and to find out remedial actions to improve the current practices of corporate governance. In this regard, the findings of this study provide insights that can be used as part of ongoing corporate governance reform in Saudi Arabia. In addition, since the study explores the causal relationship between corporate governance practices and firm performance, the findings of this study can assist
in guiding firms on how to best adapt their board characteristics, ownership structure and capital structure to improve performance.

Finally, the sample examined in this study includes all non-financial firms listed on the Saudi Stock Exchange over a six-year period from 2009 to 2014. This is in contrast to previous studies in Saudi Arabia that use noticeably smaller sample sizes and a single year period. Therefore, the results of this study provide a comprehensive picture and a better understanding of corporate governance practices in Saudi firms.

1.7 Organization of the Thesis

The thesis is organized into ten chapters including this introductory chapter. Chapter Two provides an overview of Saudi Arabia to reveal insights into various factors such as its historical background, legal system, business environment, monitoring bodies and business laws. It sheds light on the development of companies’ regulations in Saudi Arabia including corporate governance regulations. An understanding of these factors helps to frame the adoption of the appropriate theoretical framework to investigate corporate governance in Saudi Arabia.

Chapter Three provides a discussion of the main theories of corporate governance and highlights their implications within the Saudi context. The key corporate governance theories reviewed in this chapter are agency, stewardship, stakeholder, resource dependency and institutional theories. To select the appropriate theoretical frameworks for this study, each of these theories are analysed with respect to their applicability in the Saudi business environment. Distinct from previous studies that focus only on agency theory, the study adopts multiple theoretical frameworks comprised of stewardship, stakeholder, resource dependency and institutional theories as the appropriate theoretical frameworks to investigate corporate governance in the Saudi context.

Chapter Four presents a review of the literature on corporate governance and its impacts on firm performance. This chapter provides a review of the key theories and empirical studies related to the influence of board characteristics, ownership structure and capital structure on firm performance in both developed and developing countries. The chapter ends with identification of gaps in the literature related to the particular focus of this study.
A discussion of the research hypotheses associated with the research questions is presented in Chapter Five. There are three main areas of research hypotheses: board of director characteristics, ownership structure and capital structure. The hypotheses are developed based on corporate governance theories and related empirical studies discussed in Chapters Three and Four.

The research methodology is outlined in Chapter Six. The chapter presents and explains the research philosophy, approach, design and methods used to carry out this study. The chapter also discusses the selection of the sample, the sources of the data and the variables used in this study. The models for statistical analysis and details of the analysis used to examine the relationship between corporate governance and firm performance are presented in this chapter.

The subsequent three chapters (Seven, Eight and Nine) present and discuss the research findings related to the three research questions. Specifically, Chapter Seven provides the results of the relationship between the board of director characteristics (board independence, board size, CEO duality, CEO tenure and family CEO) and Saudi firms’ performance. Chapter Eight reports the findings related to the impact of ownership structure on firm performance. The chapter provides the results of the impact of each type of ownership (ownership concentration, government, family, institutional and managerial ownership) on Saudi firms’ performance. Chapter Nine presents the results of the relationship between capital structure and firm performance. It also provides the findings concerning the impact of Islamic financing on Saudi firms’ performance. In addition, each of these three chapters includes a section that presents and discusses the results of robustness tests carried out to deal with potential endogeneity problems.

Finally, Chapter Ten presents an overview of the thesis. It provides a summary of the main research findings and general conclusions that can be drawn from the study. It also discusses the implications and limitations of the study. The chapter concludes by providing suggestions for future research.
Chapter Two: An Overview of Corporate Governance in Saudi Arabia

2.1 Introduction

Corporate governance reflects a country’s history, culture and legal systems. Thus, it is essential to consider these factors when studying corporate governance in a specific country. As this study aims to investigate corporate governance in Saudi Arabia, this chapter provides an overview of Saudi Arabia to reveal insights into its historical background, legal system, business environment, monitoring bodies and business laws.

This chapter proceeds as follows. Section 2.2 presents a brief background of Saudi Arabia. Details about the country’s legal system are provided in Section 2.3. Section 2.4 discusses the business environment in Saudi Arabia, highlighting the most important features of the Saudi business environment including social and cultural factors, Islamic religion, ownership structure and capital structure. Section 2.5 sheds light on the main bodies regulating and monitoring Saudi companies. In Section 2.6, the development of companies’ regulations in Saudi Arabia is discussed. Section 2.7 provides a brief summary of the chapter.

2.2 Background of Saudi Arabia

Saudi Arabia traces its roots back to the earliest civilizations of the Arabian Peninsula in the early 18th century (Al-Rasheed, 2002). The modern Kingdom of Saudi Arabia was established by King Abdulaziz Al Saud in 1932. Saudi Arabia is located in the south west of Asia. The area of Saudi Arabia is about 2.25 million square kilometres, with a population estimated at more than 28 million (Ministry of Economy and Planning, 2011). The capital city of Saudi Arabia is Riyadh, and the official language is Arabic. The political system in the kingdom is a near-absolute monarchy and the king holds the position of the head of state as well as the prime minister. Moreover, the king assumes the three fundamental powers: executive, legislative and judicial.

Saudi Arabia holds a unique position of particular religious significance among other Arabic and Islamic countries since it is the heart of Islam as it is home of the two holiest Muslim places which are Makkah (the direction of prayer and the pilgrimage for
Muslims) and Medina (the place where Prophet Mohammed migrated and was buried). In this respect, Menoret (2005, p. 100) states that:

Islam is inseparable from Saudi consciousness and national pride, not only because Arabia houses the holy places of Makka and Medina but also because it was the centre of the first indigenous Arab-Muslim resistance to foreign domination.

The importance of the Islamic religion in Saudi Arabia is traced back to the establishment of the first Saudi state in 1774, when Mohammed Ibn Saud (the political leader) agreed with Sheikh Mohammed Ibn Abdulwahhab (the religious leader) to form a state that adopts Islamic legislation (Al-Turaiqi, 2008; Bowen, 2008). Accordingly, Saudi Arabia is an Islamic country in terms of its legal system and adheres to Islamic regulations (Al-Harkan, 2005). The Islamic religion is the main factor that influences all aspects of life in Saudi Arabia. Article 23 of the Saudi Basic Law of Governance clearly states that “The state shall protect the Islamic creed, apply the Sharia, encourage good and discourage evil, and undertake its duty regarding the propagation of Islam” (Royal Embassy of Saudi Arabia, 1992).

Saudi Arabia has never been colonized or ruled by other countries, and thus it has developed its own independent culture, values, language and economy. Before the discovery of oil in 1937, the source of income in Saudi Arabia relied on the pilgrimage to Makkah in the western region, agriculture in the southern and central regions, and fishing along the eastern coast. Since 1937 and after the discovery of oil, the economy of Saudi Arabia has been heavily dependent on oil. The discovery of oil has brought substantial changes in Saudi social and economic life. Currently, oil exports represent 90-95% of the total national income and 35-40% of GDP (Falgi, 2009). According to OPEC (2013), Saudi Arabia hold 22% of the world’s proven petroleum reserves and is the world’s largest producer and exporter of total petroleum in the world.

2.3 The Legal System in Saudi Arabia

A country’s legal system has a significant impact on its regulations and practices. Since Saudi Arabia is an Islamic country, its legal system is based on Islamic law (Sharia). The
two major sources of Islamic law are the Holy Qur’an (the God’s book) and the Sunnah\(^2\) (the traditions of the Prophet Mohammed). The first Article in the first Chapter of the Saudi Basic Law of Governance explicitly highlights that Saudi Arabia’s constitution is the Holy Qur’an and the Sunnah. Article one stats that:

The Kingdom of Saudi Arabia is a sovereign Arab Islamic State. Its religion is Islam. Its constitution is Almighty God’s Book, The Holy Quran, and the Sunnah (Tradition) of the Prophet (PBUH). Arabic is the language of the Kingdom. The City of Riyadh is the capital (Royal Embassy of Saudi Arabia, 1992).

In addition to the main two sources of Sharia (the Holy Qur’an and the Sunnah), Sharia also grants flexibility to the President of an Islamic country to establish different rules and regulations based on ‘reason’ and ‘consensus’, as long as they are not in conflict with Sharia principles (Almajid, 2008). Such flexibility enabled the lawmakers in Saudi Arabia to adopt some Western legal concepts after consulting with the religious leaders. These legal concepts were used to support and govern the economic development in Saudi Arabia mainly in the spheres of industry, finance and insurance.

The strong historical relationship between Saudi Arabia and both the US and the UK has greatly affected the business environment in Saudi Arabia. Many rules and regulations that are adopted in the Saudi Arabian business context have been translated from the US and the UK legislations including company law, accounting standards, corporate governance regulations, auditing standards and auditor independence standards (Al-Angari, 2004). According to Alghamdi (2012, p. 13), “the Saudi legal system that relates to the business environment is a mixture of rules and regulations from American, British and other countries’ legislations, controlled and influenced by an Islamic framework”.

Overall, Islam religion has a deep and direct impact on all aspects of life in Saudi Arabia including the legal system and social behaviour. In addition, Islamic principles heavily influence the business environment in Saudi Arabia, placing more emphasis on high ethical standards such as accountability, fairness, truthfulness and justice (Kamla, 2009; Moustafa, 1985). Even though some Saudi business’s regulations were derived from non-

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\(^2\) Sunnah is an Arabic expression that means in general a method or a way of conduct. The Sunnah, in the context of Islamic jurisprudence, means that all the traditions and practices of the Prophet Mohammed that have become models to be followed by the Muslims.
Islamic countries, they have to be in accordance with Islamic principles and in line with the Saudi environment.

2.4 Business Environment in Saudi Arabia

Saudi Arabia is the Middle East’s largest economy. It is the largest economy in the GCC countries, contributing almost half of the total GDP of the GCC’s economy and 77% of the total population (Chauvin, 2010). The Saudi Stock Market has the highest market capitalization in the Arab region, is the 8th largest emerging market, and ranks 23rd worldwide (Fallatah & Dickins, 2012). In the last decade, Saudi Arabia has become a member of many worldwide organizations including the International Monetary Fund (IMF), the United Nation (UN), the World Trade Organization (WTO) and the World Bank (WB). Recently, after the global financial crisis, Saudi Arabia has become a member of the Group of Twenty (G20) as being one of the top twenty economies in the world.

The Saudi business environment has unique features and characteristics compared to both developed and developing countries. These features are expected to have a direct impact on corporate governance practices in Saudi Arabia. The following sections discuss the most important features of the Saudi business environment including social and cultural factors, Islamic religion, ownership structure and capital structure.

2.4.1 Social and Cultural Factors

Culture can be defined as “communities of common ideologies and a common set of rules that all believe in” (North, 1987, p. 421). Culture also refers to the complex of symbols, meanings and assumptions about what is right or wrong, legitimate or illegitimate which underlie the practices in a society (Bourdieu, 1977). Social and cultural factors have major impacts on all aspects of business environment in any country. According to Licht (2001), culture has an important role in the development of financial regulations and corporate governance practices. Licht argues that the variations between national cultures explain the differences in corporate governance practices across countries. In this respect, Falgi (2009) emphasizes that Saudi Arabian cultural factors have a direct influence on corporate governance practices in Saudi Arabia. This could be attributed to the unique cultural features of Saudi Arabia which differ from other countries even from some Arab countries, given that Saudi Arabia has never been colonized. According to Long (2005),
the Saudi culture is a unique blend of Islamic traditions and Arabic tribal customs, which shapes the behaviour of Saudi society.

Saudi Arabian culture has been explored by many scholars using Hofstede’s (1984) model. Hofstede identifies four dimensions of culture: power distance, uncertainty avoidance, individualism versus collectivism and masculinity versus femininity. With regard to the level of power distance, which is measured as the level of inequality between people that is considered normal by the population (Hofstede, 1984), Bjerke and Al-Meer (1993) classify Saudi society as a large power distance society. This could be attributed to the unique social features of Saudi Society which include:

- Hierarchical authority shapes Saudi society, and thus the form and content of the regulations are expected to be subject to the power and personality of the regulations makers (Sabri, 1995).
- The power level in Saudi Arabia is strongly affected by relationships with family and friends.
- Less power members in Saudi society rely more on more power members (Hofstede, 1991).

Compared with Western countries, Saudi society seems to have a higher level of uncertainty avoidance. According to Hofstede (1984), uncertainty avoidance reflects the extent to which members of a society prefer structured over unstructured situations. Bjerke and Al-Meer (1993) refer the high level of uncertainty avoidance among Saudi people to society features such as emphasis on conservatism, support for nationalism, existence of precise laws and religion as a bulwark of society. As a result of this high uncertainty avoidance characteristic, Saudi society does not readily accept change.

The collective nature of Saudi society is manifested in a close long-term commitment to the member ‘group’. According to Al-Harkan (2005, p. 133), this nature can also be illustrated by “the dominant role of the state in the economy, government control of the press, the political power exercised by particular interest groups, and the tendency for personal relationships to be seen as more important than task achievement”. To understand whether Saudi society is masculine or feminine, it is important to understand the principles of Islam and their impacts on the way of life as Islam has a direct influence on all aspects of Saudi life. Muslims are encouraged to take care of others and strengthen
the social bond and mutual aid, and thus Saudi society can be perceived as feminine in regard to these characteristics (Sharif, 1996). On the other hand, the workforce in Saudi Arabia is dominated by males who hold the majority of the important positions in Saudi society.

The general culture of Saudi society, which discussed above, has significant implications for all aspects of the business environment in Saudi Arabia. Falgi (2009) emphasizes the direct impacts of social and cultural factors of Saudi society on corporate governance practices in Saudi Arabia. Falgi identifies three socio-cultural factors that seem to be most influential on the exercise of corporate governance which are family ties, favouritism and tribalism. According to Ghabayen (2012), in a society like Saudi Arabia where family relationships are very strong, joint stock companies in Saudi Arabia still look like family firms. In addition, the ‘compliment culture’, which is dominant in Saudi society and in business relationships in particular, has a direct impact on the selection of directors and managers in Saudi firms. In this respect, Alghamdi (2012) stresses that there is nepotism in appointing board members in Saudi firms due to the influence of social habits and culture, which raises a number of issues regarding the processes and principles of appointing board members.

The members of the board of directors in Saudi firms usually have a strong relationship through either blood relationship or friendship. This formulation of the board may negatively affect the decision making or lead to conflict of interest. In addition, the strong family ties in Saudi society may also affect the selection of independent directors. The impact of social and cultural factors on appointing the board of directors is highlighted by Falgi (2009, p. 176):

Membership of a board of directors is considered by some within the companies and by members of society at large as a notable achievement and that as a consequence, there is sometimes fierce competition for board membership. Those who see board membership from this perspective, without giving any consideration to its responsibilities and duties, or their suitability for such positions, are perceived to burden the boards and impede the development of corporate governance standards in their companies.
As a result, independent directors in Saudi firms may lack appropriate skills and experience (Al-Moataz, 2003). These features of Saudi society may also have an impact on the role of CEO and chairman in Saudi firms as well as CEO tenure (Alghamdi, 2012). In addition, Saudi society lacks the voting culture especially among small investors which makes their participation in the annual general meeting very weak (Al-Turki, 2006).

2.4.2 Islamic Religion

Saudi Arabia, as an Islamic country, is committed to preserving Islamic principles. All aspects of society are affected by these principles, not only people’s lives, but also the regulations and policies of the country which regulate the business environment including accounting standards and corporate governance practices (Miles & Goulding, 2010). Sarji (1993) argues that if corporate governance practices are affected by cultural factors then religion is also expected to influence corporate governance practices, since cultural values are strongly influenced by religion. The impact of religion on business activities can be recognised from the roles that shape and enforce ethical behaviour such as accountability, justice and truthfulness (Abeng, 1997). Such values increase the degree of trust in business transactions and financial affairs. The aims of corporate governance from the Islamic perspective are to adopt Islamic values and objectives on business and corporate dealings, apply the concept of Islamic economic justice and motivate Muslims (individuals and corporations) to perform all their activities based on Islamic law (Bhatti & Bhatti, 2010).

One of the most important Islamic objectives is wealth (*mal*3) (Al Kahtani, 2013). Due to the features that distinguish the Islamic objective of wealth from other wealth systems founded in Western countries, there is a need to understand the Islamic objective of wealth (*mal*) when determining corporate governance from the Islamic perspective (Lewis, 2001). The Islamic objective of wealth depends on Islamic legislations which are mentioned mainly in Quran and the Sunnah. While Islam encourages obtaining wealth through trade or work, it prohibits unfair practices such as usury or interest (*riba*),

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3 According to Islam (1999, p. 361), “Mal in the Arabic language signifies whatever in effect a man may acquire and possess; whether that is corporeal (*ayn*) or usufruct (*manfa’ah*)”.  

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uncertainty (*gharar*) and gambling (*qimar*) (Kuran, 1989). In addition, Islamic law comprehensively regulates the undertaking of contracts and encourages giving Zakat⁴.

Islamic values consist of a variety of ethics that construct the general framework of corporate governance. These values include accountability, justice, consultation, secretariat and truthfulness. Corporate governance from the Islamic perspective should be guided by these values and all parties involved in corporate governance should act in line with these values (Hassan & Saifuddeen, 2002).

Islamic accountability refers to Muslims belief about the Day of Judgment and they will be accountable for all their actions and behaviours. It means that every action in Muslim life should be in line with Islamic teachings. This is also applicable to business life where each member of the board of directors is accountable to shareholders, the majority of shareholders are accountable to minority shareholders, and a company as a whole is accountable to the society (Al Kahtani, 2013).

Islamic justice is an essential Islamic value and a moral virtue. It means putting things in the proper place, excluding monopoly and segregation, promising equitable circulation of wealth as well as giving others equal treatment (Khadduri & Ramazani, 2001). In terms of corporate governance, Islamic justice should be maintained among all stakeholders of the organization (Slahudin, 2008). In addition, “all shareholders should be treated fairly by management and shareholders should stand away from injustice and prevent treasonable actions among them” (Al Kahtani, 2013, p. 73).

An important Islamic principle concerning the structure of ruling is consultation. It is a major factor for corporate governance from the Islamic perspective which guarantees that all decisions are made in line with Islamic law. According to Abdul Rahman (1998), Islamic consultation can be achieved by corporations when top executives and board members consider the corporation’s beneficiaries’ suggestions before taking any decision.

Islamic secretariat has very extensive and unlimited meaning. It is a moral obligation of fulfilling a person’s duties and responsibilities to other people, society and environment.

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⁴ Zakat is an Islamic social tax which equals 2.5% of one's wealth that should be paid annually to poor and needy (Kamla, Gallhofer, & Haslam, 2006).
(Hassan & Saifuddeen, 2002). Islamic teachings with respect to secretariat require Muslims to keep their promises, trusts and contracts as well as to stay away from unfair behaviour such as deception, stealing, explicitly cheating and bribery. Therefore, all employees in a firm, including managers and directors, are liable to act in accordance to moral standards.

Another important value of Islam is truthfulness, which means speaking the truth and also saying things that reflect reality. With respect to the Islamic framework of corporate governance, top executives and board members should adhere to the value of truthfulness and reflect this value in the firm’s information, transactions, policies and most importantly in financial statements and annual general reports, thereby enabling stakeholders to take their decisions based on the right information (Al Kahtani, 2013).

2.4.3 Ownership Structure

Ownership structure is a key determinant of the efficiency of corporate governance practices in any country (Shleifer & Vishny, 1997). Ownership structure is at the root of the agency problem which occurs when the desires or interests of principal and agent conflict. According to Burkart, Panunzi, and Shleifer (2003), ownership structure plays an essential role in solving agency problems which arise from the separation of ownership and control. Corporate governance practices can be enhanced by the existence of large shareholders, given the additional monitoring imposed on managers by large shareholders which can help mitigate agency conflicts between managers and shareholders (Shleifer & Vishny, 1997). Although large shareholders may contribute to the improvement of corporate governance practices by reducing agency problems, they may create conditions for a new problem in case there is a conflict between their interests and minority shareholders’ interests (Florackis, 2008; Morck, Wolfenzon, & Yeung, 2005).

The nature and form of company legislation in a country substantially affect its’ ownership structure, which explains the existence of various patterns of ownership structure across countries (Baums, Buxbaum, & Hopt, 1994). Unlike developed countries, the ownership structure in developing countries is dominated by state-owned and family-owned enterprises. According to Al-Ajlan (2005, p. 99), “the corporate structure in developing countries and in particular in East Asian countries, have generally been
associated with a high concentration of ownership and control by few families, low level of property right protection and weak enforcement”.

The nature of ownership structure in Saudi Arabia presents a unique setting to study corporate governance practices in developing countries. Like many developing economies, the ownership of firms’ shares traded in the Saudi market is characterised by concentrated ownership, dominated by the state and family. An early study to investigate the ownership structure in Saudi Arabia by Al-Tonsi (2003) shows that family ownership dominates the Saudi market (approximately 75%) followed by the Saudi government which owns a high proportion of ownership of the primary public utilities and services.

According to Falgi (2009), ownership structure in listed Saudi firms falls into three types of ownership: concentrated family ownership, concentrated government ownership and distributed ownership. Alghamdi (2012) reports that approximately 70% of Saudi firms are characterised by either government or family ownership, with the former category being the most common. However, in the last few years Saudi Arabia has witnessed many reforms such as the implementation of corporate governance regulations, becoming a member of the WTO and G20, the privatization programme and the establishment of a new regulation which allows foreigners residing to invest directly in the Saudi Stock Exchange. In addition, the number of listed firms in Saudi Arabia has increased considerably in recent years (from 81 firms in 2006 to 169 firms in 2014). Alghamdi (2012) argues that these actions may lead to changes in ownership structure of Saudi firms, which presently is primarily confined to government and family.

The Saudi government is the largest investor in most leading Saudi listed companies such as Saudi Basic Industries Corporation (SABIC) and Saudi Telecom Company (STC). It hold about 40% of shares traded in the Saudi Stock Market (Albassam, 2014). After the oil boom in the early 1980’s, the Saudi government took many steps directed at improving living standards such as building universities, hospitals, roads, airports, electricity plants and telecommunications networks. Later, the government started to sell some of these corporations’ shares to public investors. However, the Saudi government still retains the highest percentage of these corporations’ shares (Al-Zaid, 2012). Government investments in Saudi Arabia are owned mainly by three governmental institutional investors: the Public Pensions Agency, the Public Investment Fund and the General
Organization for Social Insurance. These institutions invest on behalf of the Saudi government in different companies, especially large public utilities. Through these institutional investors, the government imposes its vision and policies over these companies by owning a controlling number of shares.

The other type of ownership that owns a significant proportion of the Saudi listed firms’ shares is family ownership. Alsanosi (2010) refers to two main reasons leading to the domination of family ownership in the Saudi market. The first reason attributes to the nature of the Saudi societal framework. That is, business activities in Saudi Arabia have been mainly held by a few rich families. With limited income, other families were not able to invest in the stock market. Although the per capital income in Saudi Arabia rose due to the oil revenue, only a limited number of Saudi people have participated in stock market trading. The second reason for the domination of family ownership in the Saudi market can be attributed to the fact that “family businesses that existed over a long period of time have converted themselves into large companies and have gone through the route of Initial Public Offering (IPO) to get them listed in the stock exchange” (Alsanosi, 2010, p. 206). In many cases, a controlling interest is retained by family members (the original owners). These listed family firms are usually named after the founding family’s name such as Zamil Industrial Investment Company, Othaim Company, Fitaihi-Group and the Halwani Company.

There are many implications of ownership concentration for corporate governance practices in Saudi Arabia. Falgi (2009) identifies some issues associated with government ownership affecting corporate governance practices in Saudi Arabia including:

- The appointment of government representatives is based on family or personal relationship and favouritism.
- Most government representatives lack the appropriate experience and skills in the firms’ areas of business due to the difference in the nature of the work in government sectors compared with private sectors.
- Government representatives are often silent parties in board meetings as they give inadequate effort and time to do their boards’ tasks.
- There are only a few government representatives who sit on many company boards.
Firms with concentrated family ownership are directly influenced by this ownership, since families hold a sufficient proportion of ownership which enables them to monitor and dominate these firms. They usually appoint family members to the boards for unlimited periods, use their voting power to influence the appointment of other board members and often represent more than five listed firms simultaneously (Al Kahtani, 2013). In addition, Falgi (2009) points out that there are sometimes coalitions between families to dominate and control some firms based on previous agreements among them about their corporate strategies and who will manage the firms. Having the power to structure a firm’s board and appoint executive directors indicates the important roles of dominant families in the firm’s decisions, plans, activities and policies.

2.4.4 Capital Structure

The corporate capital structure in the form of equity and debt is considered as an important corporate governance mechanism to reduce agency conflicts between managers and shareholders (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; Williamson, 1988). According to agency theory, if a firm’s capital structure contains a high debt level, debt holders are expected to have a monitoring role over management, and thus the controlling cost is expected to be lower to shareholders (Berger & Bonaccorsi di Patti, 2006). The use of debt can help reduce agency conflicts between managers and shareholders. Due to the “claim-dilution” problem, debt holders can play a significant role in limiting the level of firm debt and reducing the amount of risky projects, which in turn improves the firm’s investment efficiency (Rashid, 2009).

Capital structure differs across countries according to variation in firm-specific factors and country characteristics. According to De Jong, Kabir, and Nguyen (2008), a firm’s financing choice is affected, directly or indirectly, by the legal environment and economic conditions of the country in which it operates. In Saudi Arabia, both firm and country factors such as the financial system and firm’s capital structure provide a unique natural environment that differs from developed and developing countries. Such factors are expected to have a significant impact on the determination of corporate governance mechanisms that are suitable for the Saudi business environment.

The financial system in Saudi Arabia has some specific features that are different from other countries. Banks hold an important position in the Saudi financial system. The
banking system in Saudi Arabia is different from Western countries as it operates theoretically under the Islamic law which forbids transactions that involve interest (Al-Jasser & Banafe, 2002). Most of banks in Saudi Arabia are Islamic banks (known as interest-free banking) which follow Islamic law in their business operations. Although the banking sector in Saudi Arabia includes some non-Islamic banks, many of them have adopted, if not converted to, Islamic banking system and appointed Sharia Supervisory board⁵ to regulate and monitor internal operations to be consistent with Islamic law (Bintawim, 2011). Since the debt market in Saudi Arabia is relatively undeveloped and inactive, banks, as the main debt-financing instruments, play a significant role in providing loans to Saudi firms (Al-Dohaiman, 2008).

Although Islamic and non-Islamic banks have some similar features, the financial models of Islamic banks differ to a great extent from those available to commercial banks. Both Islamic and non-Islamic banks have a financial policy that prefers providing short-term loans rather than long-term loans (Creane, Goyal, Mobarak, & Sab, 2004). Under this financial policy, banks restrict loans in the industrial sectors and target other sectors such as service sector which normally require short-term debt. On the other hand, unlike non-Islamic banks, the Islamic financing system is characterised by the participation of Islamic banks in businesses they finance. Islamic banks are required to participate in the profits and losses of the businesses that they finance and to make a contribution to the business either in the form of a contribution to the capital or management of the firm. In addition, Islamic finance prohibits trade of debt, and thus lending transactions are limited only to real assets such as commodities, real estate and agricultural land. These features of Islamic finance encourage Islamic banks to seek out new products that are consistent with Islamic law. Accordingly, Islamic banks have different types of financial models that are totally different from those offered by non-Islamic banks such as Musharaka⁶ (partnership) and Mudaraba⁷ (finance by way of trust), which in turn exposes Islamic banks to different types of credit risk compared with other banks (Elsiefy, 2013). As a

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⁵ Sharia supervisory board is an independent body of specialised jurists in Islamic commercial jurisprudence to supervise and advise on the propriety of transactions.
⁶ Musharaka (partnership) contract is an agreement where partners contribute capital to projects and profits are shared between partners on a pre-agreed-upon ratio, whereas losses are shared in the exact proportion to the capital invested by each party (Mirakhor & Zaidi, 2007).
⁷ Mudaraba (finance by way of trust) is a partnership agreement in which one partner finances the project, while the other manages it. Profits are distributed according to a predetermined ratio (Mirakhor & Zaidi, 2007).
result, the role that Islamic banks can play over the borrowing firms is expected to be different from that of non-Islamic banks (Mirakhor & Zaidi, 2007).

While most firms in developing countries finance their investments through debt and equity markets (Singh, 1995), indicating the importance of corporate governance mechanisms that protect the interest of both debt holders and shareholders, Saudi firms rely heavily on internal sources of financing (Fallatah & Dickins, 2012). According to Al-Dohaiman (2008), Saudi firms tend toward equity financing, internal financing and short-term debt rather than long-term financing. This reliance on short-term financing can be attributed to the under-developed nature of the debt market in Saudi Arabia (Sakatan, 2010). In addition, the sources of external finance available for Saudi firms are limited to Saudi banks and other banks operating in the Middle East region which facilitate and encourage the use of short-term debt and secured loans rather than long-term debt. These factors make the capital structure of Saudi firms different from that of other firms in developed and developing countries, and thus corporate governance mechanisms which are suitable for some countries may not be appropriate to the Saudi corporate context. In addition, the existence of the dual financing system in Saudi Arabia provides a new insight into the study of the impact of capital structure on corporate governance practices as well as firm performance.

2.5 Monitoring Bodies in Saudi Arabia

There are four major bodies responsible to regulate, supervise and monitor firms in Saudi Arabia. These bodies are the Ministry of Commerce and Industry (MCI), the Capital Market Authority (CMA), the Saudi Stock Exchange (Tadawul) and the Saudi Organization for Certified Public Accountants (SOCPA).

2.5.1 The Ministry of Commerce and Industry

The Ministry of Commerce and Industry (MCI) is considered the major body supervising companies in Saudi Arabia. It is responsible for all aspects of commercial and industrial activities in Saudi Arabia including regulating and monitoring all types of Saudi firms and ensuring that Saudi firms comply with the Company Law and other related regulations. The MCI is also in charge of registering companies’ businesses, authorising the applications of establishing new joint stock firms, certifying the transformation of companies to public corporations and reviewing companies’ financial statements. In
addition, many monitoring devices in Saudi Arabia such as the Capital Market Authority, the Saudi Stock Exchange and the Saudi Organization for Certified Public Accountants are supervised by the MCI (MCI, 2014).

2.5.2 The Capital Market Authority

The Capital Market Authority (CMA) was established in 2004 by Royal Decree as an independent government institution and reported directly to the Prime Minister. The main purpose of the CMA is to regulate and develop the Saudi capital market. In order to achieve legal, financial, and administrative autonomy, the CMA is managed by a board consisting of five members appointed by the Prime Minister. Those members should not be involved in any commercial activities. Besides the main purpose of the CMA, there are also other responsibilities such as enhancing disclosure and transparency policies among all listed companies, increasing confidence and creating a good investment climate. In order to achieve its objectives, the CMA has the authority to (CMA, 2004):

- Develop and regulate the capital market.
- Protect stakeholders from unfair and unsound practices including fraud, cheating, manipulation, deceit and inside information trading.
- Increase efficiency, fairness and transparency in transactions of securities.
- Develop suitable standards to eliminate the risks of transactions.
- Regulate the issuance of securities and under-trading transactions.
- Monitor the activities of entities subject to the control of the CMA.
- Regulate and control full disclosure of information of Saudi listed firms.
- Regulate proxy and purchase requests and public share offerings.

2.5.3 The Saudi Stock Exchange (Tadawul)

The history of the Saudi Stock Exchange can be traced back to 1935 (Alajlan, 2004). The Saudi Arabian Monetary Agency was the government organization which had been responsible for monitoring and regulating market activities until the CMA was established in 2004. The CMA is now the sole supervisor and regulator of the capital market in Saudi Arabia. In 2007, the Council of Ministers approved the establishment of the Saudi Stock Exchange (Tadawul) company which was in accordance with Article 20 of the CMA law (Tadawul, 2007). Tadawul is governed by a board which consists of nine
members selected by the chairman of the CMA and appointed by the Prime Minister. The board includes members from different governmental sectors such as the Ministry of Commerce and Industry, the Ministry of Finance, the Saudi Arabian Monetary Agency, two representatives of listed companies and four representatives of the licensed brokerage companies (Tadawul, 2007).

Tadawul is the official and sole stock exchange in Saudi Arabia and is supervised by the CMA. The main aims of Tadawul are to (Tadawul, 2007):

- Operate the market efficiently and effectively.
- Ensure market fairness, quality and integrity.
- Support investor education and awareness efforts.
- Develop service excellence for investors.
- Develop the exchange’s competencies and capabilities.

2.5.4 The Saudi Organization for Certified Public Accountants

The Saudi Organization for Certified Public Accountants (SOCPA) was established by Royal Decree in 1991 as a professional organization under the supervision of the MCI (SOCPA, 2014). It aims to improve and promote the accounting and auditing profession’s practices and all matters that may enhance the development of the accounting profession in Saudi Arabia. In order to achieve its goals, the SOCPA is authorized to (SOCPA, 2014):

- Review, develop and approve accounting standards.
- Review, develop and approve auditing standards.
- Establish the necessary rules for fellowship certificate examination (CPA exam) including professional, practical and scientific aspects of the audit profession and applicable regulations.
- Organize continuous education programs.
- Establish an appropriate quality review program in order to ensure that Certified Public Accountants implement professional standards and comply with the provisions of Certified Public Accountants Regulations and relevant by-laws.
• Conduct special research work and studies covering accounting, auditing and other related subjects.
• Publish periodicals, books and bulletins covering accountancy and audit related subjects.
• Participate in local and international committees and symposiums relating to the profession of accounting and auditing.

2.6 Laws and Regulations in the Saudi Business Environment

The corporate legal framework in Saudi Arabia consists of a number of laws and regulations that cover the business environment. These laws and regulations play a vital role in regulating and governing Saudi firms’ structures and operations. This section sheds light on the important laws and regulations that are related to corporate governance.

2.6.1 The Companies Law

The Companies Law is one of the most important regulations in Saudi Arabia that organizes and regulates Saudi companies’ operations. It was established by Royal Decree in 1965 as the result of huge economic growth after the discovery of oil in Saudi Arabia and the corresponding corporate boom that went along with this growth (MCI, 2014). The Companies Law in Saudi Arabia was mainly adopted from the British Companies Act of 1948 (Kahlid, 1983; Shinawi & Crum, 1971). It is considered as a basic system for all firms operating in Saudi Arabia which are required to fulfil its rules and regulations.

The Companies Law came under criticism on the ground that it was derived from the British Companies Law (Alghamdi, 2012), and thus it is not consistent with Islamic law. However, Saudi Arabian Islamic scholars have refuted this criticism by reference to the Islamic principle which states that with respect to profane activities, everything is allowed as long as there is no evidence from the Holy Quran and the Sunnah explicitly forbids it (Alsanosi, 2010). Although many modifications have been made to the Companies Law in order to keep up with the rapid development of the business environment in Saudi Arabia, it is considered to be out-dated and does not comply with international standards (Al-ghamdi & Al-angari, 2005).

The Companies Law consists of 233 Articles that cover several aspects of business such as company structure, shareholders’ rights, the board of directors, the company’s internal
control and the reporting requirements of businesses such as the balance sheet and income statement. The following are the important rules and regulations in the Companies Law which are related to corporate governance.

2.6.1.1 The Board of Directors

According to Article 66 of the Companies Law, each firm should be administrated by a board of directors elected by shareholders at the company annual general meeting (MCI, 2014). Article 73 states that with regard to the prerogatives of the general meeting, the board of directors shall enjoy full powers in the administration of the company. Board of directors must consist of at least three members for a period not more than three years. Companies in Saudi Arabia adopt a unitary board structure, as in the US and the UK, characterized by a single board of directors combining both executive and non-executive directors (Mallin, 2007). Under the Companies Law, board members are allowed to be appointed for several terms and to serve on more than one board. In addition, as a requirement for membership of a board of directors, each member should own a number of company’s shares that equal at least ten thousand Saudi Riyals (equivalent to 3,750 USD). These shares should be set aside as a guarantee of directors’ responsibility⁸. Based on the Article 79, it is allowed for one person to hold both the CEO and chairman positions. With respect to the remuneration of the board, the Companies Law give companies the rights to choose the appropriate methods to remunerate the board members such as salary, material features, compensation for attendance or a proportion of the profits. Companies are required to declare the board’s remunerations in the board of directors’ report that is presented to shareholders at the annual general meeting.

2.6.1.2 Shareholders’ Rights

According to the Companies Law, every shareholder who holds twenty shares has the right to attend the company’s annual general meeting or appoint another person, except a director, to attend on his/her behalf. The Companies Law identifies all the rights of shareholders that are related to their shares include obtaining their percentage of the company’s profits, receiving their proportion upon the company’s dissolution, voting on

⁸ Although the amount of ten thousand Saudi Riyals was considered reasonable as a guarantee of directors’ responsibility when the company law was established in 1965, this amount may not be sufficient these days and thus this article needs to be revised to be more appropriate as a guarantee of directors’ responsibility.
the company’s decisions such as appointing board of directors, participating in conversations about the company, looking into the company archives and disposing of shares. In addition, under Article 109 of the Companies Law, shareholders who own at least 5% of the company’s shares have the right to request the Companies Settlement Authority to investigate the company in case they have any doubts related to management actions, directors’ behaviours or the performance of the external auditors.

2.6.2 The Capital Market Law

The Saudi Cabinet approved a new Capital Market Law in 2003. The Law was expected to enhance the Saudi economic liberalization by providing a legal and regulatory framework for business environment in Saudi Arabia. According to Article 5 of the Capital Market Law, the CMA is responsible for issuing rules, regulations and instructions in order to achieve its purposes which are concentrated on developing the Saudi capital market, enhancing disclosure and transparency policies among listed firms, and improving the investment climate for both domestic and foreign investors (CMA, 2003). In addition, the Capital Market Law gives the CMA the required authority to accomplish these purposes.

The Capital Market Law stresses the importance of disclosure and transparency among Saudi listed firms. For example, Article 45 of the Capital Market Law states that (CMA, 2003, p. 51):

a. Every issuer offering Securities to the public or whose Securities are traded on the Exchange must submit to the Authority quarterly and annual reports. Annual reports must be audited as required by the rules of the authority. These reports shall contain the following:
   1. The balance sheet;
   2. The profit and loss account;
   3. The cash flow statement; and
   4. Any other information as required by the rules of the Authority.

b. In addition to the information required in paragraph (a) of this Article, the annual report must contain the following:
   1. An adequate description of the issuing company, the nature of its business and its activities, as required under the rules of the Authority;
2. Information regarding the members of its board of directors, executive officers, senior staff and major investors or shareholders as required under the rules of the Authority;

3. An evaluation of the issuing company management of current and future developments and any future possibilities that may have significant effects on the business results or financial position of the company as required under the rules of the Authority; and

4. Any other information as may be required by the rules of the Authority as it deems necessary to assist investors and their advisers in making a decision to invest in the issuer’s Securities.

In order to achieve its purposes, the CMA has issued different rules and regulations such as merger and acquisition regulations, investment funds regulations, real estate investment funds regulations, securities business regulations, market conduct regulations and offers of securities regulations. One of the important regulations that the CMA issued in 2004 are the Listing Rules (CMA, 2004). The main aim of these Rules is to regulate the public offering and registration in the official list of securities in Saudi Arabia. The Listing Rules include many provisions for enhancing corporate governance practices in Saudi listed firms such as:

- With respect to disclosure requirements, while Article 42 deals with the periodic disclosures of financial information such as the balance sheet, income statement and cash flow, Article 41 concerns the continuous disclosure requirements of any information (financial or non-financial) as soon as it is found to be material. In addition, Article 40 emphasizes the importance of all disclosures to be fair, clear and not misleading.

- Under Article 43, firms are required to include with their annual financial statements a report called board of directors’ report which should include all relevant factors that affect the firm’s operations and any crucial information that are important to investors. This Article provides a list of information that should be included in the board of directors’ report such as the number of board of directors’ meetings and the attendance record for each meeting, details of any transaction between the firm and any related party.
All the rules and regulations that have been issued by the CMA, explicitly demonstrate the desire of the CMA to reinforce the transparency and disclosure among Saudi firms, enhance market integrity and protect investors which all are considered as the fundamental principles of corporate governance.

2.6.3 The Corporate Governance Regulations

Like many developing countries, corporate governance was overlooked for a long time in Saudi Arabia until 2005, when the CMA in Saudi Arabia began to draw attention to some problems regarding Saudi firms’ performance (Al-Matari, Al-Swidi, & Fadzil, 2012). In addition, the Saudi Stock Market crash in 2006 highlighted the need for sound corporate governance practices to enhance the effectiveness and efficiency of financial market in Saudi Arabia. According to Alghamdi (2012), the market crisis in Saudi Arabia underlined the weaknesses in financial reporting in terms of disclosure, transparency and accountability. Consequently, the CMA established a regulatory framework for corporate governance at the end of 2006. According to Article 1 in the Corporate Governance Regulations (CGRs), the main aim of corporate governance is to “… regulate the management of joint stock companies listed in the Exchange to ensure their compliance with the best governance practices that would ensure the protection of shareholders’ rights as well as the rights of stakeholders” (CMA, 2006, p. 3). Although these regulations were a guideline and not mandatory, listed companies in Saudi Arabia were required to disclose, in the board of directors’ report, what regulations had been applied and what had not, with an explanation of the reason for non-compliance. However, since 2009, the majority of these regulations has become mandatory and all listed companies on the Saudi Stock Exchange have been required by the CMA to comply with these regulations (CMA, 2006).

The CGRs contain 18 Articles divided into five parts. These Articles deal with a variety of corporate governance aspects. The majority of the CGRs were derived from the OECD principles of corporate governance and the 1992 UK Cadbury Report (Al-Abbas, 2009; Riyadh Chamber of Commerce and Industry, 2007). Therefore, it is argued that the CGRs in Saudi Arabia do not consider the first-instance Basic Law of Governance in terms of establishing new regulations and laws to operate in accordance with Islamic Law (Al Kahtani, 2013). In addition, other factors that have an important influence on the Saudi business environment such as Saudi culture, ownership structure and capital structure
have not been taken in consideration when establishing the code of corporate governance in Saudi Arabia (Al-Abbas, 2009; Seidl et al., 2013).

The CGRs consist of three main parts: the rights of shareholders and the General Assembly, disclosure and transparency, and board of directors and its committees. More details are provided in the following sections.

2.6.3.1 Rights of Shareholders and the General Assembly

The first part of CGRs concerning the rights of shareholders and the General Assembly defines the rights that shareholders are entitled to receive (CMA, 2006). According to Article 3, shareholders should have the right to receive their proportion of the distributable profits and the company’s assets upon liquidation, participate in the General Assembly, vote on company’s decisions, complain against board members and supervise the board of directors’ activities. This part stresses the importance of facilitating the exercise of shareholders’ rights and access to information (Article 4).

Article 5 of the CGRs provides all shareholders rights that are related to the General Assembly. Under this Article, a General Assembly should be convened at least once a year. It can also be convened upon a request of the board of directors, the external auditor or shareholders who hold more than 5% of the firm’s total shares. The announcement of the General Assembly should include the date, place and agenda of the meeting and it should be published on the Saudi Stock Exchange website and in two newspapers at least 20 days before the meeting date. In addition, arrangements should be made to facilitate shareholders to participate in the General Assembly, including the appropriate date and place of the meeting, the rules governing the meeting and the voting procedures. More important, firms must immediately inform the Saudi Stock Exchange of the results of the General Assembly.

One of the fundamental rights of shareholders is voting. Article 6 emphasizes the importance of the voting rights of shareholders in the General Assembly. This Article gives a shareholder the right to appoint other person to attend the General Assembly on his/her behalf. In addition, Article 6 specifies the accumulative voting method to be used to nominate the board members. Shareholders also have a right regarding dividend matters. A clear policy regarding dividends should be set by the board of directors in a
manner that protects the interests of both shareholders and the company. Shareholders should be informed of this policy in the General Assembly and the board of directors’ report should also include the dividends policy. The General Assembly should agree on the dividends, the distribution date and whether these dividends will be paid in cash or bonus shares or in other ways.

2.6.3.2 Disclosure and Transparency

The CGRs identify a list of information that the company must include in the board of directors’ report. Article 9 of the CGRs states that in addition to the information that are required to be included in the board of directors’ report in accordance with the Listing Rules, the report should include the following (CMA, 2006):

- The provisions that have been applied and those which have not been applied and the reason for non-compliance.
- The names of any listed companies in which the company board member serves as a member of its board of directors.
- Formation of the Board of Directors (executive member, non-executive member, or independent member).
- A description of the duties and jurisdictions of the board’s main committees such as audit, nomination and remuneration committees.
- Compensation and remuneration paid to the chairman, board members and the five executives who have received the highest compensation from the company.
- Any penalty imposed on the firm by the CMA or any other judiciary body.
- Evaluation of the internal control procedures of the company.

2.6.3.3 Board of Directors

The CGRs contain different rules related to the board of directors including board functions, responsibilities, formation and committees of the boards such as audit, nomination and remuneration committees.

2.6.3.3.1 Functions of the Board of Directors

According to the CGRs, board members must be prepared to fulfil their duties and functions such as approving the firm’s strategic plans and monitoring the implementation
of these plans which include a comprehensive strategy, annual budget, capital expenses, capital structure, internal control systems, risks, performance and organizational structure. In addition, the board of directors needs to develop a policy to address any potential conflicts of interest, ensure the integrity of the accounting and financial transactions, lay down policies and procedures for the membership of the board of directors, and regulate the relationship with stakeholders in order to protect their respective rights. Another important function of the board of directors is ensuring that the company complies with Saudi regulations and laws such as the CGRs.

2.6.3.3.2 Responsibilities of the Board

According to the CGRs, the board of directors represents the interests of the company’s shareholders and has ultimate responsibility for the company. Although the CGRs attempt to identify the main responsibilities of the board, a company’s Articles of Association should clearly state the board’s responsibilities toward all stakeholders. Under Article 11 of the CGRs, the board of directors plays an important role in determining the delegated powers to the executive management, the procedures for taking any decision and the validity of such delegation.

2.6.3.3.3 Formation of the Board

Formation of the board of directors is subject to the following provisions (CMA, 2006):

1. The number of the board members should be specified in the company’s Articles of Association and the number should not be more than eleven and not less than three.
2. The majority of the board members should be non-executive directors.
3. The positions of the chairman of the board of directors should not be duality with any other executive positions such as the CEO.
4. One-third of the board members should be independent members.
5. A member of the board of directors should not serve on the board of more than five joint stock companies at the same time.
6. The CMA should be immediately informed in case of termination of membership of any board member.
2.6.3.3.4 Committees of the Board

According to the CGRs, a suitable number of committees should be formed in accordance with the firm’s circumstances and requirements aiming to support the board of directors to perform its duties in an effective manner. The CGRs require companies to set up at least two committees: the audit committee and the nomination and remuneration committee. More details about the formulation and responsibilities of these committees as mentioned in the CGRs are provided below.

2.6.3.3.4.1 Audit Committee

Under Article 14 of the CGRs, the board of directors should form a committee to be named the “Audit Committee”. This committee should include at least three non-executive members, including an expert in accounting and financial affairs. All matters related to this committee including the rules for the appointment of the committee members, their remunerations, and terms of office and the procedure to be followed by the committee should be issued by the General Assembly on the recommendation of the board of directors. Generally, the audit committee is responsible for supervising and reviewing the firm’s internal audit procedures, reviewing the annual financial statements before presenting them to the board of directors and assessing the accounting policies. In addition, this committee is responsible for recommending the appointment of the external auditors, reviewing the comments of the external auditors and ensuring that the appropriate actions are taken regarding them.

2.6.3.3.4.2 Nomination and Remuneration Committee

All listed companies in Saudi Arabia are required by the CMA under the regulations of corporate governance to establish a committee called the “Nomination and Remuneration Committee” (Article 16 of the CGRs). The General Assembly should, upon a recommendation of the board of directors, approve the selection of committee members, their remunerations, and terms of office and the procedure to be followed by this committee. The nomination and remuneration committee is in charge of providing recommendations to the board regarding the appointment of board members, the remunerations of directors and top executives, the requirements of appropriate skills, qualifications and experiences, and the independence of the board of directors.
2.7 Summary

This chapter provides the background of the Saudi history, legal system and business environment. The Kingdom of Saudi Arabia was established by King Abdulaziz Al Saud in 1932. Saudi Arabia holds a unique position of particular religious significance among other Arabic and Islamic countries since it is home of the two holiest Muslim places which are Makkah and Medina. Islam religion has a deep and direct impact on all aspects of life in Saudi Arabia including the constitution and social behaviour. In addition, legal system in Saudi Arabia is based on Islamic law (Sharia). Although some regulations have been derived from developed countries, they are in accordance with Islamic principles.

The Saudi business environment has unique features and characteristics compared with other countries. These features include social and cultural factors, Islamic religion, ownership structure and capital structure. The most important socio-cultural factors that seem to be most influential on corporate governance practices in Saudi firms are family ties, favouritism and tribalism. The impact of Islamic religion on business activities can be recognised from the roles that shape and enforce ethical behaviour such as justice, honesty and truthfulness. Ownership structure in Saudi firms is characterised by concentrated ownership which is dominated by the state and family. Regarding capital structure, Saudi firms rely heavily on internal sources of financing rather than external sources.

This chapter also sheds light on the main bodies regulating and monitoring Saudi companies which include the Ministry of Commerce and Industry, the Capital Market Authority, The Saudi Stock Exchange (Tadawul) and the Saudi Organization for Certified Public Accountants. In addition, the chapter provides details about the development of companies’ regulations in Saudi Arabia including the Companies Law, the Capital Market Law and the Corporate Governance Regulations. Although these regulations play a significant role in governing and developing the Saudi market, they have been adopted from some developed countries such as the US and the UK. Therefore, these regulations did not stem from an obvious need and did not consider the unique features of the Saudi business environment but rather from a form of imitation of developed countries.

The next chapter presents a review of the dominant theories that have been employed in corporate governance research, including agency theory, stewardship theory, stakeholder
theory, resource dependency theory and institutional theory. In addition, the chapter provides the theoretical framework utilised in this study along with the justifications of the choice.
Chapter Three: Theoretical Development

3.1 Introduction

Several theories have been developed in the area of corporate governance. These theories offer a theoretical framework to explain corporate governance issues from different perspectives. The main divergence between these theories can be attributed to their different perspectives with respect to the objectives of the corporation and the identification of the managers (Al-Wasmi, 2011). For example, agency theory considers managers as agents and self-interested, whereas stewardship theory posits that managers are good stewards. With respect to the objectives of the corporation, while agency theory claims that the objective of the corporation is only to maximize shareholders’ wealth, stakeholder theory is based on the proposition that the corporation should consider all stakeholders rather than only its shareholders.

This chapter discusses the key corporate governance theories and highlights their implications within the Saudi corporate context. Specifically, the general meaning of corporate governance theories is presented in Section 3.2. Section 3.2.1 provides a review of agency theory as one of the main corporate governance theories and attempts to apply its assumptions on the Saudi business environment to decide whether it is suitable for the Saudi context. Section 3.2.2 discusses stewardship theory and examines its association with the Saudi business environment. Stakeholder theory, resource dependency theory and institutional theory are also analysed and an attempt is made to determine their appropriateness to the Saudi context in Sections 3.2.3, 3.2.4 and 3.2.5, respectively. Section 3.3 presents the theoretical framework adopted in this study. Finally, Section 3.4 summarizes the main points in this chapter.

3.2 Corporate Governance Theories

A theory is “a coherent set of hypothetical, conceptual and pragmatic principles forming the general framework of reference for a field of inquiry” (Hendriksen, 1970, p. 1). In order to understand the corporate governance issues, a theoretical framework is required. Ziolkowski (2005, pp. 357-358) argues that:

Corporate governance research should be no different from scholarly enquiries in natural sciences in terms of methodological approach. Such research requires that
corporate governance scholars place the subjective process of developing ideas into a logical framework of challenge and questioning through debate and data collection. This is a continuous process starting with conceptual and propositional analysis for defining terms, model building and theory development.

Several theories have been proposed to provide an explanation of how corporate governance mechanisms work in the real world. Although there is a large number of corporate governance theories, no single theory fully integrates all the aspects that affect corporate governance practices (Clarke, 2004). As a result, there are some limitations in the explanations that these theories are provided with respect to corporate governance issues. In addition, it is argued that relying on a single theory may fail to provide a useful explanation of corporate governance issues since corporate governance is associated with different fields including finance, economics, politics, ethics, management and organizational behaviour (Bebchuk & Weisbach, 2010; Rwegasira, 2000; Sharma, 2013). Therefore, multiple theoretical frameworks are needed to provide a comprehensive understanding of corporate governance practices.

Given the influence of social, economic and political factors on corporate governance practice, it is essential to consider these factors when selecting the suitable theories that can provide a useful framework to explain corporate governance in a specific country (Al-Wasmi, 2011). Some theories that provide an appropriate framework to explain corporate governance issues might be more related to certain business environments than others (Mallin, 2007). This could be attributed to the variation between countries with respect to their cultural values, economic nature and political circumstances.

A number of theories have been developed to analyse different elements of corporate governance. The dominant theories which are commonly used in corporate governance studies are agency theory, stewardship theory, stakeholder theory, resource dependency theory and institutional theory (Barney, 1990; Blair, 1995; Davis et al., 1997; Donaldson & Davis, 1991; Donaldson & Preston, 1995; Eisenhardt, 1989; Fama & Jensen, 1983a, 1983b; Freeman, 1999; Hawley & Williams, 1996; Jensen & Meckling, 1976; Turnbull, 1997; Watts & Zimmerman, 1986). While agency theory and stewardship theory focus more on the managers’ behaviours and motivations, both stakeholder theory and institutional theory view that corporate governance pertains to social relationships rather
than corporate structures (Al Mamun, Yasser, & Rahman, 2013). From another perspective, resource dependency theory focuses on the organizational structures that help firms access the necessary resources for their survival (Pfeffer & Salancik, 1978). Reviewing these theories helps to synthesize and incorporate them into multiple theoretical frameworks that can help provide a comprehensive understanding of corporate governance practices rather than theorizing corporate governance based on a single theory.

3.2.1 Agency Theory

Agency theory is the most dominant corporate governance theory that is widely used by scholars in different areas such as economics, accounting, finance, marketing and sociology (Clark, 2004). According to Davis et al. (1997, p. 22), “… the heart of this theory (agency theory) is the human, which can be traced to 200 years of economic research”. Agency theory argues that individuals are self-interested and self-opportunist, rather than altruistic. The essence of agency theory stems from the implications of separation between ownership and management. Due to this separation, a relationship is emerged between the principal (owners) and the agents (managers) which is known as the agency relationship. Jensen and Meckling (1976, p. 308) define this relationship as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent”. In such a relationship, a conflict of interest between shareholders and managers can occur. Although managers’ decisions should be aligned with shareholders’ interests, opportunistic behaviour by managers may result in them making decisions based on their own interests rather shareholders’ interests (Padilla, 2002; Williamson, 1989). Such agency problems were first revealed in the 18th century by Smith (1776, pp. 264-265), who states that:

The directors of such (joint-stock) companies, however, being the managers rather of other people’s money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private co-partnery frequently watch over their own … Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company.
Agency theory, which is rooted in economic theory, dominates the literature on corporate governance research (Daily, Dalton, & Cannella, 2003; Ross, 1973). Agency theory has developed along two lines, which are positive theory of agency and principal-agent (Douma & Schreuder, 2002; Eisenhardt, 1989; Jensen, 1983). According to Jensen (1983, p. 26), “both literatures (positive theory of agency and principal-agent) address the contracting problem between self-interested maximizing parties and both use the same agency cost minimizing”. However, they vary in other aspects. While the positive agency literature is generally empirically not mathematically oriented, the principal agent literature is generally mathematical and non-empirically oriented (Jensen, 1983). Positivist researchers are concerned specifically with the nature of the principal-agent relationship between management and owners of large companies. According to Eisenhardt (1989), such research generally aims to identify the circumstances where the agency problems may arise and suggest the appropriate governance mechanisms that limit these problems. On the other hand, the principal-agent research discusses the general theory of the principal-agent relationship such as the relationship between employer-employee and lawyer-client (Harris & Raviv, 1978). This type of research is described by Eisenhardt (1989) as abstract and mathematical, and thus it is less accessible to organizational research.

Eisenhardt (1989, p. 58) highlights that agency problems may arise when “(a) the desires or goals of the principal and agent conflict and (b) it is difficult or expensive for the principal to verify what the agent is actually doing”. Therefore, the principals need a system to control and monitor the agents’ actions to ensure that they act in accordance with their desires and interests. However, such a system is associated with different types of cost which known as agency costs. Jensen and Meckling (1976) identify three elements of agency costs: monitoring costs, bonding costs and the residual loss. Whereas monitoring costs are related to the costs of controlling the agent’s actions, bonding costs are incurred by the agents aiming to align their actions with the principal’s desires. If both of these costs fail to monitor the divergent behaviour of the agents, residual costs are incurred (Iskander, 2008).

According to agency theory, managers can exploit shareholders’ wealth in many ways, such as using insider information for their own benefit or excessive pay in the form of salaries and compensations (Chalevas, 2011; Jensen & Meckling, 1976; Shleifer &
Vishny, 1997). Therefore, shareholders’ interests cannot be protected if managers have the right and the power to engage in expropriation for their own interests (Turnbull, 1997). Due to the presence of agency problems, agency theory claims that appropriate governance mechanisms are needed to align the interests of managers with those of shareholders. The main purposes of these mechanisms are to control and direct the actions of agents to be in accordance with the principal’s interests as well as reduce agency costs (Jensen & Meckling, 1976; McKnight & Weir, 2009). Corporate governance mechanisms can be classified into internal mechanisms and external mechanisms. While internal mechanisms include board structure, compensation contracts and bonding costs, external mechanisms include large block holders, debt holders and monitoring activities by external auditors, capital market authorities or other regulators (Shapiro, 2005; Weir, Laing, & McKnight, 2002).

Agency theory assigns a significant role to the board of directors as one of the most important mechanisms of corporate governance. The theory argues that the majority of the board should be independent directors to control and monitor management (Al-Janadi, Rahman, & Omar, 2013; Berle & Means, 1932). In addition, the positions of CEO and chairman should be separated in order to effectively reduce the power of the CEO (Sharma, 2004). Moreover, board committees such as audit committee and nomination and remuneration committee are necessary to control managerial behaviour (Allegrini & Greco, 2013). Establishing a system of compensation based on financial performance is also useful to encourage managers to improve their performance (Bebchuk & Fried, 2003; Chalevas, 2011). Such board structure can prevent managers from exploiting the firm’s resources for their own interests.

With respect to ownership structure, Gogineni, Linn, and Yadav (2010) argue that the more distributed ownership structure, the more expected agency problems, and thus agency costs will be higher as well. On the other hand, ownership concentration can play an important role in reducing agency problems by providing more effective monitoring (Earle et al., 2005; Laiho, 2011). Therefore, in countries where the ownership is concentrated, like in many developing countries, the conflict of interest between the principals and agents are expected to be lower and less significant (Alghamdi, 2012). Clark (2004) points out that the collectivist nature of the relationship between managers and owners in Asian, South American and Southern European countries, can also be
considered as another factor that leads to a low level of agency problems in these countries. However, a conflict between the majority and the minority shareholders may occur if the majority have different interests and objectives from those of minority shareholders (Fan & Wong, 2002). In such a situation, majority shareholders can use their power to achieve their own interests at the expense of minority shareholders’ interests (Demsetz & Villalonga, 2001; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000).

Another type of corporate governance mechanism that can help attenuate agency problems is debt. Agency theory considers debt as an external governance mechanism to influence managers to act in the best interests of stakeholders (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; Williamson, 1988). If a firm’s capital structure contains a high debt level, debt holders are expected to have a monitoring role over management (Berger & Bonoaccorsi di Patti, 2006). In addition, the use of debt can reduce agency costs by shifting control from shareholders to debt holders, and thus debt can be used to effectively control managers’ actions without increasing agency costs (Pinegar & Wilbricht, 1989).

3.2.1.1 Agency Theory and the Saudi Business Environment

As discussed in Chapter Two, the Saudi business environment is affected by a number of factors including Saudi culture, Islamic values, ownership structure and capital structure. Examining these factors in relation to the assumptions of agency theory can help clarify whether it is suitable for the Saudi context. Recall that the main assumption of agency theory relates to the relationship between the principal and the agent, assuming that managers are self-interested and their interests conflict with those of shareholders. This assumption seems not applicable to Saudi society due to the impact of Islamic religion on all aspects of Saudi life. As a fundamental part of Saudi culture, Islamic religion greatly influences the behaviour of Saudi society. The impact of religion on business activities can be recognised from the roles that shape and enforce ethical behaviour such as justice, secretariat and truthfulness (Abeng, 1997). Accordingly, people in Saudi Arabia are expected to be not motivated by self-interest, but rather they share concern for the affairs of others.

The nature of Saudi culture also does not support the suggestions of agency theory with respect to the board of director structure. The theory suggests that independent directors should present a high proportion of the board, and that the CEO and chairman positions
should be separated. However, family ties, favouritism and tribalism, which are the key elements of the Saudi culture, have a direct impact on the selection of the board members. Falgi (2009, p. 176) argues that in Saudi society “membership of a board of directors is considered by some within the companies and by members of society at large as a notable achievement”. In this respect, Alghamdi, (2012) emphasizes that appointing board members in Saudi firms is more likely to be affected by family relationships and friendships, and thus there are many issues concerning the effectiveness of independent directors in Saudi firms. In the same vein, Al-Moataz (2003) argues that independent directors in Saudi firms are ineffective and inefficient due to the method of selecting those directors, which depends on favouritism rather than qualifications and experience. In addition, political connections can influence the appointment of board members in Saudi firms. Haniffa and Hudaib (2007) point out that a politically well-connected person may be appointed as a board member regardless of his/her ability to perform the duties of this position.

Ownership structure in Saudi firms provides another reason for the inapplicability of agency theory in the Saudi corporate context. The ownership of Saudi firms is characterised by concentrated ownership which is dominated by the state and family (Al-Nodel & Hussainey, 2010; Alghamdi, 2012). Such ownership concentration is considered as a control mechanism to monitor managers to act in the shareholders’ best interests, which in turn reduces the agency conflict between managers and owners. Therefore, agency problems are expected to be less significant in Saudi Arabia due to the high level of ownership concentration, as it is argued by Clark (2004). In addition, Pornupatham (2006) asserts that agency theory is not suitable for countries which are characterised by concentrated ownership, but rather it is appropriate for developed countries where corporate ownership structures are more dispersed.

The capital structure of listed firms in Saudi Arabia is affected significantly by the Islamic financing system that underpins the Saudi economy (Attar, 2014). According to Al-Ajmi et al. (2009), more that 75% of Saudi listed firms rely on Islamic banks operating in Saudi Arabia to obtain external finance. Islamic banks do not provide debt facilities, but rather they offer equity-based facilities such as Musharaka (partnership) and Mudaraba (finance by way of trust). These types of financing are based on profit and loss sharing. Mirakhor
and Zaidi (2007) argue that the profit and loss sharing concept of Islamic contracts helps to align the interests of stakeholders, which in turn reduces agency problems.

It can be concluded that despite the widespread acceptance of agency theory in many extant studies, this theoretical approach to studying corporate governance is not directly applicable to the Saudi context. The features of the Saudi business environment do not support the assumptions of agency theory. Therefore, agency theory is not the appropriate theory that can be applied in the Saudi context.

3.2.2 Stewardship Theory

Stewardship theory is considered as sub-set of political and other broader models of corporate governance (Turnbull, 2000). While most corporate governance theories are based on economic and financial perspectives, stewardship theory is an alternative theoretical framework of managerial behaviour that is based on psychological and sociological perspectives (Clark, 2004; Mohammed, 2012).

Stewardship theory posits that “managers are good stewards of the corporations and diligently work to attain high levels of corporate profit and shareholders return” (Donaldson & Davis, 1994, p. 159). It is an alternative view of agency theory, in which managers are self-interested and opportunistic, assuming that the interests of managers are aligned with those of shareholders. Stewardship theory is derived from the economic model of human behaviour (Gay, 2002), which described by McGregor (1960) as Theory Y. The basic assumption of Theory Y is that by their motivation, creativity, self-control and self-direction, people can achieve and direct their collective goals. In addition, Donaldson and Davis (1991, p. 51) refer to the “models of man” where “organisational role-holders are conceived as being motivated by a need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenging work, to exercise responsibility and authority, and thereby to gain recognition from peers and bosses”.

According to Donaldson and Davis (1994), managers are motivated primarily by achievement and responsibility needs, thus it is better for firms to be managed by executive directors who are not subject to control by independent directors. Donaldson and Davis further emphasize that independent directors are ineffective control devices, and thus they cannot enhance firm performance. From the perspective of stewardship
theory, firm performance is expected to be enhanced when inside directors represent a high proportion of the board. This can be attributed to the fact that inside directors have a better understanding and experiences of the business which help them make superior decisions, and thus improve firm performance (Donaldson, 1990; Donaldson & Davis, 1994). In addition, stewardship theory does not consider the separation of ownership and management as a problem, but rather as a positive development that can help efficiently manage the corporation (Namoga, 2011). The key argument of this view is that the managers are trustworthy and the agency costs associated with managers are assumed to be negligible (Manawaduge, 2012).

According to Davis et al. (1997, p. 25), “a steward protects and maximizes shareholders wealth through firm performance, because by so doing, the steward’s utility functions are maximized”. Stewardship theory takes into account both the fulfilment of stewards’ need as well as the achievement of organizational success. In addition, this theory asserts that the board of directors should be structured and formulated in a way that increases stewards’ independence and power, as stewards are assumed to be trustworthy. Generally, stewardship theory focuses on board structures that empower and facilitate rather than control and monitor (Davis et al, 1997). Thus, it takes a broader view with respect to the CEO duality. Stewardship theory recommends appointing one person to occupy both the CEO and chairman positions and that the majority of directors on a board be insiders (Clarke, 2004).

3.2.2.1 Stewardship Theory and the Saudi Business Environment

The inclination of individuals to behave as self-seeking agents or stewards depends on the institutional and cultural dimensions in which a firm operates (Turnbull, 1997). Religion as a major factor of culture is expected to have a significant impact on individual’s behaviour (Sarji, 1993). According to Islamic principles, Muslims should adhere to the values of justice, honesty and truthfulness and reflect these values in all their behaviours which results in an increase level of trust in the society (Hassan & Saifuddeen, 2002). In addition, Islamic teachings require Muslims to keep their promises, trusts and contracts as well as to stay away from unfair behaviour such as deception, stealing, explicitly cheating and bribery. Based on Islamic teachings, all employees in a firm are required to act in the best interests of stakeholders (Hashim, 2010). Consequently, managers are considered good stewards and their actions are aligned with shareholders’
interests. The consistency in the views of Islamic religion and stewardship theory in terms of trust-based relationships between managers and shareholders supports the appropriateness of stewardship theory to the Saudi context. In addition, trust-based relationships can be seen in many Islamic financial contracts that are commonly used by Saudi firms to obtain external finance. For example, the Mudaraba (finance by way of trust) contract is based on trust between two partners: the fund manager (Mudharib) and the fund owner (Shahibul Maal). In this contract, a fund manager (Mudharib) acts as a steward with respect to the capital entrusted to him (Mirakhor & Zaidi, 2007).

The nature of ownership structure in Saudi firms which is characterised by a high level of family ownership is considered as another reason for the applicability of stewardship theory in the Saudi business environment. Because many listed firms in Saudi Arabia were family firms that were converted to joint stock companies, insider directors possess superior knowledge about the nature of their firms compared with independent directors (Alsanosi, 2010). Siebels and Knyphausen-Aufseb (2012) argue that appointed directors and CEOs in firms with a high level of family ownership are considered trustworthy, and thus CEO duality is the most appropriate leadership structure that helps running firms in more efficient ways. These characteristics of the board of directors are consistent with the assumptions of stewardship theory. In this regard, Ramachandran and Jha (2007) emphasize that stewardship theory is best suited for firms characterised by a high level of family ownership.

3.2.3 Stakeholder Theory

Although the concept of stakeholder management has been introduced in the 1960s, Freeman (1984) was the first scholar who formalised the concept of stakeholder theory (Hillebrand, 2010). Stakeholders can be defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984, p. 46). According to Freeman (1999, p. 234), the basic argument of stakeholder theory is that:
If organizations want to be effective, they will pay attention to all and only those relationships that can affect or be affected by the achievement of the organization’s purposes. That is, stakeholder management is fundamentally a pragmatic concept. Regardless of the content of the purpose of a firm, the effective firm will manage the relationships that are important.

Freeman and Evan (1990) define the corporation as multilateral contracts between the enterprise and its stakeholders. Based on this view, firms should not be considered as bundles of assets related to its shareholders, but rather as institutional contracts that regulate the relationship between all parties involved in the firm’s capital (Rani & Mishra, 2009). According to stakeholder theory, the firm is considered as a group of stakeholders operating in accordance with the general rules of the society which constitute the legal infrastructure of its transactions (Clarkson, 1994). In addition, Clarkson (1994) emphasizes that the main objective of the firm is to create wealth for its stakeholders by converting their stakes into products and services. In this respect, Blair (1995, p. 322) states that:

… the goal of directors and management should be maximizing total wealth creation by the firm. The key to achieving this is to enhance the voice of and provide ownership-like incentives to those participants in the firm who contribute or control critical, specialized inputs and to align the interests of these critical stakeholders with the interests of outside, passive shareholders.

There are a number of assumptions underlying stakeholder theory. Firstly, firms should concern themselves with not only shareholders’ interests, but also the interests of the broader society (Chen & Roberts, 2010; Mitchell, Agle, & Wood, 1997). Secondly, all stakeholders should be fairly treated and managers are equally accountable to all stakeholders including owners, employees, customers, creditors and community (Clarke, 1998). Thirdly, the perspective of stakeholder theory is strongly associated with the concepts of business morality and corporate social responsibilities (Letza, Sun, & Kirkbride, 2004; Westphal & Zajac, 2013).

Stakeholders’ groups can be classified in various ways. Clarkson (1995) categorises stakeholders into two groups: the primary group and the secondary group. The primary group has a priority over the other group due to its vital role in a firm. This group includes
employees, suppliers, creditors and government. In contrast, the secondary group is considered to have a limited impact on a firm. This group comprises customers, media and environmentalists. From another perspective, Mitchell et al. (1997) classify stakeholders into eight groups in terms of power, legitimacy and urgency. These groups are dormant stakeholders, discretionary stakeholders, demanding stakeholders, dominant stakeholders, dangerous stakeholders, dependent stakeholders, definitive stakeholders and non-stakeholders. In addition, Mitchell et al. (1997) highlight the importance of the managerial implications of the existence of each stakeholder group. Donaldson and Preston (1995) identify various groups of stakeholders including investors, customers, suppliers, employees, political groups, trade associations, governments and communities. They assert that the interests of each group should be achieved irrespective of the power of any group over others.

Jones and Wicks (1999) recognise four essential premises of stakeholder theory. First, a firm has relationships with different parties of stakeholders that are affected by its decisions. Second, the theory concerns the processes and outcomes of all the relationships between a firm and its stakeholders. Third, all stakeholders’ interests have intrinsic value, with the assumption that there is no set of interests that dominate the others. Fourth, the theory focuses on the decision-making process. According to Hasnas (1998, p. 32), the ethical view of stakeholder theory is that “regardless of whether stakeholder management leads to improved financial performance, managers should manage the business for the benefit of stakeholders”.

Solomon (2013, p. 23) explains the theoretical basis of stakeholder theory as “companies are so large, and their impact on society so pervasive, that they should discharge an accountability to many more sectors of society than solely their shareholders”. From the stakeholder theory perspective, it is important to consider the needs and concerns of all stakeholder groups and how their interests are achieved and protected by the management (Manawaduge, 2012). That is, rather than maximizing the shareholders’ interests, the management needs to maximize the interest of the wider groups involved in the firm. According to stakeholder theory, corporate governance is considered as the rules and policies that align a firm’s operations with the interests of all stakeholders, given the separation of ownership and control (John & Senbet, 1998). In this regard, stakeholder theory is in accord with agency theory that the behaviour of agents should be in
accordance with the interests of the principals. While agency theory focuses only on the relationship between shareholders and managers, stakeholder theory considers the relationship between all stakeholders and managers.

3.2.3.1 Stakeholder Theory and the Saudi Business Environment

The Islamic view of corporate governance, to some extent, resembles the perspective of stakeholder theory. From an Islamic perspective, corporate governance should be value-based and promote justice and fairness to all stakeholders (Al-Turki, 2006). The Islamic value of Zakat encourages socially oriented behaviour, which in turn strengthens the relationship between firms and the community (Nadzri, Abdrahman, & Omar, 2012). In addition, Article 10 of the CGRs in Saudi Arabia provides some provisions concerning the protection of all stakeholders’ interests and company’s social responsibilities. It is expected that Saudi firms do not only protect shareholders’ interests, but also advance the interests of other stakeholders. Therefore, the assumption of stakeholder theory about stakeholders’ rights is applicable to the Saudi context, and thus this theory is appropriate to be employed in the Saudi corporate context.

3.2.4 Resource Dependency Theory

In contrast to agency theory and stewardship theory in terms of their views about management behaviours, resource dependency theory focuses on the environment and the social context in which a firm operates. Resource dependence theory was primarily developed by Pfeffer and Salancik (1978). Pfeffer and Salancik emphasize the importance of the environment for understanding a firm’s operations. Resource dependency theory explains how the firm’s performance is linked to its ability to establish relationships with its external environment to access resources (Hillman & Dalziel, 2003; Pfeffer & Salancik, 1978).

According to Pfeffer and Salancik (1978, p. 40), resource dependency theory is based on the idea that “in social systems and social interactions, interdependence exists whenever an actor does not entirely control all of the conditions necessary for achieving an action or for obtaining the outcome desired from the action”. Because firms are not self-sufficient, they interact with their environment in a network of interdependencies and

9 Zakat is an Islamic social tax which equals 2.5% of one’s wealth that should be paid annually to poor and needy (Kamla, Gallhofer, & Haslam, 2006).
social relationships which are affected by social power and economic efficiency (Granovetter, 1985). A firm’s survival is linked to its ability to acquire and control external resources including financial and physical resources, information and social legitimacy (Pfeffer & Salancik, 1978). Barney and Arikan (2001, p. 138) define resources as the “tangible and intangible assets firms use to conceive of and implement their strategies”.

Resource dependence theory imposes that there is a strong relationship between the firm and its environment because the environment contains vital resources that are essential for the firm’s survival and development (Pfeffer, 1981). The dependence of firms on resources is determined by a number of factors. According to Pfeffer and Salancik (1978, p. 45), three critical factors determine the dependence of one firm on another:

First, there is the importance of the resource, the extent to which the organization requires it for continued operation and survival. The second is the extent to which the interest group has discretion over the resource allocation and use. And, third, the extent to which there are few alternatives, or the extent of control over the resource by the interest group.

According to resource dependency theory, firms seek, on the one hand, to reduce their external dependency on other firms by acquiring control of the essential resources and, on the other hand, to maximize the dependence of other firms on themselves (Pfeffer, 1981). Dependence problems arise when the supply of resources is not stable. The lack of resources assurance for firms is associated with an increase in uncertainty about their survival. Thus, it is vital that firms have stability and certainty with respect to their resource supply. At the same time, firms do not wish to be under the control of their environment. However, this situation is considered as a dilemma for firms. Pfeffer and Salancik (1978, p. 261) refer to this problem stating that:

On the one hand, future adaptation requires the ability to change and the discretion to modify actions. On the other hand, the requirements for certainty and stability necessitate the development of interorganizational structures of coordinated behaviors-interorganizational organizations.

Resource dependency theory focuses on organizational structures that help firms access
the necessary resources for their success and survival. This theory suggests that board of
directors is an essential link between a firm and the necessary critical resources for the
firm’s growth (Pfeffer, 1973; Pfeffer & Salancik, 1978). The board of directors plays
several vital roles in providing firms with different types of resources including finance,
capital and information, and linking firms to key customers, suppliers, major shareholders
and government policy makers (Bouwman, 2011; Freeman & Evan, 1990; Hillman,
Cannella, & Paetzold, 2000; Hillman & Dalziel, 2003; Mizruchi & Stearns, 1988;
Nicholson & Kiel, 2007). Resource dependency theory argues that the issue of dichotomy
between dependent and independent directors is actually irrelevant, what is relevant is the
ability of the directors to establish a strong relationship with the environment that helps
provide resources needed for the firm’s operations (Kyereboah-Coleman, 2008; Psaros,
2009).

According to Kalyebara and Islam (2013, p. 31), “the more control an organisation has
on external resources, the lower the costs of resources and the higher the chances that the
firm will minimise agency costs”. If the firm’s success depends on the accessibility to
external resources, then the presence of its members on the board of directors of the firms
that control the external resources is necessary to reduce uncertainty and external
dependencies. Psaros (2009) emphasizes that the skills and resource base are the main
factors that determine the extent to which directors add value to their firms. In addition,
the relationship of directors with government or policy-making authority may reduce
transaction costs of the firms. As an intangible asset, a firm’s reputation could also be
enhanced by the personal reputation of its directors (Psaros, 2009).

From another perspective, resource dependency theory assumes that ownership
concentration can contribute positively to firm performance. Concentrated owners, such
as the state and family, can deliver great advantages to their firms in terms of managerial
and financial resources (Boubaker & Nguyen, 2014). Resource dependency theory
considers government ownership as one of the most important outsourcing mechanisms
for improving firm performance (Al-Matari et al., 2013). It argues that outsourcing helps
provide a variety of different resources including monetary and material resources,
information and social legitimacy (Pfeffer & Salancik, 1978; Wry, Cobb, & Aldrich,
2013). Therefore, firms with a high level of government ownership enjoy several
important advantages including easier access to financial resources, direct political
connections, better commercial treatment and a higher degree of legitimacy (Baum & Oliver, 1991; Buckley et al., 2007; Cuervo-Cazurra & Dau, 2009; Johnson & Mitton, 2003). In addition, family ownership can also provide firms with unique combination of financial, human and social capital (Arregle, Hitt, Sirmon, & Very, 2007; Dyer, 2006; Sirmon & Hitt, 2003).

3.2.4.1 Resource Dependency Theory and the Saudi Business Environment

The Saudi business environment is consistent with the assumptions of resource dependency theory regarding the positive role that board of directors and ownership structure can play in improving firm performance. Albassam (2014) argues that board of directors plays a significant role in securing financial capital for Saudi firms. In addition, the nature of Saudi society, where personal relationships are very important in arranging business contracts and enhancing the link between the firm and its environment, gives board of directors the ability to effectively help firms access the necessary resources for their success and survival (Adeyemi-Bello & Kincaid, 2012).

In the Saudi business environment, the importance of government and family ownership for facilitating access to different types of resources provides further evidence of the applicability of resource dependency theory in the Saudi context. For example, the Saudi government has five lending institutions which provide different credit programs in the medium- and long-term (Alzomaia, 2014). The access to the government financial support is easier for firms with government ownership. Similarly, families in Saudi firms can help firms by providing a personal guarantee to secure their firms’ financial needs (Albassam, 2014). This advantage of government and family ownership is most important in the Saudi context, given the limited access to the external financial markets in Saudi Arabia (Piesse, Strange, & Toonsi, 2012). In this regard, Baydoun, Maguire, Ryan, and Willett (2013) point out that Saudi firms usually invite wealthy and influential families to participate in new Initial Public Offerings due to the ability of those families to help firms secure the necessary resources.

3.2.5 Institutional Theory

Institutional theory gives a useful framework for understanding the impacts of legal and socio-economic factors on organizations and countries, and their strategic responses to those factors (Carruthers, 1995; DiMaggio & Powell, 1983; Hussain & Hoque, 2002;
Institutional theory suggests that almost all the formal procedures, regulations and policies are derived from the ‘myths’ which constitute the acceptable economic, cultural and social practices (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Myths are generalised beliefs about the norms and values that are widely accepted in a society and have acquired legitimacy (Meyer & Rowan, 1977).

Institutional theory is one of the main theoretical perspectives used in social science studies and notably in the accounting literature (Scott, 1995). It provides a deeper analysis and understanding of economic phenomena within its surrounding environments including cultural, religious, political, civilization and technological factors (Alghamdi, 2012). Institutional theory does not focus on the importance of self-interest motives, but rather on institutional elements that lie beyond a firm’s organizational boundaries (Hoffman, 1999). According to institutional theory, a firm can be defined as an entity that operates within a nexus of rules, values, norms and take-for-ground assumptions about what constitutes acceptable and appropriate corporate behaviour (Oliver, 1997).

Institutional theory highlights the importance of normative rules and structures in constraining and guiding organizational behaviours (Lynall, Golden, & Hillman, 2003; Miller-Millesen, 2003). From the perspective of institutional theory, the standards and rules that govern firms’ activities evolve and change over time and become legitimated (Yeh & Taylor, 2008). Therefore, firms need to change their processes, structures and behaviours to be in accordance with normative requirements in order to obtain legitimacy (Luoma & Goodstein, 1999; Pfeffer, 1982). According to Scott (1987), by applying accepted institutional norms, firms can increase their resources, survival capabilities and legitimacy.

Due to their operational context, firms are expected to be exposed to different types of institutional isomorphic pressures which force firms to apply the same practices and structures. According to institutional theory, firms respond to pressures arising from inside and outside business environments and adopt similar standards and structures that are widely accepted and considered legitimate within their business fields (Meyer & Rowan, 1977; Zucker, 1987). DiMaggio and Powell (1983) identify three forms of isomorphism and assume that institutions adopt different practices and rules because of coercive, mimetic and normative isomorphism.
Coercive isomorphism is associated with political impacts and the significance of gaining legitimacy. According to DiMaggio and Powell (1983, p. 149), this type of isomorphism “results from formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function”. Deegan and Unerman (2006) emphasize that coercive isomorphism is consistent with the managerial branch of stakeholder theory, in that institutions make voluntary disclosures to meet the social, economic and environmental values as well as stakeholders’ concerns who have power over the firm, probably at the expense of other stakeholders.

The second isomorphic process introduced by DiMaggio and Powell (1983) is mimetic isomorphism. The main reason for this form of isomorphism is uncertainty which leads firms to imitate others or model themselves after firms in their field, to deal with ambiguous issues (DiMaggio & Powell, 1983). This process usually takes place without the knowledge and acceptance of the imitated firm and moves via different ways, such as industry trade associations, consulting companies or employee transfer. Deegan and Unerman (2006) contend that mimetic isomorphism is related to legitimacy theory, whereby a firm tends to emulate the best practices of the leading firms in its sector in order to maintain and improve the stakeholders’ view about the firm’s legitimacy. The third and final type of isomorphism is normative isomorphism, which is related to the pressure arising from set of norms to adopt specific institutional practices (DiMaggio & Powell, 1983). With respect to corporate reporting, Deegan and Unerman (2006) point out that accountants adopt accounting standards as a form of normative isomorphism for the institutions to create accounting reports in line with these standards.

Generally, institutional theory assumes that corporations will endeavour to copy or imitate other corporations because they share the same social system, and thus their practices should be similar. Institutional theory can be used to explain why firms consider that it is necessary to comply with the corporate governance code, whether through regulatory requirements or pressure from institutional investors or peer pressure (Magang, 2012). From the perspective of institutional theory, corporate governance is considered as a change in institutional processes over time and how governance mechanisms “fulfil ritualistic roles that help legitimize the interactions among the various actors within the corporate governance mosaic” (Zainal, Rahmadana, & Zain, 2013, p. 58).
Firms may adopt corporate governance practices seeking legitimacy and social acceptance, regardless of the effectiveness of these governance mechanisms (Saudagaran & Diga, 1997). Carpenter and Feroz (2001) refer to this process as “organisational imprinting”, arguing that such a process does not necessarily lead to improved performance. In addition, Carruthers (1995, p. 315) emphasizes that the process of institutionalisation is “cultural and political one that concerns legitimacy and power much more than efficiency alone”. Therefore, organizations and countries may establish corporate governance regulations not because they improve efficiency and performance, but rather to gain legitimacy in society (Khadaroo & Shaikh, 2007).

3.2.5.1 Institutional Theory and the Saudi Business Environment

Institutional theory appears to be an appropriate lens through which corporate governance can be examined in the Saudi business environment. The CMA established the CGRs in 2006 as a guideline for Saudi listed firms. As compliance with these regulations was not mandatory, listed firms did not comply with most of these regulations (Hussainey & Al-Nodel, 2008). However, since 2009, all listed firms on the Saudi Stock Exchange have been required by the CMA to comply with the CGRs in order to improve organizational effectiveness. As a result of the pressure exercised by the CMA, the level of compliance among Saudi firms improved significantly in 2009 (Albassam, 2014). By adopting these regulations, firms gain legitimacy in society. However, these regulations do not necessarily enhance firms’ effectiveness, especially if the factors affecting the institutional environment such as cultural and economic factors are not considered by the legislators when establishing the regulations.

The process of establishing the CGRs by the CMA in Saudi Arabia can be explained in light of the institutional theory assumptions. The CMA states that the main aim of the CGRs is to ensure that listed firms comply with the best governance practices. The majority of the CGRs in Saudi Arabia were derived from the OECD principles of corporate governance and the 1992 UK Cadbury Report (Riyadh Chamber of Commerce and Industry, 2007). Thus, adopting these regulations was based on worldwide best governance practices. However, factors affecting the Saudi business environment such as Saudi culture, Islamic religion and ownership structure have not been taken in
consideration when establishing the CGRs. Ignoring such factors may result in the inapplicability of these regulations in the Saudi business environment. As firms comply with the CGRs due to the pressures exerted by the CMA, firms may gain legitimacy in society, but their efficiency and performance are less likely to be improved by such regulations.

3.3 Theoretical Framework of the Study

To investigate corporate governance practices, a theoretical lens is needed. Since corporate governance is related to a number of factors such as culture, economics, politics and organizational behaviour, multiple theoretical frameworks are necessary for a comprehensive understanding of corporate governance issues. To determine the appropriate theoretical frameworks for this study, it is important to consider all the factors affecting the Saudi business environment. As discussed in Chapter Two, the business environment in Saudi Arabia is influenced by many factors such as Saudi culture and Islamic religion. In addition, the Saudi business environment has unique features that are different from those of other countries in terms of ownership structure and capital structure. These factors are expected to have a direct impact on corporate governance practices in Saudi Arabia.

The relationship between principal and agent has been approached in corporate governance theories from two different perspectives. While agency theory views managers as self-interested and opportunistic, stewardship theory argues that managers are good stewards whose actions are aligned with the interests of shareholders. According to Davis, Schoorman, and Donaldson (1997), there are a number of factors that direct individuals to act as agents or as stewards including psychological factors such as identification and motivation, and situational factors such as culture (individualism versus collectivism), power distance and management philosophy. In the Saudi context, both Islamic teachings and Arabic tribal customs shape the behaviour of Saudi society and have a direct impact on business activities. People in Saudi Arabia follow Islamic teachings such as encouraging mutual aid among members of the society, strengthening the social bond and taking care of other people. In addition, their behaviours are aligned with Islamic ethics and values such as justice, consultation, secretariat and truthfulness. According to Islamic values, managers are accountable to all stakeholders, majority shareholders are accountable to minority shareholders and a company as a whole is
accountable to society. Thus, managers are considered as good stewards of firms and their actions are aligned with shareholders’ interests. In addition, Saudi culture is collectivistic when compared to an individualistic society like the US. Consequently, the relationship between shareholders and managers in Saudi firms is expected to be based on stewardship theory rather than agency theory. Moreover, the nature of ownership structure in Saudi firms, which is dominated by the state and family, is considered as another reason for the inappropriateness of agency theory to the Saudi corporate context. As an internal mechanism, ownership concentration can play an important role in mitigating agency problems by exercising more control over managers’ actions (Earle et al., 2005; Laiho, 2011).

With respect to board structure, both Saudi culture and the nature of ownership structure in Saudi firms support the assumptions of stewardship theory regarding the appropriate board structure that can help improve firm performance. Due to the influence of some aspects of Saudi culture such as favouritism and tribalism, the appointment of independent directors in Saudi firms is ultimately subject to family and personal relationships regardless of their skills, knowledge and experience (Al-Moataz, 2003; Falgi, 2009). As a result, independent directors in Saudi firms may not be qualified, which makes their existence on the board of directors negatively affects firm performance (Alghamdi, 2012). On the other hand, because many Saudi listed firms were family firms that were subsequently converted to joint stock firms, inside directors have a better understanding and knowledge about the nature of their firms, which help improve firm performance (Alsanosi, 2010). In such a context with the absence of conflicts of interest, combining the roles of chairman and CEO could be a valuable structure to make a firm more successful.

Besides stewardship theory, there are also other theories that are applicable to the Saudi corporate context. These theories are stakeholder, resource dependency and institutional theories. Islamic principles are consistent with the perspective of stakeholder theory regarding the right of stakeholders, as they emphasize the importance of promoting fairness and justice to all stakeholders. In addition, the importance of personal relationships in arranging business contracts in the Saudi corporate context is in line with the assumption of resource dependency theory regarding the essential role of the board of directors in providing links between a firm and the critical resources that are necessary
for the firm’s growth (Adeyemi-Bello & Kincaid, 2012; Hillman & Dalziel, 2003). Moreover, considering the establishing process of the CGRs in Saudi Arabia, institutional theory can give a useful understanding of corporate governance in the Saudi corporate context.

Considering all of the above, the study adopts multiple theoretical frameworks by augmenting stewardship theory with stakeholder, resource dependency and institutional theories. A combination of these theories provides useful theoretical frameworks to understand corporate governance practices in the Saudi corporate context.

3.4 Summary

This chapter provides a review of the dominant theories of corporate governance which are agency, stewardship, stakeholder, resource dependency and institutional theories. Each of these theories addresses corporate governance issues from different perspectives. While agency theory and stewardship theory focus on the relationship between principles and agents paying more attention on the managers’ behaviours, social relationships concept is the main driver of both stakeholder theory and institutional theory. The appropriateness of each of these theories to a certain business environment is subject to the factors that influence the environment. As corporate governance is associated with different factors, adopting multiple theoretical frameworks is important to provide a comprehensive explanation of corporate governance issues.

To select the appropriate theoretical frameworks for this study, the assumptions of each corporate governance theory are analysed to determine their appropriateness to the Saudi business environment. Agency theory, which assumes a conflict of interest between managers and shareholders, is found to be less relevant to the Saudi business environment. This can be attributed to the impact of Saudi culture and Islamic values which direct people to behave with a concern for others, not with a concern for their own interests. In addition, ownership structure in Saudi firms which is characterised by a high level of ownership concentration reduces agency problems between managers and shareholders. On the other hand, stewardship, stakeholder, resource dependency and institutional theories are found to be the most relevant theories to the Saudi business environment. Saudi culture and Islamic religion, which deeply influence the Saudi business environment, along with ownership structure support the assumptions of stewardship,
stakeholder and resource dependency theories. In addition, the process applied to establish the CGRs in Saudi Arabia is consistent with an institutional theory perspective. Therefore, these theories are adopted as the theoretical frameworks for this study. The following chapter discusses the literature related to the relationship between corporate governance and firm performance.
Chapter Four: Literature Review

4.1 Introduction

Corporate governance is considered as an important performance driver of firms (El Mir & Seboui, 2008). Much of the literature on corporate governance has focused on the assumption that firm performance is influenced by governance mechanisms. The main debate revolves around whether governance mechanisms (internal and external) affect the performance of the firm. However, the empirical literature does not offer conclusive evidence on the impact of corporate governance mechanisms on firm performance and whether the relationship between internal and external governance mechanisms is complementary or substitute (Silveira & Barros, 2007). Most studies that investigate the relationship between corporate governance and firm performance focus on three main areas: board characteristics, ownership structure and capital structure.

This chapter reviews the literature on corporate governance and its impacts on firm performance. Particularly, it provides a review of the key theories and empirical studies related to the impact of board of director characteristics, ownership structure and capital structure on firm performance in both developed and developing countries. The chapter is organized as follows. Section 4.2 discusses literature that examines the relationship between board of director characteristics and firm performance. Section 4.3 reviews the previous studies concerning the impact of ownership structure on firm performance. In Section 4.4, the association between capital structure and firm performance is discussed in light of relevant literature. This chapter ends with a summary and identification of gaps in the literature related to the particular focus of this study.

4.2 Board of Director Characteristics and Firm Performance

The board of directors is an essential mechanism of corporate governance which significantly influences firm performance (Abdullah, 2004; Ghabayen, 2012; Uadiale, 2010; Westphal & Zajac, 2013). Despite the widespread agreement among scholars on the importance of the board of directors to enhance firm performance, the role of the board has been viewed from different perspectives. While the role of the board from an agency theory perspective is to oversee and control the actions of agents to be in accordance with principals’ interests (Jensen & Meckling, 1976; McKnight & Weir,
2009), its role from a stewardship theory perspective is to provide support, advice and information to management rather than control and monitor it (Daily et al., 2003; Donaldson & Davis, 1994). Accordingly, each theory suggests different board characteristics that can improve firm performance. The main characteristics that are widely discussed in corporate governance studies are board composition, board size and CEO duality.

In the next subsections, the association between board characteristics and firm performance is discussed in light of studies in both developed and developing countries, including Saudi Arabia. Five main characteristics of the board of directors are reviewed, namely board independence, board size, CEO duality, CEO tenure and family CEO. These board characteristics are selected for two reasons. First, previous studies highlight the importance of these characteristics in board effectiveness (Koerniadi & Tourani-Rad, 2012; Miller & Le Breton-Miller, 2006; Monks & Minow, 2011; Solomon, 2013). Second, these five board characteristics are most relevant to the Saudi business environment and are expected to have a direct impact on the performance of Saudi firms (Al-Dubai, Ismail, & Amran, 2014b; Al-Nodel & Hussainey, 2010; Ghabayen, 2012).

4.2.1 Board Independence and Firm Performance

The proportion of independent directors on a board has received much attention in corporate governance studies due to the direct impact of independent directors on firm performance. An independent director can be defined as “one who has no need or inclination to stay in the good graces of management, and who will be able to speak out, inside and outside the boardroom, in the face of management’s misdeeds in order to protect the interests of shareholders” (Clarke, 2007, p. 84). In a comprehensive review of literature related to boards of directors, Johnson, Daily, and Ellstrand, (1996) identify three main roles of the boards of directors: control, service and resources dependence roles. Accordingly, the board is formulated differently based on the targeted role of the board. Two main theories have been applied to explain the relationship between board composition and firm performance: agency theory and stewardship theory (Nicholson & Kiel, 2007).

According to agency theory, the majority of the board should be independent directors to control and monitor management (Al-Janadi et al., 2013; Berle & Means, 1932). This
theory views managers as self-interested and argues that they act in their own interests. Due to the separation of ownership and management, agency problems are expected to arise between managers and shareholders, and thus independent directors are needed to protect shareholders’ interests (Padilla, 2002; Williamson, 1989). With a high proportion of independent directors on the board, the managers’ actions are controlled, and thus firm performance is expected to improve. In addition, independent directors are more effective than inside directors in terms of hiring, compensating and firing top executives (Fields & Keys, 2003).

In contrast, stewardship theory rejects the idea of self-interested managers, arguing that managers are good stewards and their interests are aligned with those of shareholders (Clark, 2004). Stewardship theory posits that inside directors have a better understanding and relevant business experience which help them make superior decisions, and thus improve firm performance (Donaldson, 1990; Donaldson & Davis, 1994). On the other hand, independent directors lack the relevant knowledge and skills, and are less committed to the firm, which negatively affect firm performance (Koerniadi & Tourani-Rad, 2012; Muth & Donaldson, 1998).

A large number of studies have been conducted in developed countries to investigate the relationship between board independence and firm performance, and they reveal mixed results. Ferreira and Kirchmaier (2013) examine the impact of independent directors on firm performance in 28 European countries during the period from 2000 to 2010. They report a positive impact of independent directors on firm performance. The same positive impact is also found in studies conducted in the US (Millstein & MacAvoy, 1998), the UK (Weir et al., 2002) and France (Ammari, Kadria, & Ellouze, 2014).

One the other hand, Coles, Daniel, and Naveen (2008) investigate 8,165 listed firms in the US between 1992 and 2002. They found a negative relationship between independent directors and firm profitability and productivity. A similar result is also reported in studies conducted in Canada and Australia (Bozec, 2005; Nicholson & Kiel, 2003). Another study undertaken by Barnhart and Rosenstein (1998) found weak evidence of a curvilinear relationship between independent directors and firm performance, indicating that firm performance is negatively influenced, if the percentage of independent directors on the board is too high or too low. Nevertheless, some studies reveal no association

In developing countries, studies investigating the relationship between board independence and firm performance show inconsistent results. El Mehdi (2007) reports that the presence of independent directors positively affects the performance of listed firms in Tunisia. Similarly, Zheng (2010) concludes that independent directors’ political connections are an important resource that helps improve firm performance. On the other hand, other studies conducted in Malaysia (Shukeri, Shin, & Shaari, 2012), Nigeria (Garba & Abubakar, 2014) and Mauritius (Mahadeo, Soobaroyen, & Hanuman, 2012) reveal a negative relationship between board independence and firm performance. Conversely, some studies show no relationship at all between independent directors and firm performance in developing countries (Haniffa & Hudaib, 2006; Rashid, De Zoysa, Lodh, & Rudkin, 2010).

In the Saudi context, only a few studies investigate the association between board independence and firm performance. Y. Al-Matari et al. (2012) investigate 135 Saudi listed firms in 2010. They report that there is no association between board composition and firm value measured by Tobin’s Q. Another study using 102 non-financial Saudi firms reveals that board independence is negatively associated with firm performance measured by return on assets (Ghabayen, 2012). These studies have some limitations in terms of sample sizes. Both studies use noticeably smaller sample sizes and a single year period which limits the generalizability of their findings.

Table 4.1 summarizes the results of empirical studies concerning the relationship between board independence and firm performance discussed above.

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferreira and Kirchmaier</td>
<td>2,661 firms in 28 European countries, 2000-2010</td>
<td>ROA and MTB</td>
<td>Positive</td>
</tr>
<tr>
<td>(2013)</td>
<td></td>
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<td>(1998)</td>
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Table 4.1: Summary of empirical findings on the relationship between board independence and firm performance
<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shukeri, Shin and Shaari (2012)</td>
<td>300 Malaysian firms in 2011</td>
<td>ROE</td>
<td>Negative</td>
</tr>
<tr>
<td>Mahadeo, Soobaroyen and Hanuman (2012)</td>
<td>42 Mauritian firms in 2007</td>
<td>ROA</td>
<td>Negative</td>
</tr>
<tr>
<td>Y. Al-Matari et al. (2012)</td>
<td>135 Saudi firms in 2010</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
<tr>
<td>Ghabayen (2012)</td>
<td>102 Saudi firms in 2011</td>
<td>ROA</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity, MTB is market to book ratio, EVA is economic value added and ROS is return on sales.
4.2.2 Board Size and Firm Performance

Board size refers to the number of members on the board. The impact of board size on firm performance has been explained from different theoretical perspectives. From an agency theory perspective, larger boards are less effective in monitoring management and lead to higher managerial compensation (Jensen & Meckling, 1976; Yawson, 2006). In addition, a large number of board members may result in poor decision making and communication, and coordination problems which negatively affect firm performance (Guest, 2009; Lane, Astrachan, Keyt, & McMillan, 2006). In contrast, other theories such as stewardship theory and resource dependency theory assume that larger boards can improve firm performance by providing different skills, knowledge and experiences which facilitate better decision making and execution (Setia-Atmaja, Tanewski, & Skully, 2009). From a stewardship theory perspective, the number of inside directors on the board is relevant, since they have superior information about the operations of the firm (Nicholson & Kiel, 2003). According to Adams and Mehran (2003), multi-member boards are more appropriate for large, complex and universal institutions. In the same vein, resource dependency theory suggests that critical resources such as finance and business contracts can be easily secured by large boards (Goodstein, Gautam, & Boeker, 1994; Pearce & Zahra, 1992). In addition, larger boards increase the chance of stakeholders to be better represented on the firm’s board of directors (Ntim & Soobaroyen, 2013; Pfeffer, 1973). Although there is no universal agreement on the ideal board size for optimising firm performance, the general consensus is that it lies between seven to twelve members (Hermalin & Weisbach, 2003; Jensen, 1993; Koerniadi & Tourani-Rad, 2012; Lane et al., 2006; Lipton & Lorsch, 1992).

The relationship between board size and firm performance has been well researched in developed countries. However, there is no definitive evidence on the direction of this relationship. Coles et al. (2008) report a positive relationship between board size and firm performance. They note that large and complex firms tend to have large boards and the diverse expertise of these large boards is likely to improve firm performance. A similar result is observed in a study of Australian firms (Nicholson & Kiel, 2003). Another study by Wang (2012) found that firms with smaller boards invest more in risky investments which negatively influence firm performance. This result is consistent with the argument
that larger boards are more effective at strategic decision-making, compared to smaller boards (Dalton, Daily, Ellstrand, & Johnson, 1998).

On the other hand, De Andres, Azofra, and Lopez (2005) investigate a large number of firms in different 10 OECD countries and report a negative relationship between board size and firm performance. The same negative relationship is also found in the UK (Guest, 2009) and the US (Upadhyay, Bhargava, & Faircloth, 2014). These results support the conclusion of Jensen (1993) that a relatively small board of directors is more effective in monitoring managers’ decisions. Another study undertaken by El-Faitouri (2014) reveals that board size has no impact on firm performance.

Previous studies investigate the association between board size and firm performance in developing countries reveal similar mixed results as those observed in developed countries. While some studies found a positive relationship (Gull, Saeed, & Abid, 2013; Nor, Shafee, & Samsuddin, 2014; Tornyeva & Wereko, 2012), other studies show a negative relationship (Dhamadasa, Gamage, & Herath, 2014; Mak & Kusnadi, 2005; Sanda, Mikailu, & Garba, 2010). Kumar and Singh (2012) report that there is no relationship between board size and firm performance. In an Arab context, both Desoky and Mousa (2012) and E. Al-Matari, Al-Swidi, Fadzil, and Al-Matari (2012) found that board size has no significant effect on firm performance.

In Saudi Arabia, a few studies investigate the relationship between board size and firm performance. For example, Ezzine (2011) reports an inverse relationship between board size and firm stock returns. He examined 96 Saudi firms between 2006 and 2008. Another study by Y. Al-Matari et al. (2012) targets 135 Saudi firms in 2010. This study found that there is no association between board size and firm value measured by Tobin’s Q. However, the extant studies have been criticised in terms of the sample and methods they applied. According to Albassam (2014), the extant studies have some limitations such as using a small sample, focusing on one year of cross-sectional data and using only one measure of firm performance.

Table 4.2 summarizes the results of empirical studies concerning the relationship between board size and firm performance discussed above.
Table 4.2: Summary of empirical findings on the relationship between board size and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Andres, Azofra, and Lopez (2005)</td>
<td>450 firms in OECD countries in 1996</td>
<td>Tobin’s Q, ROA and MTB</td>
<td>Negative</td>
</tr>
<tr>
<td>Upadhyay, Bhargava and Faircloth (2014)</td>
<td>1,500 US firms, 2000-2003</td>
<td>Tobin’s Q and ROA</td>
<td>Negative</td>
</tr>
<tr>
<td>El-Faitouri (2014)</td>
<td>634 UK firms, 1999-2009</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
<tr>
<td>Nor, Shafee and Samsuddin (2104)</td>
<td>169 Malaysian firms, 2009-2010</td>
<td>ROA</td>
<td>Positive</td>
</tr>
<tr>
<td>Dhamadasa, Gamage and Herath (2014)</td>
<td>189 Sir Lankan firms in 2013</td>
<td>ROA and Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Kumar and Singh (2012)</td>
<td>157 Indian firms in 2008</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
<tr>
<td>Desoky and Mousa (2012)</td>
<td>96 Egyptian firms in 2010</td>
<td>ROE and Tobin’s Q</td>
<td>No relationship</td>
</tr>
<tr>
<td>E. Al-Matari et al. (2012)</td>
<td>136 Kuwaiti firms in 2009</td>
<td>ROA</td>
<td>No relationship</td>
</tr>
<tr>
<td>Ezzine (2011)</td>
<td>96 Saudi firms, 2006-2008</td>
<td>Stock return</td>
<td>Negative</td>
</tr>
<tr>
<td>Study</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------</td>
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<td>---------------</td>
</tr>
<tr>
<td>Y. Al-Matari et al. (2012)</td>
<td>135 Saudi firms in 2010</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity and MTB is market to book ratio.

### 4.2.3 CEO Duality and Firm Performance

CEO duality refers to a situation when the same person holds the positions of CEO and chairman of the board of directors. Due to the sensitive nature of the roles that both CEO and chairman can play in improving firm performance, CEO duality is considered as an important corporate governance mechanism. There are two competing theoretical perspectives of CEO duality based on whether firms are best served by monitoring effectively (agency theory), or by strong and consistent leadership (stewardship theory).

Agency theory suggests that the positions of CEO and chairman should be separated in order to effectively reduce the power of the CEO (Jensen, 1993). Due to the conflicts of interest between agents and principals, the theory argues that weak monitoring leads to expropriation of shareholders’ wealth by self-interested CEOs (Chalevas, 2011; Jensen & Meckling, 1976; Shleifer & Vishny, 1997). In addition, the separation of the role of CEO and chairman reduces the CEO dominance over the board, and thus enhances board effectiveness (Maassen, 2002).

On the other hand, stewardship theory argues that managers, including CEOs, are trustworthy and work in the best interests of shareholders (Davis, Schoorman, & Donaldson, 1997). Therefore, stewardship theory does not focus on the monitoring of the CEO but rather on the structures that facilitate and empower the CEO, suggesting that the combined role of CEO and chairman can result in superior return to shareholders (Donaldson & Davis, 1991). In addition, CEO duality enhances the clarity and consistency of leadership within the firm, given the power and the authority are concentrated in the same person (Donaldson & Davis, 1991). As a result, a firm will gain the advantages of strong control and unity of direction, which in turn improves firm performance.

Previous studies in developed countries show inconclusive results regarding the association between CEO duality and firm performance. Faleye (2007) reports that complex firms with CEO duality perform better than those without such duality. Further,
he asserts that the likelihood of CEO duality increases if the CEO has a strong reputation or owns a significant proportion of the firm’s equity. In such situations, the CEO is less likely to enjoy private benefits at the expense of shareholders’ interests. Similarly, studies undertaken by Donaldson and Davis (1991) and Peni (2014) reveal a positive impact of CEO duality on firm performance. In contrast, other studies show a negative relationship between CEO duality and firm performance (Dey, Engel, & Liu, 2011; Veprauskaité & Adams, 2013). Another study by Dahya, Lonie, and Power (1996) found that firm performance improved in the years following the separation of the positions of CEO and chairman. Daily and Dalton (1994) report that CEO duality was the significant factor that led to firms’ bankruptcy. Nevertheless, some studies indicate that CEO duality has no impact on firm performance (Baliga, Moyer, & Rao, 1996; Nicholson & Kiel, 2003; Rodriguez-Fernandez, Fernandez-Alonso, & Rodriguez-Rodriguez, 2014).

In developing countries, there are several studies examining the relationship between CEO duality and firm performance. However, there is a lack of consistency in the findings across these studies. In a dynamic and complex environment, Wellalage and Locke (2011) found that CEO duality are more beneficial for firms. In addition, Lam and Lee (2008) report that the combined CEO and chairman role has a positive impact on non-family firms, whereas the separation of the roles of CEO and chairman is better for family-controlled firms. In Arabic countries, Omran, Bolbol, and Fatheldin (2008) examine 304 firms across Oman, Egypt, Jordan and Tunisia. They found that CEO duality has a positive impact on firm performance. A similar result was found in Bangladesh (Al Farooque, Van Zijl, Dunstan, & Karim, 2007). On the other hand, while some studies reveal a negative relationship between CEO duality and firm performance (Haniffa & Hudaib, 2006; Ujunwa, 2012), other studies found that CEO duality has no impact on firm performance (Cheung, Rau, & Stouraitis, 2006; Elsayed, 2007; Mashayekhi & Bazaz, 2008).

In Saudi Arabia, there are few studies that investigate the impact of CEO duality on firm performance. Y. Al-Matari et al. (2012) examine 135 Saudi firms in the year 2010. They report a negative but insignificant relationship between CEO duality and firm value measured by Tobin’s Q. Another study undertaken by Al-Abbas (2009) examines 78 Saudi firms between 2005 and 2007. This study reveals that there is no impact of CEO duality on firm performance measured by stock return. Both studies have some
limitations. While Y. Almatari et al. (2012) use one year of cross-sectional data, Al-Abbas (2009) uses unbalanced panel data from a small sample, which can cause endogeneity problems (Guest, 2009). These limitations may affect the generalizability of these results across all firms in the Saudi context.

Table 4.3 summarizes the results of empirical studies concerning the relationship between CEO duality and firm performance discussed above.

Table 4.3: Summary of empirical findings on the relationship between CEO duality and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dey, Engel and Liu (2011)</td>
<td>760 US firms, 2001-2009</td>
<td>ROA and abnormal return</td>
<td>Negative</td>
</tr>
<tr>
<td>Daily and Dalton (1994)</td>
<td>57 surviving and bankrupt firms in the US, 1972-1982</td>
<td>Firms’ bankruptcy</td>
<td>Positive</td>
</tr>
<tr>
<td>Wellalage and Locke (2011)</td>
<td>199 Sir Lankan firms, 2006-2010</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Study</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td>Y. Al-Matari et al. (2012)</td>
<td>135 Saudi firms in 2010</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity, MTB is market to book ratio and EPS is earnings per share.

4.2.4 CEO Tenure and Firm Performance

CEO tenure refers to the number of years that the CEO has served in that position. CEO tenure is one of the key determinants of the leadership structure of the board, which has a direct impact on firm performance (Simsek, 2007). According to Hambrick and Fukutomi (1991, p. 719) “there are discernible phases, or seasons, within an executive’s tenure in a position, and [those] seasons give rise to distinct patterns of executive attention, behaviour, and ultimately, organizational performance". However, the association between CEO tenure and firm performance remains a matter of considerable debate both theoretically and empirically.

Theoretically, there are two different perspectives regarding the impact of CEO tenure on
firm performance. While agency theory considers CEO tenure to negatively affect firm performance, both stewardship theory and resource dependency theory posit a positive impact of CEO tenure on firm performance. According to agency theory, a longer CEO tenure leads to an increase in the CEO’s power which can be used to obtain more private interests (Hill & Phan, 1991). In addition, a long-tenured CEO usually has a strong impact on the selection and composition of the board members (Prevost, Rao, & Hossain, 2002). The ability of the board of directors to effectively monitor management actions is influenced by the power of CEO. With a powerful CEO, the board plays a passive role in protecting shareholder interests from managerial opportunism (Westphal & Zajac, 1995). According to Miller (1991), a long-tenured CEO often lacks the appropriate skills for matching the new environmental requirements, which in turn negatively affects firm performance.

On the other hand, stewardship theory argues that CEO tenure is a proxy for relevant experience and superior ability that enhances firm performance, rather than reflecting the power of CEO that can be used over shareholder interests (Dikolli, Mayew, & Nanda, 2014). Stewardship theory emphasizes that managerial skills and experiences are not easily transferred or replicated, and thus longer CEO tenure can significantly improve firm performance (Hu & Alon, 2008). This theory also considers CEO tenure as important situational and psychological factors in enhancing the CEO’s stewardship behaviour (Davis et al., 1997). Resource dependency theory makes similar assertions to stewardship theory, arguing that the longer the CEO served in his/her position, the more knowledge and experience he/she will gain (Pfeffer, 1987). Accordingly, a long-tenured CEO leads to higher overall firm performance (Wulf, Miksche, & Stubner, 2010).

There are limited empirical studies that analyse the impact of CEO tenure on firm performance in both developed and developing countries. In developed countries, previous studies reveal a mixture of positive, negative and no effects of CEO tenure on firm performance. Dikolli et al. (2014) found that long-tenured CEOs in US firms outperform their short-tenured counterparts in their first four years. Similarly, Wulf et al. (2010) report that a longer CEO tenure is associated with higher firm performance. In contrast, Allgood and Farrell (2000) found a negative relationship between CEO tenure and firm performance. Arosa, Iturralde, and Maseda (2013) report that CEO tenure has no effect on firm performance.
Another study by Henderson, Miller, and Hambrick (2006) examines the impact of CEO tenure in two different types of industries: the food industry and the computer industry. They found that factors such as degrees of innovation, market growth and technological change are important in determining the impact of CEO tenure on firm performance. The study reveals that CEO tenure has a positive impact on the performance of the stable food industry, whereas it is negatively associated with firm performance in computer industry.

Empirical studies that examine the relationship between CEO tenure and firm performance in developing countries also report mixed results. Some studies report a positive relationship (Hu & Alon, 2008; Lassoued & Attia, 2013; Tornyeva & Wereko, 2012), others show a negative relationship (Al Farooque et al., 2007; Azar, Rad, & Botyar, 2014) and some found no significant relationship (Chang & Wong, 2009). In Arabic countries, while E. Al-Matari et al. (2012) found a negative relationship between CEO tenure and firm performance in Kuwait, Al-Matari, Fadzil, and Al-Swidi (2014) report a positive but insignificant relationship in Oman. Al-Matari, Fadzil, and Al-Swidi attribute the insignificant impact of CEO tenure on firm performance to the high level of board control over CEO actions. When a CEO has low discretion, his/her impacts on firm decisions and outcomes are expected to be weak.

In the Saudi context, the relationship between CEO tenure and Saudi firm performance has not yet been investigated. Generally, CEO tenure is expected to be relatively long due to the high level of family ownership in Saudi firms (Adeyemi-Bello & Kincaid, 2012; Ali, 1986). The dominant family tends to select a family member to be the CEO for a long term. In addition, CEOs in Saudi firms usually enjoy a high level of trust and they remain in their positions for a long period of time (Adeyemi-Bello & Kincaid, 2012).

Table 4.4 summarizes the results of empirical studies concerning the relationship between CEO tenure and firm performance discussed above.

Table 4.4: Summary of empirical findings on the relationship between CEO tenure and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dikolli et al. (2014)</td>
<td>1,725 US firms, 1996-2005</td>
<td>ROA and stock return</td>
<td>Positive</td>
</tr>
<tr>
<td>Study</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>------------------------------</td>
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<td>---------------------------</td>
</tr>
<tr>
<td>Wulf et al. (2010)</td>
<td>174 CEOs in German firms, 1990-2007</td>
<td>ROA</td>
<td>Positive</td>
</tr>
<tr>
<td>Henderson, Miller and Hambrick (2006)</td>
<td>1397 CEO-years for the computer industry and 847 CEO-years for the food industry</td>
<td>ROS, ROA and ROIC</td>
<td>Positive: food industry Negative: computer industry</td>
</tr>
<tr>
<td>Lassoued and Attia (2013)</td>
<td>53 Tunisian firms in 2013</td>
<td>Abnormal returns</td>
<td>Positive</td>
</tr>
<tr>
<td>Al Farooque et al. (2007)</td>
<td>723 Bangladeshi firms, 1995-2002</td>
<td>MBT</td>
<td>Negative</td>
</tr>
<tr>
<td>Azar, Rad and Botyar (2014)</td>
<td>201 Malaysian firms, 2007-2012</td>
<td>Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Al-Matari, Fadzil and Al-Swidi (2014)</td>
<td>162 Omani firms, 2011-2012</td>
<td>ROA</td>
<td>Positive but insignificant</td>
</tr>
<tr>
<td>E. Al-Matari at al. (2012)</td>
<td>136 Kuwaiti firms in 2009</td>
<td>ROA</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity, MTB is market to book ratio, ROS is return on sales and ROIC is return on invested capital.

4.2.5 Family CEO and Firm Performance

Family board members can play an essential role in major board decisions. This could be attributed to the fact that the majority of firms around the world are managed by their founders (Bennedsen, Nielsen, Perez-Gonzalez, & Wolfenzon, 2007; Faccio & Lang, 2002; La Porta, Lopez-de-Silanes, & Shleifer, 1999). Even in countries where firm ownership is widely dispersed like in the US, it was found that more than one-third of public and large firms are owned and controlled by families (Anderson & Reeb, 2003). Similarly, family firms are the dominant type of firms in developing countries (Patel,
Pieper, & Hair, 2012). Due to their voting power, families can select family members for the top management positions regardless of opposition from minority shareholders (Pérez-Gonzále, 2006). One of the most controversial issues of family ownership is related to the appointment of the CEO, and the question of whether a family or non-family CEO can lead to better firm performance.

From a theoretical perspective, the relationship between family CEOs and firm performance is unclear. Agency theory has two competing views on the impacts of family CEOs on firm performance (Liu, Yang, & Zhang, 2012). This theory assumes that appointing a family member as a CEO can help mitigate agency problems between managers and shareholders (Anderson & Reeb, 2003). Because the founding family both manages and owns the firm, the conflicts of interest can be eliminated which leads to better firm performance (Jiang & Peng, 2011). On the other hand, another type of agency problem arises between majority and minority shareholders when the CEO position is held by a family member (Fama & Jensen, 1983b; Lemmon & Lins, 2003). As inside shareholders, family CEOs may expropriate minority shareholders’ interests by using their power to preferentially benefit the interests of their family. This problem may negatively influence firm performance if the family and business objectives are not aligned (Burkart et al., 2003; Lansberg, 1983). In addition, families can use their voting rights to appoint a family member as a CEO, regardless of his/her qualifications and skills (Pérez-González, 2006). Therefore, in order to make a conclusion about the impact of family CEOs on firm performance, it is important to consider the circumstances under which the positive impact of family CEOs could outweigh the negative impact, and thus improves firm performance (Cai, Luo, & Wan, 2012). In other words, the benefits of family CEOs can only be gained if the reduction of agent-principle costs outweighs the increasing of agency costs between majority and minority shareholders.

From another perspective, stewardship theory argues that family CEOs have the ability and motivation to enhance firm performance. Because family CEOs are often highly concerned about their family’s reputation, they have higher non-financial rewards associated with their firms’ success than other CEOs (Davis et al., 1997; Hillier & McColgan, 2009). In this regard, Kandel and Lazear (1992) argue that family peer pressure, guilt or shame are considered as strong motivations for family CEOs to exert a high level of effort towards achieving the firm’s goals. In addition, the interests of family
CEOs are expected to be more aligned with outside shareholders’ interests than those of non-family CEOs, not only because they own a large share stake, but also because they have longer-term investment horizons (Cadbury, 2000; Stein, 1989). Moreover, family CEOs have a high level of awareness, relevant knowledge and business-specific experience, as well as a strong sense of belonging to the firm (Adeyemi-Bello & Kincaid, 2012; Fischer & Manstead, 2000). As a result, family CEOs are more likely to manage firms in efficient ways. According to Peng and Jiang (2010), family CEOs are more beneficial for developing countries with low legal protection of minority shareholders, whereas they do not have a significant impact on firm performance in developed countries.

A review of the empirical literature on the relationship between family CEOs and firm performance in developing countries shows no consistent direction. A negative relationship is reported in a number of studies. For example, Pérez-González (2006) found that family CEOs significantly underperform compared to non-family CEOs. He concludes that the nepotism in selecting CEOs harms firm performance by limiting the pool of managerial talent. Another study by Bennedsen et al. (2007) reveals that professional non-family CEOs help firms attain better performance than family CEOs, because they can provide highly valuable contributions to the firms they serve. In addition, the study found that the underperformance of family CEOs is greater in large and complex firms, industries with highly skilled workers and fast growing sectors. Similarly, Hillier and McColgan (2009) found that firm performance improves significantly after the departure of a family CEO who is replaced by a non-family CEO. They also report that share price increased sharply after the announcement of the departure of a family CEO. On the other hand, Adams, Almeida, and Ferreira (2009) and Caprio, Croci, and Giudice (2007) found a positive relationship between family CEOs and firm performance. Similarly, Fahlenbrach (2009) reports that firms run by founder CEOs have higher capital expenditures and spend more on research and development which potentially improve firm performance.

In emerging market contexts, there are few studies investigating the relationship between family CEOs and firm performance. Generally, most of the extant studies show a positive impact of family CEOs on firm performance. For example, studies by Amran (2012) in Malaysia, Tan, Chng, and Tan (2001) in Singapore and Cai et al. (2012) in China reveal
that family CEOs are positively associated with firm performance. These results are consistent with the argument that family CEOs are likely to be more beneficial for developing countries where the protection of minority shareholders is weak (Peng & Jiang, 2010). In contrast, Kalyanaraman (2015) found that family firms run by family CEOs suffer from a decrease in their market to book ratio in Indian firms.

In the Saudi context, there is a lack of research that examines the impact of family CEOs on firm performance despite the widespread presence of family CEOs in Saudi firms. The existence of family CEOs in Saudi firms could be attributed to the fact that the majority of listed family firms evolved from traditional family-owned firms. These firms do not embrace openness in their practices and they still operate like family firms, with the CEO positions often being held by family members (Alsanosi, 2010).

Table 4.5 summarizes the results of empirical studies concerning the relationship between family CEOs and firm performance discussed above.

Table 4.5: Summary of empirical findings on the relationship between family CEOs and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bennedsen et al. (2007)</td>
<td>5,334 CEO successions in Danish firm, 1994-2002</td>
<td>OROA</td>
<td>Negative</td>
</tr>
<tr>
<td>Tan, Chng and Tan (2001)</td>
<td>81 Singapore firms, 1995-1997</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
</tbody>
</table>
Study | Sample | Measure | Findings |
--- | --- | --- | --- |

Notes: ROA is return on assets, MTB is market to book ratio, EPS is earnings per share and OROA is operating return on assets.

4.3 Ownership Structure and Firm Performance

A firm’s ownership structure is one of the most important factors in determining the firm’s objectives, shareholders’ interests and management behaviours (Jensen, 2000; Jensen & Meckling, 1976; Porter, 1990; Shleifer & Vishny, 1986; Yammeesri & Lodh, 2004). According to Douma, George, and Kabir (2006), ownership structure has a strong impact on firm performance due to two reasons. Firstly, the power, incentive and ability of owners to monitor managers vary based on their concentration, identity and resources endowments. Secondly, firm performance is differently affected by various owners with dissimilar objectives. Shareholdings by individuals, corporations, governments and financial investors have different impacts on firm performance. For example, while corporate investors usually have a direct and long investment horizon, financial investors such as mutual funds generally target liquidity and short-term investments. The impact of ownership structure is more significant in countries with weak investor protection such as many developing countries (Boubakri, Cosset, & Guedhami, 2005; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1996; Shleifer & Vishny, 1997).

Generally, ownership structure can be classified in terms of ownership concentration, ownership categories and managerial ownership (Yammeesri, Lodh, & Herath, 2006). The following subsections discuss the most common types of ownership, namely ownership concentration, government, family, institutional and managerial ownership. The impact of these types of ownership on firm performance is reviewed considering both theoretical and empirical literature.

4.3.1 Ownership Concentration and Firm Performance

Ownership concentration can be defined as the proportion of firm shares owned by majority shareholders, the so-called ‘controlling shareholders or concentrated shareholders’ (Azam, Usmani, & Abassi, 2011; Blair, 1995). Although there is a general agreement among corporate governance theories regarding the important role that
ownership concentration can play in improving firm performance, their perspective regarding its role are different. Agency theory considers ownership concentration as an essential corporate governance mechanism that helps eliminate agency problems between managers and shareholders (Berle & Means, 1932; Jensen & Meckling, 1976; La Porta et al., 1999; Morck, Shleifer, & Vishny, 1988). Controlling shareholders have adequate power to control and monitor managers’ decisions and align them with shareholders’ interests either through representation on the board or through their voting rights (Coulton & Taylor, 2004; Prowse, 1995). As a result, ownership concentration can lead to better firm performance (Demsetz, 1983; Demsetz & Lehn, 1985). In addition, due to the fact that controlling costs always tends to be high, small shareholders may lack the ability to monitor management actions. In this regard, shareholders with large stakes can benefit minority shareholders as they have the incentive and authority to mitigate managers’ moral hazard and opportunistic behaviour (Al-Matari, Al-Swidi, & Fadzil, 2013; Shleifer & Vishny, 1997; Siala, Adjaoud, & Mamoghli, 2009).

Although ownership concentration can help mitigate the agency problem between managers and shareholders, it can lead to another type of agency problem between majority and minority shareholders. Burkart, Gromb, and Panunzi (1997, p. 693) argue that “even when tight control by shareholders is ex post efficient, it constitutes ex ante an expropriation threat that reduces managerial initiative and non-contractible investments”. An agency problem between majority and minority shareholders arises when some shareholders have the authority to control decisions influencing other class of shareholders (Shleifer & Vishny, 1997; Villalonga & Amit, 2006). Due to their controlling rights, majority shareholders can expropriate minority shareholders’ interests (Fan & Wong, 2002). That is, when majority shareholders have different interests and objectives from those of minority shareholders, majority shareholders can use their power to achieve their own interests at the expense of minority shareholders’ interests (Demsetz & Villalonga, 2001; La Porta et al., 2000). In this regard, ownership concentration can have a negative impact on firm performance (Johnson, Boone, Breach, & Friedman, 2000).

From another perspective, stewardship theory views ownership concentration as an important factor that helps improve firm performance (Kellermanns & Eddleston, 2007; Miller, Le Breton-Miller, & Scholnick, 2008). Major shareholders have a deep
psychological attachment to their firms (Miller & Le Breton-Miller, 2006), a strong relationship with suppliers and employees (David & Laurie, 2008) and a long-term orientation in strategic decisions making (Anderson & Reeb, 2003). As a result, they can effectively contribute to a firm’s success. In addition, this theory assumes that since managers are good stewards to all shareholders including minority shareholders, minority shareholders’ interests are not expected to be expropriated either by managers or majority shareholders (Davis, Schoorman, & Donaldson, 1997). Consistent with stewardship theory, resource dependency theory also suggests that since the improvement of a firm’s performance is subject to its ability to obtain the necessary resources, majority owners such as the state and family can deliver extensive advantages to their firms in terms of managerial and financial resources (Boubaker & Nguyen, 2014; Pfeffer, 1987; Teece, Pisano, & Shuen, 1997).

The relationship between ownership concentration and firm performance has been well examined in developed countries. However, the findings lack consistency. The benefits of ownership concentration are empirically confirmed by many studies including those undertaken by Siala et al. (2009) in Canada, Celenza and Rossi (2013) in Italy and Kapopoulous and Lazaretou (2007) in Greece. Similarly, Gorton and Schmid (2000) report that ownership concentration increases monitoring over managers which leads to better firm performance. On the other hand, some studies show a negative impact of concentrated ownership on firm performance (Belkhir, 2009b; Filatotchev, Isachenkova, & Mickiewicz, 2007; García-Meca & Sánchez-Ballesta, 2011). These studies support the view of agency theory regarding the negative impact of agency conflicts between majority and minority shareholders on firm performance. Another study by Lskavyan and Spatareanu (2006) compares the impact of ownership concentration in the UK, where market monitoring is supposedly strong, and in the Czech Republic and Poland, where market monitoring is supposedly weak. The study reveals that ownership concentration has insignificant impact on firm performance in all these countries. Similarly, Earle et al. (2005) and Sánchez-Ballesta and García-Meca (2007) report no relationship between ownership concentration and firm performance.

In developing countries, a large number of studies show a positive impact of ownership concentration on firm performance. For example, studies undertaken in Nigeria (Ehikiyoa, 2009; Obiyo & Lenee, 2011), Bangladesh (Imam & Malik, 2007), Malaysia
(Haniffa & Hudaib, 2006), Pakistan (Azam et al., 2011), India (Ganguli & Agrawal, 2009) and Turkey (Karaca & Ekşi, 2012; Mandacı & Gumus, 2010) reveal a positive relationship between ownership concentration and firm performance. In an Arab context, Omran et al. (2008) report that ownership concentration has a strong positive impact on firm value in Egypt, Jordan, Oman and Tunisia. Due to the fact that most developing countries suffer from poor investor protection, ownership concentration can play a significant role in monitoring managers which leads to better firm performance (Omran et al., 2008). In addition, family ownership, which is the most dominant type of ownership structure in developing countries, enhances firm performance because families are more concerned with the success of their firms in both the short- and long-term. Families can provide their firms with different types of resources (Arregle et al., 2007; Donaldson & Davis, 1991). On the other hand, some studies report that there is no relationship between ownership concentration and firm performance (Fazlzadeh, Hendi, & Mahboubi, 2011; Wahla, Shah, & Hussain, 2012).

In Saudi Arabia, there are few studies investigating the impact of ownership concentration on firm performance. Using a sample of 64 Saudi listed firms between 2006 and 2008, Soliman (2010) found a “hump-shaped” relationship between ownership concentration and firm performance, in which firm performance peaks at intermediate levels (60%) of ownership concentration. Another study that focuses on the banking sector shows that ownership concentration has a weak negative relationship with Saudi banks’ performance (Al-Sahafi, Rodrigs, & Barnes, 2015). These studies have some limitations such as using a small sample or focusing on one sector, which may affect the generalizability of these results to the Saudi context.

Table 4.6 summarizes the results of empirical studies concerning the relationship between ownership concentration and firm performance discussed above.

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siala et al. (2009)</td>
<td>467 Canadian firms, 2002-2004</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Celenza and Rossi (2013)</td>
<td>43 Italian firms, 2002-2011</td>
<td>ROA</td>
<td>Positive</td>
</tr>
<tr>
<td>Study</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------</td>
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<td>-----------</td>
</tr>
<tr>
<td>Kapopoulos and Lazaretou (2007)</td>
<td>175 firms in Greek in 2000</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Filatotchev, Isachenkova and Mickiewicz (2007)</td>
<td>157 Poland and Hungary in 2001</td>
<td>ROA and ROS</td>
<td>Negative</td>
</tr>
<tr>
<td>Lskavyan and Spatareanu (2006)</td>
<td>562 firms in the UK, Czech and Poland in 1999</td>
<td>ROA</td>
<td>No relationship</td>
</tr>
<tr>
<td>Azam, Usmani and Abassi (2011)</td>
<td>14 Pakistanis firms, 2005-2010</td>
<td>ROA, ROE and NPM</td>
<td>Positive</td>
</tr>
<tr>
<td>Ganguli and Agrawal (2009)</td>
<td>100 Indian firms in 2007</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Karaca and Ekşl (2012)</td>
<td>50 Turkish firms, 2005-2008</td>
<td>ROA</td>
<td>Positive</td>
</tr>
<tr>
<td>Mandacı and Gumus (2010)</td>
<td>203 Turkish firms in 2005</td>
<td>ROA and Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Omran et al. (2008)</td>
<td>304 firms in Four Arabic countries, 2000-2002</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Study</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Fazlzadeh, Hendi and Mahboubi (2011)</td>
<td>137 Iranian firms, 2001-2007</td>
<td>ROA</td>
<td>No relationship</td>
</tr>
<tr>
<td>Al-Sahafi, Rodrigs and Barnes (2015)</td>
<td>11 Saudi banks in 2009 and 2012</td>
<td>ROE and Tobin’s Q</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity, MTB is market to book ratio, ROS is return on sales, NPM is net profit margin and DY is dividend yield ratio.

4.3.2 Government Ownership and Firm Performance

Government ownership refers to the percentage of shares owned by the government (Imam & Malik, 2007). Theoretically, government ownership is expected to have both positive and negative impacts on firm performance. Agency theory argues that government ownership can be a solution to overcome the problems associated with information asymmetries (Jensen & Meckling, 1976). In addition, it can help align the interests of managers and shareholders (Al-Matari et al., 2013). However, government ownership can negatively affect firm performance. It is argued that government owners may target some objectives that do not directly relate to maximizing firm performance (Shleifer & Vishny, 1997; Yu, 2013). Because governments generally focus more on providing a social benefit rather than profit maximization, government-owned firms may not be efficient in selecting the most profitable investments (Ongore & K’Obonyo, 2011). In addition, Mak and Li (2001) claim that government ownership is characterised by weak accountability for financial performance and poor monitoring of managers.

From another perspective, resource dependency theory considers government ownership as one of the most important outsourcing mechanisms for improving firm performance (Al-Matari et al., 2013). This theory argues that outsourcing, such as government ownership, helps provide different types of resources including human and financial resources, and social legitimacy (Pfeffer & Salancik, 1978; Wry et al., 2013). According to Okhmatovskiy (2010), governments control great political power, vast financial resources, own substantial property and transact with many firms. Therefore, firms with high government ownership enjoy several important advantages including easier access
to financial resources, direct political connections, better commercial treatment and a higher degree of legitimacy (Baum & Oliver, 1991; Buckley et al., 2007; Cuervo-Cazurra & Dau, 2009; Johnson & Mitton, 2003). In addition, government ownership decreases the likelihood of firm failure, because governments have other social objectives rather than maximizing profit (Lízal, 2002; Zeitun & Tian, 2007b).

Previous studies in developed counties show mixed results regarding the relationship between government ownership and firm performance. Gürsory and Aydogan (2002) found that government ownership leads to higher market performance with higher risk. Similarly, a study using a sample from OECD countries reveals a positive relationship between government ownership and firm value (Bortolotti & Faccio, 2006). On the other hand, Muravyev (2002) found a negative impact of government ownership on firm performance in Russia. He attributes this negative impact to the fact that governments always target other goals rather than profit maximization, such as providing essential services or employment. Focusing on such purposes may negatively influence firm performance.

In developing countries, a large number of studies such as those undertaken in Malaysia (Ghazali, 2010), Bangladesh (MoIlah & Talukdar, 2007) and China (Trien & Chizema, 2011; Yu, 2013) reveal a positive impact of government ownership on firm performance. These studies explain the positive impact of government ownership by reference to the governments’ ability to provide firms with different financial and political resources which are valuable and necessary to enhance firm performance. In an Arab context, a similar result was also observed by Aljifri and Moustafa (2007) in the UAE. Zeitun (2009) reports that government ownership decreases the likelihood of default of Jordanian firms. In contrast, Talebnia, Salehi, Valipour, and Shafiee (2010) report a negative relationship between government ownership and firm performance in Iranian firms, while some studies could not find any association between government ownership and firm performance (Choi, Park, & Hong, 2012; Qasim, 2014).

In the Saudi context, the government is the largest investor in the listed Saudi firms (Al Kahtani, 2013). Only few studies investigate the relationship between government ownership and Saudi firms’ performance. For example, Al-Hussain and Johnson (2009) use a sample of 9 banks between 2004 and 2007 and report that government ownership...
has no impact on banks’ performance. Another study examining 67 Saudi listed firms in 2001 and 2002 reveals a positive relationship between government ownership and firm performance due to the monopolistic nature of the firms in which the government has stake (Umar & Al-Elg, 2004).

Table 4.7 summarizes the results of empirical studies concerning the relationship between government ownership and firm performance discussed above.

**Table 4.7: Summary of empirical findings on the relationship between government ownership and firm performance**

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aljifri and Moustafa (2007)</td>
<td>51 UAE firms in 2004</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Choi, Park and Hong (2012)</td>
<td>201 Korean firms in 2000</td>
<td>ROA</td>
<td>No relationship</td>
</tr>
<tr>
<td>Qasim (2014)</td>
<td>54 UAE firms, 2007-2011</td>
<td>ROA</td>
<td>No relationship</td>
</tr>
</tbody>
</table>
4.3.3 Family Ownership and Firm Performance

Family ownership represents a significant portion of the capital stake in most firms around the world (Anderson & Reeb, 2003; Claessens, Djankov, & Lang, 2000; Faccio & Lang, 2002). According to La Porta et al. (1999), family control is the most dominant type of organizational structure in many countries such as the US (Anderson & Reeb, 2003; Gadhoum, Lang, & Young, 2005), Western European countries (Faccio & Lang, 2002; Franks & Mayer, 2001), East Asian countries (Claessens et al., 2000) and Arab countries (Baydoun et al., 2013). Family ownership is expected to have a direct influence on firm performance. The impact of family ownership on firm performance has been discussed from different theoretical perspectives. Although the majority of corporate governance theories assume positive impacts of family ownership on firm performance, possible negative effects have been pointed out to occur in certain circumstances.

Agency theory suggests that ownership concentration in the hands of families can alleviate agency problems between owners and managers (Jensen & Meckling, 1976; Villalonga & Amit, 2006). According to Shleifer and Vishny (1997) and Pollak (1985), agency problems can be addressed by large shareholders because they have great incentives to maximize profits. In this regard, family owners are especially motivated to effectively control managers in a way that helps mitigate the free-rider problem, and thus improves firm performance (Lee, 2006; Miller & Le Breton-Miller, 2006). On the other hand, agency theory sheds light on potential agency problems between a firm’s controlling shareholders and minority shareholders that may occur within firms that have a high level of family ownership (Fama & Jensen, 1983b; Fan & Wong, 2002; Villalonga & Amit, 2006). That is, family owners may use their power and controlling positions to expropriate private benefits at the expense of minority shareholders (Corbetta & Salvato, 2004).

From another perspective, stewardship theory asserts that family ownership can significantly contribute to improving firm performance (Donaldson, 1990). According to

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
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</table>

Notes: PE is price to earnings, MTB is market to book ratio, NPM is net profit margin, ROA is return on assets, ROE is return on equity and ROS is return on sales.
this theory, family owners have both the motivation and ability to support and enhance firm performance. They are more concerned with firm survival than other types of large shareholders because they consider the firm to be an asset to transfer to the next generation (Arregle et al., 2007; Lee, 2006). In order to ensure the continuity of their business, family owners focus more on longer-term investment horizons. Firms with a high level of family ownership follow specific criteria in selecting their investments that help maximize the value of the firm (James, 1999; McVey & Draho, 2005). In addition, the nature of family ownership, which is characterised by a long-term commitment to the firm, facilitates superior experiences and knowledge of the business that improve a firm’s profitability and increases earning quality (Martikainen, Nikkinen, & Vähämää, 2009; Wang, 2006).

Another theory that suggests a positive effect of family ownership on firm performance is resource dependency theory. This theory argues that family owners can provide firms with a unique combination of resources and capabilities that contribute directly to the profitability of firms (Habbershon, Williams, & MacMillan, 2003). Family owners can provide firms with different types of capital such as financial capital (Dyer, 2006), human capital (Sirmon & Hitt, 2003), social capital (Arregle et al., 2007) and survivability capital (Horton, 1986), integrity and commitment to relationships (Lyman, 1991), trust and reputation (Aronoff & Ward, 1995) and entrepreneurship (Zahra, 2003). Consequently, family ownership can significantly enhance firm performance.

Despite the prevalence of family ownership in many firms around the world, the findings regarding the association between family ownership and firm performance are still inconclusive. In developed countries, a positive relationship between family ownership and firm performance is revealed in many studies. In the US, Villalonga and Amit (2006) and Anderson and Reeb (2003) empirically found that family ownership positively influences firm performance. Similarly, Martikainen et al. (2009) report that family ownership has a positive impact on production efficiency. They conclude that because the family’s wealth is closely linked to the firm’s performance and that family owners focus more on long-term investments than other shareholders, family owners have a greater ability and incentive to enhance firm efficiency.
Maury (2006) and Barontini and Caprio (2006) examine the relationship between family ownership and firm performance using a large number of firms listed in Western European countries. Although both studies reveal a positive impact of family ownership on both firm performance and firm value, Maury (2006) notes that in a high level of family ownership, a conflict of interest between family and minority shareholders may arise especially in countries with weak shareholder protection regulations. On the other hand, a study concerning Canadian firms shows that family ownership, especially when in the hands of the successors to the founders, has a negative impact on firm performance (Morck, Strangeland, & Yeung, 2000). With respect to the impact of family ownership on minority shareholders, Cronqvist and Nilsson (2003) and Barth, Gulbrandsen, and Schone (2005) found that family ownership can be detrimental to the minority shareholders’ interests.

In developing countries, a large number of studies report a positive relationship between family ownership and firm performance, including studies undertaken in Hong Kong (Carney & Gedajlovic, 2002), India (Khanna & Palepu, 2000), China (Martinez, Stohr, & Quiroga, 2007), Japan (Saito, 2008) and Malaysia (Amran & Che-Ahmad, 2010). In addition, Chang and Shin (2007) investigate Korean firms and provide empirical evidence against the possibility of the expropriation of minority shareholders’ wealth in family-controlled firms. On the other hand, a study by Abdullah, Shah, Gohar, and Iqbal (2011) reveals that there is no difference in performance between family firms and non-family firms in Pakistan. Similarly, Majumdar and Varadarajan (2013) report that there are no significant differences in the profitability of firms with different levels of family ownership in the UAE.

The Saudi capital market comprises a high proportion of family owned public-listed firms (Alghamdi, 2012). Despite the importance of family ownership as one of the largest types of ownership in Saudi firms, there is a lack of studies that investigate the impact of family ownership on Saudi firms’ performance.

Table 4.8 summarizes the results of empirical studies concerning the relationship between family ownership and firm performance discussed above.
Table 4.8: Summary of empirical findings on the relationship between family ownership and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maury (2009)</td>
<td>1,672 firms in 13 European countries in 1998</td>
<td>ROA and Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Morck, Strangeland and Yeung (2000)</td>
<td>246 Canadian firms in 1988</td>
<td>ROA and ROS</td>
<td>Negative</td>
</tr>
<tr>
<td>Barth, Gulbrandsen and Schone (2005)</td>
<td>438 Norwegian firms in 1996</td>
<td>EVA</td>
<td>Negative</td>
</tr>
<tr>
<td>Carney and Gedajlović (2002)</td>
<td>106 Hong Kong firms in 1993</td>
<td>ROIC</td>
<td>Positive</td>
</tr>
<tr>
<td>Khanna and Palepu (2000)</td>
<td>1,309 Indian firms in 1993</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Chang and Shin (2007)</td>
<td>255 Korean firms in 1990</td>
<td>ROA and MTB</td>
<td>No relationship</td>
</tr>
<tr>
<td>Majumdar and Varadarajan (2013)</td>
<td>306 UAE firms, 2005-2009</td>
<td>ROA</td>
<td>No relationship</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, EVA is economic value added, ROS is return on sales, ROIC is return on invested capital and MTB is market to book ratio.
4.3.4 Institutional Ownership and Firm Performance

Institutional ownership refers to the ownership stake in a firm that is held by large institutions such as banks, pension funds, insurance companies and mutual funds (Davis & Steil, 2004). Due to the growing volume of corporate equity that institutional investors control and own, they are considered as a major governance mechanism that have a direct influence on firm performance. In addition, given the high cost of monitoring, only large shareholders such as institutional investors can effectively monitor managers and reduce agency problems (Shleifer & Vishny, 1986). The impact of institutional ownership on firm performance has been discussed from different theoretical perspectives.

Agency theory assumes that monitoring is helpful in mitigating agency conflicts between managers and investors (Jensen & Meckling, 1976; Solomon, 2013). Institutional investors have both the incentive and ability to discipline and control managers (Aljifri & Moustafa, 2007; Ping & Wing, 2011). Due to their large stock holdings, institutional investors possess stronger incentives to protect their investments and obtain benefit (Demsetz, 1983; Shleifer & Vishny, 1986). In addition, institutional investors are more professional regarding businesses, industries and capital markets, and thus they can effectively use their power to control managers’ activities, direct board decisions and absorb the cost of effective monitoring better than small shareholders (Rose, 2007; Shleifer & Vishny, 1997). From another perspective, resource dependency theory attributes the positive impact of institutional investors on firm performance to the substantial managerial and financial resources that institutional investors can provide which significantly enhance firm performance (Alves, 2012; Arouiri, Hossain, & Muttakin, 2014).

On the other hand, it has been argued that institutional investors do not play an active role in controlling management activities (Claessens & Fan, 2002; Porter, 1992). According to Duggal and Millar (1999, p. 106), “institutional investors are passive investors who are more likely to sell their holdings in poorly performing firms than to expend their resources in monitoring and improving their performance”. Because institutional owners are more likely to target liquidity and short-term investments rather than long-term investments, they are unwilling to exercise their right to monitor managers or improve firm performance, especially in long-term (Coffee, 1991; Ozkan, 2007). Martin and Bogle (2011, p. 431) argue that “institutional investors of all stripes are more likely to take flight
than fight when trouble appears”. That is, when a firm starts to perform poorly, institutional investors have no incentive to assist the firm, hence they will tend to sell the shares.

Brickley, Lease, and Smith (1988) and Kochhar and David (1996) classify institutional ownership into two categories according to the nature of the relationship between institutional investors and the investee firms: pressure-resistant and pressure-sensitive institutional investors. Pressure-resistant institutional investors are those investors who only have an investment relationship with the investee firms, and thus they have an independent position. Pressure-resistant institutional investors include pension funds, mutual funds, endowments and foundations. Those investors are expected to play an active role in monitoring managers’ actions, and hence they can effectively improve firm performance. In contrast, pressure-sensitive institutional investors have both investment and business relationships with the investee firms, and thus they are not truly independent. Insurance companies, banks and non-bank trusts are examples of those investors. In order to protect their business relationships, pressure-sensitive institutional investors are more likely to co-operate with managers rather than monitor them. In this regard, large institutional ownership may lead to greater agency problems because of the strategic alignment between those institutional investors and the managers of the firm (Pound, 1988). Thus, the pressure-sensitive institutional investors may negatively influence firm performance.

In developed countries, previous studies examining the relationship between institutional investors and firm performance reveal mixed results. McConnell and Servaes (1990), Del Guercio and Hawkins (1999), Fung and Tsai (2012) and Irina and Nadezhda (2009) report that the presence of institutional investors is positively associated with firm performance due to their role in monitoring and directing managers’ activities. Another study by Gugler, Mueller, and Yurtoglu (2008) reveals that while institutional ownership leads to better firm performance in the US, it has a negative effect in Anglo-Saxon countries and in Europe. Similarly, Seifert, Gonenc, and Wright (2005) found inconsistent relationship across countries. They attribute these results to the fact that the impact of institutional ownership on firm performance is context specific.
On the other hand, studies undertaken in France (Lanouar & Elmarzougui, 2011), the UK (Mura, 2007) and Europe (Baert & Vennet, 2009) reveal a negative relationship between institutional ownership and firm performance. Another study by Cornett, Marcus, Saunders, and Tehranian (2007) examines the impact of different types of institutional ownership in US firms and reveals that while pressure-insensitive institutional investors, who are less likely to have a business relationship with the investee firms, have a positive impact on firm performance, institutional investors with a potential business relationship with the investee firms are compromised as monitors of the firms. Similarly, Bhattacharya and Graham (2007) report that pressure-sensitive institutional investors have a significant negative impact on firm performance. Other studies could not find any relationship between institutional ownership and firm performance (Duggal & Millar, 1999; Faccio & Lasfer, 2000).

Empirical studies conducted in developing countries also show mixed results on the relationship between institutional ownership and firm performance. A large number of studies reveal a positive impact of institutional ownership on firm performance, including studies conducted in Korea (Choi, Park, & Yoo, 2007), Bangladesh (Imam & Malik, 2007), Malaysia (Leng, 2004) Ghana, South Africa, Nigeria and Kenya (Kyereboah-Coleman, 2008). These studies highlight the positive impact of financial institutional investors in monitoring managers’ activities. Another study by Nuryanah and Islam (2011) using a sample of listed firms in Indonesia shows that institutional ownership (related and unrelated parties’ ownership) positively influences firm performance. In contrast, some studies report a negative relationship between institutional ownership and firm performance (Al Farooque et al., 2007; Mashayekhi & Bazaz, 2008). In an Arab context, while institutional ownership is found to have a negative relationship with firm performance in Jordan (Zeitun, 2009), it has no impact on firm performance in the UAE (Aljifri & Moustafa, 2007).

Despite the importance of institutional ownership as a corporate governance mechanism, individual investors dominate the Saudi Stock Market. Albassam (2014) reports that institutional ownership represents only about 6% of the equity ownership in Saudi firms. Previous studies reveal that institutional ownership has a positive relationship with the level of corporate governance disclosure and a positive but insignificant relationship with
earning quality (Albassam, 2014; Alghamdi, 2012). However, there is paucity of studies that investigate the impact of institutional ownership on Saudi firms’ performance.

Table 4.9 summarizes the results of empirical studies concerning the relationship between institutional ownership and firm performance discussed above.

Table 4.9: Summary of empirical findings on the relationship between institutional ownership and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>McConnell and Servaes (1990)</td>
<td>1,173 US firms in 1976 and 1,093 firms in 1986</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Fung and Tsai (2012)</td>
<td>2,249 US firms, 1997-2006</td>
<td>Tobin’ Q and ROA</td>
<td>Positive</td>
</tr>
<tr>
<td>Irina and Nadezhda (2009)</td>
<td>270 German firms, 2000-2006</td>
<td>ROA and Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Seifert, Gonenc and Wright (2005)</td>
<td>Listed firms in the US, the UK, German and Japan, 1997-1999</td>
<td>Tobin’s Q</td>
<td>Positive: US Negative: UK No relationship: German and Japan</td>
</tr>
<tr>
<td>Lanouar and Elmarzougui (2011)</td>
<td>35 Franchise firms, 2002-2005</td>
<td>Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Baert and Vennet (2009)</td>
<td>2,851 firms from EU15, 1997-2006</td>
<td>ROA and Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Bhattacharya and Graham (2007)</td>
<td>116 firms in Finland in 2004</td>
<td>Tobin’s Q</td>
<td>Negative</td>
</tr>
</tbody>
</table>
### Table

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuryanah and Islam (2011)</td>
<td>46 Malaysian firms, 2002-2004</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Al Farooque et al. (2007)</td>
<td>723 Bangladeshi firms, 1995-2002</td>
<td>MTB</td>
<td>Negative</td>
</tr>
<tr>
<td>Mashayekhi and Bazaz (2008)</td>
<td>240 Iranian firm-years in 2005 and 2006</td>
<td>ROA and ROE</td>
<td>Negative</td>
</tr>
<tr>
<td>Zeitun (2009)</td>
<td>25 Jordanian firms, 2002-2012</td>
<td>ROA and ROE</td>
<td>Negative</td>
</tr>
<tr>
<td>Aljifri and Moustafa (2007)</td>
<td>51 UAE firms in 2004</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity and MTB is market to book ratio.

### 4.3.5 Managerial Ownership and Firm Performance

The relationship between managerial ownership and firm performance is attributed to the view that the value of a firm depends on the distribution of its shares ownership among managers and other shareholders (Berle & Means, 1932). The impact of managerial ownership on firm performance has been explained through a set of theories. Agency theory assumes that the conflicts of interest between managers and owners can be mitigated by managerial ownership. According to Jensen and Meckling (1976), managerial ownership is considered as a signal to align the interests of managers with those of owners. This could be explained by the so-called ‘incentive argument’, that is, owning shares in the firm makes managers behave like shareholders (Benston, 1985; Simoneti & Gregoric, 2004). Managerial ownership can therefore act as a mechanism that reduces agency problems between managers and owners, and directs managers’ behaviour to maximize firm value (Cho, 1998; Jensen & Meckling, 1976; Morck et al., 1988; Wahla et al., 2012).
Despite the positive effect of managerial ownership on firm performance, a considerably high level of managerial ownership may negatively influence firm performance. According to Demsetz (1983) and Fama and Jensen (1983b), the management entrenchment which arises from high managerial ownership may lead to serious agency problems. When managers have a large stake in a firm, they can engage in non-value-maximizing activities without being monitored by shareholders (Himmelberg, Hubbard, & Palia, 1999). In addition, they can use their positions and power to guide the firm for their private benefits, at the expense of other shareholders (Miguel et al., 2004).

From another perspective, stewardship theory assumes a positive impact of managerial ownership on firm performance. According to this theory, managerial ownership plays a significant role in developing managerial identification with the firm, which in turn enhances the relationship between the steward and the firm (Rousseau & Shperling, 2003). Pierce, Rubenfeld, and Morgan (1991) argue that there is a direct relationship between managerial ownership and steward-like behaviour. Psychologically, managerial ownership increases managers’ loyalty and establishes a long-term relationship between managers and their firms (Mueller & Spitz-Oener, 2006). In this regard, Hambrick and Jackson (2000) highlight that owning shares in a firm encourages collective behaviour and strengthens commitment to the firm. Due to the alignment of the interests of managers with those of shareholders, stewardship theory suggests that as managers’ equity stake become larger, they become better stewards of the firms (Baker & Anderson, 2010). Therefore, managerial ownership is expected to have a positive influence on firm performance.


In developing countries, a positive relationship between managerial ownership and firm
performance is found in a number of studies. For example, studies undertaken in Singapore (Sing & Sirmans, 2008), Nigeria (Uwuigbe & Olusanmi, 2012), Korea (Chung, Kim, Kim, & Choi, 2008) and Malaysia (Sing & Sirmans, 2008) reveal a positive impact of managerial ownership on firm performance due to the alignment of interests between managers and shareholders. In contrast, other studies show a negative relationship between managerial ownership and firm performance (Liang, Lin, & Huang, 2011; Mandacı & Gumus, 2010; Muravyev, Talavera, Bilyk, & Grechaniuk, 2010). Nevertheless, studies undertaken by Imam and Malik (2007) and Nuryanah and Islam (2011) reveal no impact of managerial ownership on firm performance in Bangladesh and Indonesia, respectively.

In the Saudi context, firms are expected to have a high level of managerial ownership due to the participation of controlling shareholders, especially family shareholders, in the board of directors. However, there is a lack of studies that examine the relationship between managerial ownership and firm performance.

Table 4.10 summarizes the results of empirical studies concerning the relationship between managerial ownership and firm performance discussed above.

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kapopoulos and Lazaretou (2007)</td>
<td>175 firms in Greek in 2000</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Belkhir (2009a)</td>
<td>260 US firms in 2002</td>
<td>Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Irina and Nadezhda (2009)</td>
<td>270 German firms, 2000-2006</td>
<td>ROA and Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Siala et al. (2009)</td>
<td>467 Canadian firms, 2002-2004</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
<tr>
<td>Study</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------</td>
<td>----------</td>
</tr>
<tr>
<td>Sing and Sirmans (2008)</td>
<td>228 Singaporean firms in 2001</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Sing and Sirmans (2008)</td>
<td>228 Singaporean firms, 2000-2006</td>
<td>Tobin’s Q</td>
<td>Positive</td>
</tr>
<tr>
<td>Liang, Lin and Huang (2011)</td>
<td>907 Taiwanese firm-years, 1999-2008</td>
<td>ROA and Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Mandaci and Gumus (2010)</td>
<td>203 Turkish firms in 2005</td>
<td>ROA and Tobin’s Q</td>
<td>Negative</td>
</tr>
<tr>
<td>Muravyev, Talavera, Bilyk and Grechaniuk (2010)</td>
<td>916 Ukrainian firms, 2002-2006</td>
<td>ROA and ROS</td>
<td>Negative</td>
</tr>
<tr>
<td>Nuryanah and Islam (2011)</td>
<td>46 Indonesian firms, 2002-2004</td>
<td>Tobin’s Q</td>
<td>No relationship</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity and ROS is return on sales.

4.4 Capital Structure and Firm Performance

Capital structure is one of the most essential factors in the valuation and direction of firm performance. Capital structure is a combination of a firm’s debt and equity. It refers to the different sources of funds used by a firm to finance its operations and growth. Financing sources can be categorized into two main sources: the internal financing such as retained earnings, reserves and common stock issuance, and external financing such as loans and bonds issuance. Capital structure decision is an important decision that directly influences the return and risk of a firm. The choice of optimal capital structure affects the cost and availability of capital, which in turn influences firm performance. In addition, many internal and external factors such as management, tax, social and political factors have a direct impact on the capital structure choices.

Although there are a number of theories that have been developed to explain the impact of capital structure on firm performance and understand whether there is an optimal capital structure, the relationship between capital structure and firm performance is an
The roots of capital structure theory can be traced to the seminal work of Modigliani and Miller (1958). They first claim that in a world without corporate tax, transaction costs and bankruptcy costs, the choice of capital structure does not affect firm value. This theory is broadly known as “Capital Structure Irrelevance”. Latterly, Modigliani and Miller (1963) include the tax benefit into their model as a determinant of capital structure and argue that firm value increases with more debt due to tax shields. Because interest on debt is a tax-deductible expense, a firm can offset its interest expenses through the tax shield, and thereby increases its value. According to Modigliani and Miller (1963), the optimal capital structure is 100% debt financing due to the substantial tax advantage.

In the real world, however, the assumptions of Modigliani and Miller do not hold true. Although debt may increase firm value, it is larged that a higher debt ratio can lead to greater risks. For example, highly leveraged firms are more likely to face cash problems, which in turn increases bankruptcy risk. In this regard, the trade-off theory argues that a firm chooses a specific target capital structure based on the trade-offs between the costs and benefits of debt (Kraus & Litzenberger, 1973). While the Modigliani and Miller theory assumes that there is no cost associated with bankruptcy, the trade-off theory allows the bankruptcy cost to exist. The trade-off theory states that as there are benefits of using debt (tax shield), there are also costs (the financial distress costs and bankruptcy costs). According to this theory, the value of the firm reaches its maximum in the point where the benefits of debt are offset by costs of financial distress, which reflects the optimal debt ratio.

Donaldson (1961) introduces another theory, the pecking order theory, to explain a firm’s capital structure and financing decisions. While the trade-off theory suggests that there is an optimal debt level by trading off the costs and benefits of debt and equity, the pecking order theory assumes that there is no optimal capital structure. This theory argues that the firm has a well-defined order of preference for raising finance. Due to transaction costs, agency costs and asymmetric information, internal financing is preferred more than external financing. According to Myers (1984), firms primarily utilize internal financing through retained earnings, followed by debt and then external equity. Myers argues that more profitable firms should become less levered because they have enough internal funds to finance their investments.
From a different perspective, debt is viewed not only as an alternative type of financial instrument but also as a mechanism of corporate governance. From this perspective, agency theory considers debt as an external governance mechanism that can help reduce agency problems (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; Williamson, 1988). This theory assumes that if a firm’s capital structure contains a high debt level, debt holders are expected to have a monitoring role over management, and thus controlling costs are expected to be lower for shareholders (Berger & Bonoaccorsi di Patti, 2006; Pinegar & Wilbricht, 1989). Jensen (1986, p. 323) considers the benefits of debt as a restriction of managerial discretion and states that “the problem is how to motivate managers to disgorge the cash rather than invest it below the cost of capital or waste it through organizational inefficiencies”. Jensen introduces the “control hypothesis” for debt creation. This hypothesis suggests that the agency costs of free cash flow can be mitigated by debt through decreasing the cash flow available to managers, hence reducing their possibilities for expropriate firm resources. As opposed to the agency theory perspective regarding the impact of capital structure on firm performance, stewardship theory argues that the alignment of managers’ interests with those of shareholders reduces the benefits of debt as a control mechanism over management, and thus the level of debt is not expected to improve firm performance (Davis et al., 1997).

The relationship between capital structure and firm performance has been well examined in developed countries. McConnell and Servaes (1995) examine a large number of firms in the US and found that the level of debt plays a dual role on firm value. While it positively affects the value of firms with a few growth opportunities and a high level of internally generated funds such as retained earnings, it negatively affects the value of firms with a high level of growth opportunities. On the other hand, Dessí and Robertson (2003) investigate 557 UK firms between 1967 and 1989 and apply an instrumental variables method to control for endogeneity of debt. They report a positive impact of debt on firm value when using an uninstrumented regression model, whereas debt has no impact on firm value after controlling for the effect of endogeneity. They conclude that previous results obtained by McConnell and Servaes (1995) may not be accurate due to the methods used, which did not take into account endogeneity.

regarding the positive impact of debt on firm value through constraining managers to act in the best interests of shareholders. In contrast, Aggarwal and Zhao (2007) investigate 81,711 US firm-year observations and report a significant negative relationship between capital structure and firm value for both high-growth and low-growth firms. The same negative relationship is shown in a study by Gleason, Mathur, and Mathur (2000) investigating firms in 14 European countries.

Another study by Aggarwal, Kyaw, and Zhao (2011) uses a sample of 13,577 firms in 25 countries around the world between 1990 and 2003. The study reveals that the value-leverage relationship varies considerably among these countries. While there is a negative impact of leverage on firm value among 20 countries, the impact is greater in countries with a highly developed stock market than in those with an undeveloped stock market. In addition, their study shows that the leverage-value relationship is negative among high-growth firms in 17 countries, while it is positive among low-growth firms in 8 countries. The researchers attribute this inconsistency in the impact of debt on firm value among the countries to differences in the institutional settings in these countries.

In developing countries, previous studies examining the relationship between capital structure and firm performance reveal mixed results. Studies undertaken in Ghana (Abor, 2005), South Africa (Fosu, 2013), Iran (Aliakbar, Seyed, & Pejman, 2013) and Malaysian (San & Heng, 2011) reveal a positive relationship between leverage and firm performance. Harvey, Lins, and Roper (2004) use a large sample from 18 developing countries and report a positive impact of debt on firm value, especially for firms with high levels of assets in place, low growth opportunities or both. In addition, they found a positive role of debt in mitigating the effect of agency problems.

On the other hand, many studies show a negative relationship between leverage and firm performance (Chiang, Chang, & Hui, 2002; Majumdar & Chhibber, 1999; Mohamad & Abdullah, 2012). A study undertaken by Bistrova, Lace, and Peleckiene (2011) provides evidence supporting the pecking order theory that firms should avoid external financing if they have internal financing available. The study reveals that leverage ratio has a significant negative impact on firm profitability. With respect to the impact of short-term and long-term debt, Hasan, Ahsan, Rahaman, and Alam (2014) report that firm performance is associated positively with short-term debt and negatively with long-term
debt in India. In contrast, Mesquita and Lara (2003) found that firm performance in Brazil is negatively related to short-term debt and positively related to long-term debt.

Based on data collected from 10 countries in emerging markets, Booth, Aivazian, Demirguc-Kunt, and Maksimovic (2001) found that, overall, the more profitable the firm, the lower the leverage ratio, regardless of the type of debt. However, the researchers report some differences between these countries, indicating that institutional features and specific country factors are at work. In an Arab context, studies undertaken by Zeitun and Tian (2007a) in Jordan and Fernandez (2012) in the UAE reveal a negative impact of leverage on firm performance. Similarly, Barakat and Rao (2004) report a negative association between the level of debt and profitability for all types of debt. In contrast, Ebaid (2009) examines listed firms in Egypt and reports that there is no relationship between leverage and firm performance.

In the Saudi context, the impact of capital structure on firm performance is expected to be different from other countries due to the features of the Saudi business environment. One of the most important features of the Saudi business environment is the absence of income tax on citizens. However, there is another form of tax called Zakat. Zakat is the third pillar of Islam and a requirement for Muslims (individuals and firms). Zakat is a flat-rate fixed percentage (2.5%) of net wealth deducted annually and there is no penalty for later payment (Al-Sakran, 2001). The Zakat system is applied on Saudi citizens and GCC nationals. In addition, it is applied on firms that are wholly owned by Saudi or GCC nationals. However, if a firm has owners from other countries, they have to pay income tax on their shares of the taxable income.

The Department of Zakat and Income Tax (DZIT) has the authority and responsibility for examining, assessing and collecting both Zakat and income tax (DZIT, 2015a). The guide on Zakat and income tax is based on the provisions of Royal Decrees, Ministerial Resolutions and the DZIT. The Zakat base includes the following items (DZIT, 2015b):

- Paid-up capital;
- Retained earnings or accumulated deficit;
- Long-term loans;
- Public Investment Fund loans;
• Saudi Industrial Development loans;
• Notes payable;
• Balances of all provisions and reserves that completed one year, with exception to depreciation provision;
• Advances if they are used to finance fixed assets; and
• The adjusted net income for Saudi Income Tax and Zakat purposes.

Deductions from the Zakat base include the following items:

• Fixed assets net value;
• Entity’s construction in progress;
• Investments in other Saudi companies and Saudi government bonds;
• Dividends distributed during the year, not to exceed retained earnings at the beginning of the year;
• Carried over loss as adjusted by DZIT; and
• The year’s loss as adjusted.

If the Zakat base is negative or lower than the adjusted net income for the year, Zakat is obligatory on the adjusted net income. However, if both the Zakat base and the adjusted net income for the year are negative, then Zakat is not obligatory. Comparing with other tax systems around the world, the Zakat system is totally different in terms of the calculation method and the rate. Attar (2014) argues that due to the negligible amount of Zakat (2.5%), it is not an important factor affecting the choice of capital structure in Saudi firms. Therefore, the Zakat system in Saudi Arabia may lead to a conclusion regarding the trade-off theory that is different from the conclusion reached in other countries.

Barakat and Rao (2004) investigate the impact of tax in listed firms in 12 Arabic countries between 1996 and 2001. They classify the sample based on the tax system into tax and non-tax countries. Saudi Arabia was included with non-tax countries. The researchers found that firms operating in the countries that do not have a corporate tax system in place utilize less debt than those operating in the countries that have a corporate tax system. This result supports the trade-off theory assumptions regarding the costs and benefits of debt. Due to the absence of tax shield benefits, the costs associated with debt exceed the tax shield benefits in countries that do not have a corporate tax system, and thus firms in
these countries prefer to issue equity over debt. Attar (2014) supports this view by referring to the method of calculating Zakat which includes long-term loans in the Zakat base, and thus these loans do not provide tax advantages. In addition, Alzomaia (2014) states that Saudi firms tend to use retained earnings as the first source of funds before raising debt which is consistent with the assumption of pecking order theory that external financing is costly and firms prefer internal sources of finance.

Only a few studies investigate the capital structure decisions in Saudi firms. These studies reveal mixed results regarding the relationship between leverage and performance, and between leverage and Zakat. Al-Sakran (2001) examines 35 Saudi firms between 1993 and 1997 and found that the impact of Zakat on the leverage ratio is insignificant. In addition, he reports a negative relationship between leverage and firm performance. Similarly, Omet and Mashharawe (2003) found that capital structure is negatively associated with profitability. On the other hand, Abdullah (2005) reports that the level of debt has no impact on firm performance.

These studies have some limitations which may affect the generalizability of these results across all firms in the Saudi context. Al-Ajmi, Abo Hussain, and Al-Saleh (2009) highlight that most previous studies investigating capital structure in Saudi firms suffer from methodological problems. One of these problems related to the impact of firm-specific characteristics on capital structure. Even though firm-specific characteristics have a direct effect on capital structure decisions (De Jong et al., 2008), some of these characteristics have not been included in previous studies. In addition, some studies do not control for possible time differences. Moreover, most of the studies focus only on long-term debt to measure leverage ratio, even though short-term debt represents a significant proportion of total debt in Saudi firms. The undeveloped bond market in Saudi Arabia makes Saudi firms rely more on banks which prefer short-term debt to long-term debt. Therefore, it is important to consider both types of debt when measuring leverage ratio in the Saudi corporate context.

From another perspective, the financial system in Saudi Arabia has some specific features that are different from other countries. The Saudi banking system is considered as a dual banking system including both Islamic and non-Islamic banks. Islamic banks should comply with Islamic Sharia principles, and thus they offer credit facilities that differ to a
great extent from those offered by non-Islamic banks. The main principle of Islamic banks is the prohibition of interest (riba) charged on any transaction or service, because interest is considered usury and is condemned by the Quran. There are five principles that define compliance with Islamic Law. Lewis and Algaoud (2001, p. 27) summaries these principles which are:

1. *Riba* is prohibited in all transactions.
2. Business and investment are undertaken on the basis of *halal* (legal, permitted) activities.
3. *Maysir* (gambling) is prohibited, and transactions should be free from *gharar* (speculation or unreasonable uncertainty).
4. *Zakat* is to be paid by the bank to benefit society.
5. All activities should be in line with Islamic principles, with a special Sharia board to supervise and advise the bank on the propriety of transactions.

Islamic financial transactions must comply with the Islamic rules and principles. The important principles governing Islamic banking are profit sharing and mutual risk between parties, transactions are based on assets or real-business activities and the assurance of fairness for all parties (Ab. Aziz, Shukor, & Abdullah, 2013). As an alternative to the interest-based financial system, Islamic banks provide financing through equity or direct participation. There are a number of Islamic financial contracts that comply with Islamic rules and principles. These contracts can be classified into three types (Mirakhor & Zaidi, 2007). The first type is the profit and loss sharing contracts such as *Musharaka* (partnership) and *Mudaraba* (finance by way of trust). The second type is the deferred payment or sales structure such as *Murabaha* (cost-plus financing). The third type is the rent contracts such as *Ijara* (leasing). Attar (2014, p. 102) provides a description of these contracts:

1. *Musharaka* (partnership) contracts are the preferred mode of financing, due to their close adherence to the principles of profit and loss sharing. In these contracts, partners contribute capital to projects and profits are shared between partners on a pre-agreed-upon ratio, whereas losses are shared in the exact proportion to the capital invested by each party.
2. *Mudaraba* (finance by way of trust) is a partnership agreement in which one partner (*rab al-mal*) finances the project, while the other (*mudarib*) manages it. Profits are distributed according to a fixed, predetermined ratio.

3. *Murabaha* (cost-plus financing) contracts are observed to be close to conventional banking operations. In such contracts, the bank agrees to buy goods or assets from a third party and then resells them to its client with a mark-up.

4. *Ijara* (leasing) is like a conventional lease. It is the sale of *manfa'a* (the right to use goods) for a specific period. In this contract, the bank buys and leases out an asset for a rental fee, and the ownership risk, responsibility of maintenance and insurance rest with the bank for a predetermined period.

Mirakhor and Zaidi (2007) argue that Islamic financial contracts such as *Musharaka* (partnership) and *Mudaraba* (finance by way of trust) help align the interests of stakeholders, which in turn reduces agency problems and agency costs. In addition, Hamouri, Hamouri, and Radayde (2014) claim that, to some extent, Islamic debt can limit the firms’ losses in times of financial crisis compared with non-Islamic debt.

Only a few studies investigate the relationship between Islamic financing and firm performance. Among these few studies, Zeitun, Tian, and Keen (2007) examine the impact of Islamic credit facilities on firm performance of listed firms in Jordan between 1989 and 2003. They report that Islamic credit facilities positively and significantly affect firm performance. They attribute this positive effect to the nature of the Islamic banking system which is characterized by the participation of Islamic banks in the business they finance and the prohibition of compound interest. Recently, a study undertaken by Hamouri et al. (2014) reveals that firms which use Islamic financing achieve obvious advantages in most financial ratios used to measure firm performance compared with firms using non-Islamic financing. In the Saudi context, despite the availability of both Islamic and non-Islamic financing systems, there is a lack of studies that examine the impact of these types of finance on firm performance.

Table 4.11 summarizes the results of empirical studies concerning the relationship between capital structure and firm performance discussed above.
Table 4.11: Summary of empirical findings on the relationship between capital structure and firm performance

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gleason, Mathur and Mathur (2000)</td>
<td>Firms in 14 European countries in 1994</td>
<td>ROA</td>
<td>Negative</td>
</tr>
<tr>
<td>San and Heng (2011)</td>
<td>49 Malaysian firms, 2005-2008</td>
<td>ROC and EPS</td>
<td>Positive</td>
</tr>
<tr>
<td>Harvey, Lins and Roper (2004)</td>
<td>1,014 firms in 18 emerging countries, 1995-1996</td>
<td>Tobin’s Q</td>
<td>Positive for firms with a low-growth or a high level of assets.</td>
</tr>
<tr>
<td>Chiang, Chang and Hui (2002)</td>
<td>35 firms in Hong Kong, 1993-2000</td>
<td>Profit margin</td>
<td>Negative</td>
</tr>
<tr>
<td>Majumdar and Chhibber (1999)</td>
<td>1000 Indian firms, 1988-1994</td>
<td>Profit margin</td>
<td>Negative</td>
</tr>
<tr>
<td>Mohamad and Abdullah (2012)</td>
<td>130 Malaysian firms, 2002-2010</td>
<td>ROE, ROA and ROC</td>
<td>Negative</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bistrova, Lace, and Peleckiene (2011)</td>
<td>36 firms in Baltic states, 2007-2010</td>
<td>ROA and ROE</td>
<td>Negative</td>
</tr>
<tr>
<td>Fernandez (2012)</td>
<td>51 UAE firms, 2006-2010</td>
<td>ROA</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Notes: ROA is return on assets, ROE is return on equity, ROC is return on Capital, EPS is earnings per share and EBIT is earnings before interest and tax.

4.5 Summary and Identification of Gaps in the Literature

This chapter presents a review of the theoretical and empirical literature on the relationship between corporate governance mechanisms and firm performance. Particularly, the chapter includes three main sections. The first section discusses the relationship between board of director characteristics and firm performance in light of studies in both developed and developing countries, and the relevant studies conducted
in Saudi Arabia. Five main characteristics of the board of directors are reviewed: board independence, board size, CEO duality, CEO tenure and family CEO. These board characteristics are selected because they are most relevant to the Saudi business environment and are expected to have a direct impact on the performance of Saudi firms.

The second section investigates the impact of ownership structure on firm performance. It analyses the most common types of ownership, namely ownership concentration, government, family, institutional and managerial ownership. The impact of these types of ownership on firm performance is discussed considering both theoretical and empirical literature. Like many developing economies, the ownership of firms’ shares traded in the Saudi market is characterized by concentrated ownership which is dominated by the state and family.

The third section reviews the literature related to the impact of capital structure on firm performance. Capital structure theories along with empirical studies concerning the relationship between capital structure and firm performance are discussed. The literature shows that country-specific factors have a direct impact on corporate capital structure. In the Saudi context, the impact of capital structure on firm performance is expected to be different from other countries due to the features of the Saudi business environment. These features include the absence of income tax and the unique dual banking system (Islamic and non-Islamic banks) which provide a new insight into the study of the impact of capital structure on firm performance.

The review of the related literature indicates inconsistent findings regarding the relationship between corporate governance mechanisms and firm performance in both developed and developing countries. Several explanations have been given to account for the diversity of the results across previous studies. Baysinger and Butler (1985) and Rashid et al. (2010) attribute the inconsistencies in the findings of previous studies to a number of factors include corporate law, capital markets, managerial talent and capital structure in the firm. In addition, Lawrence and Stapledon (1999) emphasize that the differences in ownership structure among countries lead to these mixed results. For example, independent directors are expected to be less effective in a country with a high level of ownership concentration.
Zahra and Pearce (1989) highlight a number of factors that have been ignored in previous studies which lead to these conflicting findings. These factors include (1) the contextual factors such as corporate strategy and organizational life cycle, (2) how directors interact to make decisions, and (3) the nature of corporate control. According to Koerniadi and Tourani-Rad (2012), these mixed results provide strong evidence supporting the claim that effective corporate governance practices are not universal and factors including firm characteristics and market structure have a direct impact on corporate governance practices. In the same vein, Al-Ajmi et al. (2009) attribute the diversity of these results to the differences in the institutional environments of the countries investigated. Therefore, the results from one context cannot necessarily be generalized to other contexts with different circumstances.

The apparent inconsistencies might also reflect differences in the analytical methods used. Harris and Raviv (1991) argue that contradictory results arise from investigating different samples of firms over different time periods, and using different measures and explanatory variables. It is also pointed out that the nature of performance measures (i.e. restrictive use of market-based measures such as Tobin’s Q and MTB, or restrictive use of accounting-based measures such as ROA and ROE) could also cause this inconsistency in previous results (Gani & Jermias, 2006). In addition, different methods of analysis have resulted in different findings and different conclusions.

The review of literature indicates that most previous studies are conducted in developed countries. Only a few studies have been undertaken in developing countries. The Middle East region, and Saudi Arabia in particular, has received little attention. As discussed in Chapter Two, the Saudi business environment has unique features in terms of culture, religion, ownership structure and capital structure, which differ to a great extent from other countries. These features are expected to have a direct impact on corporate governance practices in Saudi firms, and thus the findings of previous studies conducted in developed or even in developing countries cannot be generalized to the Saudi corporate context.

With respect to the Saudi context, the review of previous corporate governance research indicates a number of gaps. Firstly, almost all previous studies rely on agency theory for their analysis of corporate governance issues. However, as discussed in Chapter Three,
agency theory seems to be an inappropriate lens to examine corporate governance practices in the Saudi business environment due to a number of factors including Saudi culture and ownership structure. Secondly, most of the extant studies use noticeably smaller sample sizes and a single year of cross-sectional data, which limit the generalizability of their findings. In addition, most previous studies investigate sample periods that are either before or in the first few years of the implementation of the CGRs in Saudi Arabia. Given that most Saudi firms did not comply with the CGRs until 2009 when they became mandatory, the findings of these studies may not reflect the real impacts of these regulations on Saudi firms’ performance. Thirdly, most of these studies use either a single performance measure or rely only on accounting-based performance measures, which may fail to provide a complete picture of the impact of corporate governance on firm performance. Fourthly, there is a paucity of studies that investigate the impact of some board characteristics such as CEO tenure and family CEO, despite the widespread presence of these characteristics in Saudi firms. Fifthly, there is little attention drawn on the impact of ownership structure on Saudi firms’ performance, especially family, institutional and managerial ownership. Finally, despite the availability of both Islamic and non-Islamic financing systems in the Saudi market, there is a lack of studies that examine the relationship between the type of financing (Islamic or non-Islamic) and firm performance.

Given the uniqueness of the Saudi corporate environment and the limitations of previous studies, this study aims to fill some key gaps in the corporate governance literature from the Saudi Arabian context. The study seeks to investigate the impact of board of director characteristics, ownership structure and capital structure on Saudi firms’ performance. Given the institutional characteristics of Saudi firms, the impact of board of directors on firm performance is examined focusing on five characteristics of the board of directors: board independence, board size, CEO duality, CEO tenure and family CEO. Ownership structure is also investigated in this study to determine its impacts on firm performance. Different types of ownership are examined including ownership concentration, government, family, institutional and managerial ownership. The study also examines the relationship between capital structure and firm performance, and investigates the impact of the type of debt (Islamic or non-Islamic) on Saudi firms’ performance. Regarding the sample, the study uses a large sample size that includes all non-financial listed firms on the Saudi Stock Exchange over a period of six years between 2009 and 2014. To measure
firm performance, multiple performance measures including both accounting-based and market-based measures are used. The next chapter presents and discusses the research hypotheses related to the research questions.
Chapter Five: Hypotheses Development

5.1 Introduction

The unique features of the Saudi business environment, including culture, religion and capital market characteristics, all have a direct impact on corporate governance practices in Saudi firms. Board of directors, ownership structure and capital structure are the three main areas that are significantly affected by the environmental factors of the Saudi corporate context. As discussed in Chapter Three, stewardship theory is most relevant to the Saudi business environment along with stakeholder, resource dependency and institutional theories. Therefore, these theories are used as the basis for formulating the research hypotheses. Despite the widespread adoption of agency theory in many extant studies, it is not directly applicable to the Saudi corporate context.

The research questions presented in Chapter One are formulated to several testable hypotheses. The hypotheses are developed based on the literature review and theoretical frameworks discussed in Chapters Three and Four. This chapter presents and discusses the research hypotheses related to the research questions. Section 5.2 presents the hypotheses related to the first research question regarding board of director characteristics. The hypotheses related to the second research question concerning ownership structure are presented in Section 5.3. Section 5.4 provides the hypotheses related to the third research question regarding capital structure. Finally, Section 5.5 provides a summary of research hypotheses.

5.2 Board of Director Characteristics and Firm Performance

This section presents the hypotheses related to the first research question which is:

Q1: What is the relationship between board of director characteristics and Saudi firms’ performance?

The structure of the board of directors has an essential impact on firm performance (Abdullah, 2004; Ghabayen, 2012; Uadiale, 2010). Board independence, board size, CEO duality, CEO tenure and family CEO are the most characteristics of the board of directors that are expected to influence Saudi firms’ performance. As appropriate to the features of the Saudi business environment, the optimal board structure of Saudi firms is derived
mainly from the assumptions of stewardship theory. Unlike agency theory, which emphasizes the role of the board in controlling and monitoring management, stewardship theory focuses on the structures of the board that empower and facilitate rather than control and monitor such as inside directors, CEO duality and large board size. The hypotheses regarding the structure of the board of directors are discussed below in relation to Saudi culture and business environment.

5.2.1 Board Independence and Firm Performance

According to stewardship theory, “managers are good stewards of the corporations and diligently work to attain high levels of corporate profit and shareholders return” (Donaldson & Davis, 1994, p. 159). Stewardship theory rejects the assumption of self-interested managers, arguing that managers and executive directors are stewards whose actions are aligned with the objectives of shareholders. This theory highlights different forms of motivations for managers to act in the best interests of principals. Managers’ behaviours are driven by non-financial rewards, such as the satisfaction of successful performance and the desire for recognition and achievement (Donaldson & Davis, 1991; Koerniadi & Tourani-Rad, 2012). According to Schmidt and Hoffmann (2008), managers who pursue non-financial motives are potentially more deeply loyal to the firm and are interested in achieving high performance.

Stewardship theory views firm boards as valuable strategic devices which should be structured in a way that maximizes firm value. To achieve this goal, board members need to have sufficient skills and relevant knowledge and understanding of the firm and its business. This theory argues that inside (or executive) directors have a better understanding and relevant business experience which help them make superior decisions, and thus improve firm performance (Donaldson, 1990; Donaldson & Davis, 1994). In addition, Weir and Laing (2000) stress that independent directors lack the relevant knowledge about the nature of the firm’s operations, which reduces their ability to contribute positively to firm performance. Therefore, firm performance is expected to be enhanced when inside directors represent a high proportion of the board.

The structure of the board of directors, based on the perspective of stewardship theory, should increase managers’ independence and give them more power, as they are trustworthy and pro-organizational stewards who act in the best interests of all
shareholders (Davis et al., 1997). In this regard, Koerniadi and Tourani-Rad (2012) claim that in a country where managers are considered as active partners with a firm’s stakeholders, board independence may not be suitable. Due to their non-financial motivations, there is no need for extensive monitoring and controls over insider directors (Koerniadi & Tourani-Rad, 2012). Lee and O’Neill (2003, p. 212) argue that “what works well to control or motivate an opportunistic manager may not work well to control or motivate a steward”. Stewardship theory assumes that the major role of the board is to provide support, advice and information to management (Corbetta & Salvato, 2004; Daily et al., 2003). When there is alignment between the interests of managers and shareholders, firms might require less control by boards of directors. Thus, boards of directors need only comprise few independent directors, given the limited need for controlling function.

From another perspective, Goodstein et al. (1994) claim that an increased number of independent directors on the board may restrict managerial performance. Because independent directors are relatively uninformed about the firm’s operations, they need more time to understand and take the right decisions, which may hinder the efficiency of the decision-making process especially in circumstances that require quick decisions (Maassen, 2002). Moreover, independent directors may adversely affect firm performance as they give inadequate effort and time to exercise their role effectively (Jiraporn, Singh, & Lee, 2009).

The assumption of stewardship theory regarding the positive impact of inside directors on firm performance seems to be suitable for the Saudi corporate context. As a result of Islamic values and cultural factors, managers in Saudi firms are considered good stewards. According to Fischer and Manstead (2000), the appointment of managers in Saudi firms is subject to a person’s reputation and trust. A high level of consideration is taken by Saudis to hire those who they know and trust. In addition, the nature of ownership structure in Saudi firms, where many listed firms evolved from traditional family-owned firms, gives inside directors superiority in their decision making as they have a better understanding and knowledge about the nature of their firms (Alsanosi, 2010). Consequently, Saudi firms are expected to perform better if insider or executive directors represent a high proportion of the board of directors. On the other hand, the appointment of independent directors in Saudi firms is usually subject to favouritism and tribalism. Alghamdi (2012) argues that there is nepotism in appointing independent
directors in Saudi firms due to social habits and culture in Saudi society. Therefore, independent directors may lack appropriate skills and experience which negatively influences firm performance (Al-Moataz, 2003).

Consistent with stewardship theory, it is assumed that boards of directors that are dominated by inside directors are more desirable in Saudi firms, as they can supply their firms with more efficient decision-making and consultations due to their business understanding, relative knowledge and commitment to the firm. This gives rise to H1:

H1: There is a negative relationship between board independence and firm performance.

5.2.2 Board Size and Firm Performance

Jensen (1993) indicates that board size is a value-relevant factor. From the perspective of stewardship theory, firms need to appoint directors who are expected to support management decisions (Mace, 1971). This theory implies that board size should be large enough to enhance firm performance. According to this theory, the positive impact of large boards is not based on their monitoring functions, as suggested by agency theory, but rather on the diversification of directors’ experiences that enhance their capability to run the firm successfully. It is argued that larger boards can improve firm performance by providing different skills, knowledge and experiences, which help make better decisions (Setia-Atmaja et al., 2009). Similarly, Dalton et al. (1998) and Yawson (2006) point out that larger boards attract more qualified directors who can effectively contribute to improving firm performance. In contrast, small boards lack diversity in terms of skill, experience and knowledge.

From another perspective, resource dependency theory suggests that larger boards help secure the necessary human and financial resources, which in turn increases a firm’s opportunities to improve its operations (Goodstein et al., 1994; Pearce & Zahra, 1992). Pearce and Zahra (1992) argue that larger boards provide useful business contracts, which help strengthen the relationship between the firm and its environment. Larger boards also increase the chance of stakeholders to be better represented on the firm’s board of directors (Ntim & Soobaroyen, 2013; Pfeffer, 1973). However, communication and coordination problems may mitigate the benefits of larger boards (Guest, 2009; Lane et al., 2006). In this regard, some researchers suggest a range of board size in which firms
are expected to gain the advantages of large board size and simultaneously overcome its associated problems. Although there is no consensus on the optimal board size, some researchers suggest it to lie between seven to nine or maximum to twelve directors (Lane et al., 2006; Lipton & Lorsch, 1992).

The positive impact of a large board size on firm performance is relevant to the Saudi business environment. In Saudi society where personal relationships are very important in arranging business contracts and enhancing the link between the firm and its environment, large boards can play an important role in facilitating the firm’s operations and thus improve firm performance (Adeyemi-Bello & Kincaid, 2012). This gives rise to H2:

H2: There is a positive relationship between board size and firm performance.

5.2.3 CEO Duality and Firm Performance

According to stewardship theory, the CEO is trustworthy and work in the best interests of all shareholders (Davis et al., 1997). This theory treats managers and CEOs as good stewards who seek to maximize shareholder returns rather than agents who work to increase their own personal interests (Barney, 1990; Donaldson, 1990). From this standpoint, stewardship theory focuses on the structures that facilitate and empower the CEO, arguing that combined CEO and chairman position can lead to better firm performance (Donaldson & Davis, 1991). According to Siebels and Knyphausen-Aufseb (2012), in a country where managers are considered trustworthy by a firm’s stakeholders, combining the roles of chairman and CEO could be the most appropriate leadership structure to help make a firm more successful.

Hsu, Wang, and Hsu (2012, p. 700) point out that “CEO duality creates an important unity of command at the top of the firm and therefore helps to avoid confusion among managers as to who is the boss and facilitates more timely and effective decision-making”. CEO duality enhances a firm’s leadership to be clearer and more consistent for both directors and managers, since the power and the authority are concentrated in the same person (Donaldson & Davis, 1991). As a result, the firm will gain the advantages of strong control and unity of direction. Moreover, a powerful CEO facilitates quick development and implementation of the corporate strategy (Machold, Huse, Minichilli, & Nordqvist,
CEO duality also increases the opportunity to effectively carry out projects and decisions without the impact of bureaucratic structures (Rechner & Dalton, 1991). Therefore, CEO duality is expected to enhance firm performance.

In the Saudi context, CEOs are considered trustworthy and their appointment are based on a person’s reputation and trust (Fischer & Manstead, 2000). Consequently, CEO duality is more likely to be the most appropriate leadership structure that helps manage Saudi firms in more efficient ways (Siebels & Knyphausen-Aufseb, 2012). Al-Janadi et al. (2013, p. 32) argue that combining the two positions (CEO and chairman) in Saudi firms “provides the power and ability to shape the company in achieving its objectives and strategies because there is no intervention from one position holder or contradiction between the two positions”. Therefore, firm performance is expected to be enhanced if the CEO and chairman positions are held by the same person. This gives rise to H3:

H3: There is a positive relationship between CEO duality and firm performance.

5.2.4 CEO Tenure and Firm Performance

Decisions taken by the CEO have an important influence on firm performance. Therefore, the experiences and knowledge of the person who serves as a CEO play an important role in enhancing firm performance. The more the CEO’s experience with the firm, the better understanding of its operations, employees, and all issues related to the market in which it is operating, which in turn improves the profitability of the firm (Rad, 2014). Stewardship theory supports longer CEO tenure, arguing that managerial skills and experiences are not easily transferred or replicated. Accordingly, a relatively long-serving CEO has unique firm-specific and industry-specific knowledge which helps manage a firm’s resources in more efficient and superior ways (Castanias & Helfat, 1991; Govindarajan, 1989). This theory also considers CEO tenure as important situational and psychological factors in enhancing the CEO’s degree of stewardship behaviour (Davis et al., 1997). A longer CEO tenure helps develop a stronger sense of belonging to the firm, and thus encourages the CEO to be more inclined to behave like a good steward (Davis et al., 1997). In other words, if a CEO has served a firm for a long time and participated in shaping its directions, individual ego and firm prestige will have merged. According to Wulf et al. (2010), CEOs who have served firms for a long time have more ability to
develop their paradigms and gain legitimacy, which positively influence firm performance.

The nature of ownership structure in Saudi firms which is dominated by families enhances CEO tenure, given that the dominant families have a direct role in selecting a firm’s CEO (Al Kahtani, 2013). In addition, Adeyemi-Bello and Kincaid (2012) report that the CEO position in Saudi firms is usually held by a person who has a strong and trusting relationship with the main shareholders. Consequently, CEOs in Saudi firms tend to serve firms for a long period, which in turn increases their understanding of the business, loyalty and commitment to these firms. Thus, longer CEO tenure is expected to effectively contribute to the enhancement of Saudi firms’ performance. This leads to H4.

H4: There is a positive relationship between CEO tenure and firm performance.

### 5.2.5 Family CEO and Firm Performance

The most important advantage of family management is derived from stewardship motivations of the managers. A CEO, who is a family member, is more likely to act as a solicitous steward as his/her family name is associated with the business. Further, his/her past, present and future are strongly associated with the firm’s reputation (Bubolz, 2001; Miller & Le Breton-Miller, 2005). Given that family CEOs usually target high non-monetary rewards associated with a firm’s success, their performance is expected to be better than other CEOs (Kandel & Lazear, 1992). A family CEO’s stewardship manifests in his/her life-long commitment to the firm, increasing the diversity of resources and investments, and creating and sustaining a high performance organization (Davis et al., 1997; Miller & Le Breton-Miller, 2006). According to Le Breton-Miller, Miller, and Steier (2004), the average CEO tenure who is a family member ranged between 15 and 25 years, compared with 3 to 4 years for a CEO who is non-family member. Such a long tenure of family CEOs helps them gain valuable firm-specific and industry-specific knowledge which can be reflected in an improvement in firm performance.

A family CEO usually serves the firm for a long time, which helps him/her to be a farsighted steward of the firm. As a result, a family CEO prefers to invest in long-term investments aiming to improve the ultimate health of the firm, even if this is at the expense of short-term benefits (James, 1999; Laverty, 1996). To make sustainable profit
improvement, a family CEO makes long-term investments such as those in capital investments in infrastructure, research and development, and information technology (Kang, 2000). Due to their long tenure, family CEOs avoid quick fix solutions. They are rarely involved in opportunistic decision making with short-term profit maximization that may harm their long-term reputation and future career prospects (Amihud & Lev, 1999; Miller & Le Breton-Miller, 2006). In addition, managers who are family members are more committed to make firms more profitable, even at personal sacrifice (Davis, 2005). It was found that a family CEO is value-enhancing especially in developing countries (Peng & Jiang, 2010).

In the Saudi context, the family and tribe is the centre of social life (Adeyemi-Bello & Kincaid, 2012). A strong family relationship is one of the most important characteristics of Saudi society. Family reputation is extremely important and every member in a family takes special consideration of his/her family. Honour and reputation also play a significant role in the Saudi business environment. A success of a family firm increases the prestige of the family name in Saudi society as well as the prestige of the CEO in the family. Therefore, family CEOs are more concerned with firms’ success compared with non-family CEOs. In addition, Saudis believe more in the ability of their family members to take responsibility as CEOs, given their awareness, knowledge and experiences about the nature of business as well as their strong sense of belonging to their firm (Adeyemi-Bello & Kincaid, 2012; Fischer & Manstead, 2000). Consistent with stewardship theory, Saudi firms in which the CEO is a family member are expected to perform better than firms run by a non-family CEO. Therefore, H5 is proposed.

H5: Firms with high family ownership that are run by a family CEO perform better than firms run by a non-family CEO.

5.3 Ownership Structure and Firm Performance

This section provides the hypotheses related to the second research question which is:

Q2: What is the relationship between ownership structure and Saudi firms’ performance?

Ownership structure is considered as an important corporate governance mechanism that influences firm performance (Agrawal & Knoeber, 1996; Demsetz & Villalonga, 2001; Jensen & Meckling, 1976; Thomsen, Pedersen, & Kvist, 2006). Although agency theory
considers ownership concentration as a good tool to monitor managers, it highlights the possible agency problems between majority and minority shareholders. On the other hand, stewardship theory rejects the idea of agency problems between majority and minority shareholders, instead focusing on the benefits of ownership concentration in enhancing firm performance such as providing valuable advice and financial assistance (Miller & Le Breton-Miller, 2005). Similarly, resource dependency theory imposes a positive impact of ownership concentration on firm performance by securing different types of resources including managerial and financial recourses.

The assumptions of stewardship theory with respect to ownership structure seem to be most appropriate to the Saudi business environment. In addition, the presence of high ownership concentration in Saudi firms, primarily through government and family ownership, provides firms with different resources that help improve the firms’ performance (Al-Abbas, 2009; AlNodel & Hussainey, 2010). The hypotheses regarding the main types of ownership structure in Saudi firms, namely ownership concentration, government, family, institutional and managerial ownership, are discussed below in relation to the Saudi business environment.

5.3.1 Ownership Concentration and Firm Performance

Ownership concentration can benefit firms from several different perspectives. According to James (2006), benefits of ownership concentration can be gained through more effective decisions, better funding sources and superior sustainable performance. In addition, the board of directors in a firm with high ownership concentration, such as family or state ownership, can provide better support, valuable advice and more relevant knowledge to management that facilitate and improve firm performance (Lester, Hillman, Zardkoohi, & Cannella, 2008; Miller & Le Breton-Miller, 2005). Moreover, concentrated shareholders are more concerned with the success of the firm in both the short- and long-term than other shareholders with a small stake in the firm.

In the Saudi context, like many developing economies, the ownership of firms’ shares traded in the Saudi Stock Market is characterised by high ownership concentration with strong family and state presence (Al-Tonsi, 2003; Alghamdi, 2012). Both stewardship theory and resource dependency theory suggest that these types of ownership would bring a significant positive impact on firm performance. With respect to family ownership,
families have detailed inside knowledge of their business which helps make firms more profitable and facilitates the effective allocation of resources (Habbershon & Williams, 1999). In addition, government ownership can provide a wide range of financial and other support that can enhance firm performance (Xin & Pearce, 1996). This gives rise to H6:

H6: There is a positive relationship between ownership concentration and firm performance.

5.3.2 Government Ownership and Firm Performance

According to resource dependency theory, government ownership can enhance firm performance by providing different resources. Okhmatovskiy (2010) argues that because government controls vast financial resources, owns substantial property and transacts with many firms, government ownership can facilitate access to valuable resources. In addition, government ownership can help firms by enhancing their rights and competitive advantages. Government may allow firms to receive more information about new policies (Lester et al., 2008), get favoured commercial treatment (Johnson & Mitton, 2003), enhance legitimacy (Baum & Oliver, 1991) and influence regulatory policies (Hillman, Keim, & Schuler, 2004). Critical resources such as finance, tax subsidies and government contracts are also more readily granted to firms with government ownership (Nicholson & Kiel, 2007). Such facilitations can effectively help firms to carry out their future investments.

Grosman and Leiponen (2013) argue that in some countries where financial markets are not well developed, firms face more difficulties raising capital for long-term investments. In these countries, government ownership is important to secure sufficient financial resources to support the growth of firms. In addition, government ownership can play a significant role in reducing the probability of a firm going bankrupt by providing different forms of finance especially in times of financial crisis, given the importance of firms owned by the government in the country’s economy (Buckley et al., 2007; Cuervo-Cazurra & Dau, 2009; Zeitun & Tian, 2007b).

In the Saudi business environment, the government is the largest investor in most leading Saudi listed firms such as SABIC and STC (Al Kahtani, 2013). In 1970s, the Saudi
government established five lending institutions which provide different credit programs in the medium- and long-term with minimal fees (Alzomaia, 2014). Firms with a high level of government ownership can have easy access to government financial support programs compared with other firms without government ownership. Such an advantage is most important in the Saudi corporate context, given that the debt markets in Saudi Arabia are not well developed and banks prefer providing short-term loans rather than long-term loans. This makes the access to long-term loans more difficult for Saudi firms (Creane et al., 2004). In addition, Saudi firms with government ownership are more likely to benefit from government aids, policies and incentives. Therefore, H7 is proposed.

H7: There is a positive relationship between government ownership and firm performance.

5.3.3 Family Ownership and Firm Performance

Stewardship theory proposes that family-owned firms are likely to achieve superior performance, as families are very concerned with preserving the reputation and performance of their firms (Davis et al., 1997). This theory argues that the benefits of family owners are centred on their ability and motivation to improve their firms’ performance (Clarke & Branson, 2012). Due to their close interactions and better understanding of their firms, families have the ability to provide unique resources that can enhance firm performance. In the same vein, resource dependency theory argues that families have a thorough and detailed knowledge and experiences of the nature of business, which help them achieve greater profitability and obtain the resources required to support the firm’s growth and survival in the long-run (Habbershon et al., 2003).

The positive impact of family ownership can also be attributed to the association between the firm and the family’s name, reputation and fortune (Donaldson & Davis, 1991). According to Arregle et al. (2007, p. 84), “family members are concerned about the firms because it is part of their collective patrimony and is often the main asset of the family”. An increase in the level of family ownership enhances the motivation and commitment of the family to the success of the firm. Therefore, family shareholders are expected to be

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10 In 1970s, the Saudi government established five lending institutions which are Saudi Agricultural Bank, Saudi Credit Bank, Public Investment Fund, Saudi Industrial Development Fund and the Real Estate Fund.
more concerned with the success of their firm compared with other shareholders. Since stewardship theory does not assume any conflict either between managers and owners or between majority and minority shareholders, a higher level of family ownership is not likely to cause any agency problems.

The positive impact of family ownership on firm performance can be manifested in different forms of stewardship. Miller and Le Breton-Miller (2005) identify three common types of stewardship associated with family ownership. First, family owners are always deeply preoccupied about their firm’s success, continuity and longevity, and thus exploit all available resources in building the firm for the long-run (Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Habbershon & Williams, 1999). The other two types of stewardship are raised as a result of the quest for a firm’s continuity. Internally, employees contribute to a firm’s success by creating a community culture within the firm to enhance employees’ loyalty to the firm (Arregle et al., 2007; Beehr, Drexler, & Faulkner, 1997; Ward, 2004). Externally, establishing a strong and long relationship with customers, suppliers and financial institutions can build a network that sustains the firm, especially in times of financial difficulty (Das & Teng, 1998; Gomez-Mejia, Nunez-Nickel, & Gutierrez, 2001; Tsui-Auch, 2004). In this regard, Claessens, Djankov, and Leora (2003) argue that during a financial crisis, firms with high family ownership have better performance and less tendency to go bankrupt than other firms. This could be attributed to the ability of family ownership to mitigate a firm’s financial constraints, and thus improves its ability to obtain external finance (Crisóstomo, Iturriaga, & González, 2011).

Le Breton-Miller, Miller, and Lester (2011) identify three main features that characterize family stewardship. These characteristics are investment in long-term objectives, unconditional financing of these objectives and willingness to sacrifice potential short-term profits for achieving long-term objectives. James (2006) and Anderson and Reeb (2003) argue that family firms tend to invest more in research and development and they have a longer investment horizon than non-family firms. In addition, managers of family firms are usually secure in their positions and have an expectation to serve their firms for a long period of time. As a result, managers of family-owned firms are more committed to the firms in both the short and long-term.
In the Saudi context, families own a significant percentage of listed firms and have a considerable impact on the country’s economic development (Alghamdi, 2012). Many listed firms in Saudi Arabia were family firms converted to joint stock companies and they still keep their family name such as the Halwani Company, Fitaihi-Group, and Othaim Company (Alsanosi, 2010). The strong ongoing relationship between these families and their firms suggests that these firms still operate like family firms, even after floating on the stock exchange (Ghabayen, 2012). Because the family name, reputation and fortune are at stake, families are more concerned with the success of their firms in both the short and long-term than other shareholders. According to Piesse et al. (2012), families in Saudi firms are considered as strategic investors. Based on their relative knowledge, experiences and better understanding of the business, families can help design an appropriate firm’s strategic plan. The benefits of families in Saudi firms can also include providing capital, especially if a firm is unable to obtain the funding from the market, given the limited access to the external financial markets in Saudi Arabia (Piesse et al., 2012). In this regard, Barakat and Rao (2004) state that due to their large ownership stake in Saudi banks, Saudi families can facilitate the lending process between their firms and banks. This gives rise to H8:

H8: There is a positive relationship between family ownership and firm performance.

5.3.4 Institutional Ownership and Firm Performance

It is widely expected that block holders have more incentives and power to control management and limit managerial power (Finkelstein & Hambrick, 1989; Shleifer & Vishny, 1986; Tosi & Gomez-Mejia, 1989). Agency theory is grounded in this point of view, arguing that institutional ownership can benefit firms by monitoring the actions of agents to be in accordance with principals’ interests as well as reducing agency costs (Jensen & Meckling, 1976; McKnight & Weir, 2009). On the other hand, stewardship theory assumes that there is no conflict of interests between managers and shareholders, and thus there is no need to monitor or control managers’ actions (Davis et al., 1997). Stewardship theory further argues that the role of institutional ownership in monitoring managers may restrict or direct managerial decisions to target short-term investments, which has negative effects on long-term firm performance (Coffee, 1991).
The types of institutional ownership may have different impacts on firm performance. Short-term institutional investors, such as pension funds, mutual funds and insurance companies, target liquidity and short-term investments rather than long-term investments, and thus they may have a passive role in improving firm performance, especially in long-term (Coffee, 1991; Ozkan, 2007). In addition, those investors are more likely to “take flight rather than fight” when a firm starts to perform poorly (Martin & Bogle, 2011). In contrast, long-term institutional investors such as corporate investors have a long investment time horizon. Filatotchev et al. (2007) argue that corporate investors can positively influence firm performance. This positive effect can be explained from the resource dependency theory perspective. Corporate owners can improve firm performance by offering the financial resources, organizational skills and managerial experiences. According to Beyer, Larcker, and Tayan (2014, p. 1), long-term institutional investors help firms to “implement their corporate strategy and make long-term investments without the distraction and short-term performance pressures that come from active traders”.

In the Saudi context, the level of institutional ownership is low in Saudi listed firms (Alghamdi, 2012). Unlike other countries, institutional investors in Saudi firms usually have a direct and long investment horizon. They invariably represent the major shareholders in the investee firms and they are usually the founders of these firm. Institutional ownership can provide superior benefits to the firms in terms of managerial and financial resources. Therefore, institutional ownership is expected to positively influence Saudi firms’ performance. This gives rise to H9:

H9: There is a positive relationship between institutional ownership and firm performance.

5.3.5 Managerial Ownership and Firm Performance

According to stewardship theory, managers act as farsighted stewards of their firms and their interests are aligned with organizational goals (Davis et al., 1997; Donaldson & Davis, 1994). Due to the alignment of the interests of managers with those of shareholders, managerial ownership can positively influence firm performance (Himmelberg et al., 1999). Psychologically, managerial ownership can increase managers’ loyalty and commitment to the firm (Mueller & Spitz-Oener, 2006). As a
result, managers’ tenure will be longer and their productivity will be higher, given that they will have a better understanding of the firm’s business which helps them manage the firm more effectively. According to Din and Javid (2011), managerial ownership has a positive impact on the performance of firms, especially those with high proportions of family ownership.

According to Prasnikar and Gregoric (2002), managers with high levels of ownership can benefit their firms by exploiting market opportunities, promoting the internationalisation of management, developing new products and providing more effective oversight of decision-making processes. The positive impact of managerial ownership on firm performance is also supported by the view of entrepreneurship theory, which proposes that managers who are also large shareholders play an important role in enhancing firm value (Bull, 1989; Simoneti & Gregoric, 2004).

On the other hand, it is argued that managerial ownership may have a negative impact on shareholders’ returns (McConnell & Servaes, 1990; Miguel et al., 2004). According to Morck et al. (1988), managerial ownership can influence firm value by enabling managers to make decisions for their own interests and at the expense of shareholders. For example, managers may misallocate resources in the firm or manipulate the results or gain personal benefits from their insider information (Demsetz & Lehn, 1985; Krivogorsky, 2006; Simoneti & Gregoric, 2004). However, such activities are not expected to be exercised by managers who are good stewards and whose actions are in the best interests of shareholders.

In Saudi firms, managers are considered as good stewards and the interests of both managers and owners are aligned, and thus managerial ownership is expected to enhance firm performance. In addition, the high level of family ownership in Saudi firms is another reason for expecting a positive impact of managerial ownership (Din & Javid, 2011). That is, family owners in Saudi firms usually tend to participate actively in the management of their firms. Given their relative knowledge, experiences and understanding of their business nature, the engagement of family owners in the management enhances the impact of managerial ownership on firm performance. H10 is therefore proposed.

H10: There is a positive relationship between managerial ownership and firm performance.
5.4 Capital Structure and Firm Performance

This section presents the hypotheses related to the third research question which is:

Q3: What is the relationship between capital structure and Saudi firms’ performance?

In the Saudi context, the minimal rate of Zakat (2.5%) along with the absence of the tax benefits of debt imply a weak effect of taxation on the capital structure decisions of Saudi firms (Attar, 2014). That is, in markets with low tax rates, such as the Saudi market, the cost of raising debt is expected to exceed the tax benefits, and thus an increase in a firm’s debt results in a decrease in its performance. In such a circumstance, a firm’s optimal capital structure will involve less debt and more equity. Consequently, more profitable firms are expected to be less leveraged and rely on internal funds. This is consistent with the pecking order theory which argues that a firm has a well-defined order of preference for raising finance. This theory implies that due to transaction costs and asymmetric information, firms prefer internal funds over external sources of finance (Donaldson, 1961).

From the perspective of corporate governance, using debt as a monitoring mechanism is not expected to benefit Saudi firms since the interests of both managers and shareholders are expected to be aligned. This is in line with stewardship theory. As opposed to agency theory which considers debt as an external mechanism to mitigate agency problems (Jensen & Meckling, 1976), stewardship theory suggests that the alignment between the interests of managers and shareholders reduces the need for monitoring over management by debt holders, and hence the level of debt is not expected to add value to the firm (Davis et al., 1997). This suggests that there might be an expected preference for internal over external financing in Saudi firms.

From another perspective, the type of financing (Islamic and non-Islamic) may have an impact on firm performance. The main difference between Islamic and non-Islamic financing is that while the system of non-Islamic banking is based on interest bearing debt, Islamic banking is based on profit and loss sharing (Mirakhor & Zaidi, 2007). Under the profit sharing system, Islamic banks are more concerned with the productivity of the firms in which they share profits and losses, compared with other banks (Aggrawal & Yousef, 2000). In such an arrangement, firms can gain benefits from the banks’ experiences in assessing the viability, profitability and the risk of the investment projects.
Consequently, using Islamic debt as a source of finance is expected to enhance firm performance better than using non-Islamic debt.

In Islamic banks, the return on capital depends on productivity and the investment decisions are guided by the profitability of the investments (Aggarwal & Yousef, 2000; Ismail & Ahmad, 2006). The better allocation of the funds, the higher return will be. In order to maximize their profit, Islamic banks need to select those investments which have high returns and low risks (Dakhllallah & Miniaoui, 2011). This criterion can be reflected in the superior performance of those firms which rely on Islamic financing to fund their investments, given the advantages of the partnership with Islamic banks in enhancing decision making and increasing the probability of investments success. In contrast, non-Islamic banks (interest-based banks) earn a fixed rate of interests, and thus they do not give priority to finance those customers who have high expected profits, but rather they are concerned only with the capacity of customers to meet their liabilities (Venardos, 2005). Based on the differences in the criteria followed by Islamic and non-Islamic banks for their investments and financing decisions, obtaining Islamic financing can be a good indicator of a firm’s investment performance.

From an alternative perspective, a bank’s credit policy may have a significant effect on firm performance (Stiglitz & Weiss, 1981; Whited, 1992). Zeitun et al. (2007) argue that the Islamic banking credit policy can positively influence firm performance for two reasons. Firstly, the Islamic banking system is characterised by the participation of Islamic banks in the business they finance. Secondly, Islamic banks are based on Sharia law, which prohibits compound interest of the past due obligations. According to Zeitun et al. (2007), an increase in Islamic bank facilities helps improve firm profitability by enhancing investment opportunities, whereas a lack of Islamic bank facilities may lead to missed investment opportunities which negatively influences firm performance. In addition, Ismail and Ahmad (2006) claim that Islamic contracts such as Musharaka (partnership) reduce the likelihood of firms to be in financial distress. Therefore, Islamic financing is expected to have a positive impact on firm performance.

In view of the above discussion, H11 and H12 are proposed.

H11: There is a negative relationship between capital structure and firm performance.
H12: Firms that are wholly financed by Islamic debt perform better than those financed by non-Islamic debt, either partially or wholly.

5.5 Summary

This chapter discusses research hypotheses under each research question. There are three main areas of research hypotheses: board of director characteristics, ownership structure and capital structure. The hypotheses are developed based on corporate governance theories and relevant empirical studies. As discussed in Chapter Three, the most appropriate theoretical frameworks to study corporate governance practices in the Saudi corporate context comprise stewardship, stakeholder, resource dependency and institutional theories. Table 5.1 summarises the research questions and research hypotheses. The next chapter discusses the research methodology.

<table>
<thead>
<tr>
<th>Board of Director Characteristics</th>
<th>Corporate Governance and Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>What is the relationship between board of director characteristics and Saudi firms’ performance?</td>
</tr>
<tr>
<td>H1</td>
<td>There is a negative relationship between board independence and firm performance.</td>
</tr>
<tr>
<td>H2</td>
<td>There is a positive relationship between board size and firm performance.</td>
</tr>
<tr>
<td>H3</td>
<td>There is a positive relationship between CEO duality and firm performance.</td>
</tr>
</tbody>
</table>
**Corporate Governance and Firm Performance**

<table>
<thead>
<tr>
<th>Ownership Structure</th>
<th>Question</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H4</strong></td>
<td>There is a positive relationship between CEO tenure and firm performance.</td>
<td></td>
</tr>
<tr>
<td><strong>H5</strong></td>
<td>Firms with high family ownership that are run by a family CEO perform better than firms run by a non-family CEO.</td>
<td></td>
</tr>
<tr>
<td><strong>Q2</strong></td>
<td>What is the relationship between ownership structure and Saudi firms’ performance?</td>
<td></td>
</tr>
<tr>
<td><strong>H6</strong></td>
<td>There is a positive relationship between ownership concentration and firm performance.</td>
<td></td>
</tr>
<tr>
<td><strong>H7</strong></td>
<td>There is a positive relationship between government ownership and firm performance.</td>
<td></td>
</tr>
<tr>
<td><strong>H8</strong></td>
<td>There is a positive relationship between family ownership and firm performance.</td>
<td></td>
</tr>
<tr>
<td><strong>H9</strong></td>
<td>There is a positive relationship between institutional ownership and firm performance.</td>
<td></td>
</tr>
<tr>
<td><strong>H10</strong></td>
<td>There is a positive relationship between managerial ownership and firm performance.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital Structure</th>
<th>Question</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q3</strong></td>
<td>What is the relationship between capital structure and Saudi firms’ performance?</td>
<td></td>
</tr>
<tr>
<td><strong>H11</strong></td>
<td>There is a negative relationship between capital structure and firm performance.</td>
<td></td>
</tr>
<tr>
<td><strong>H12</strong></td>
<td>Firms that are wholly financed by Islamic debt perform better than those financed by non-Islamic debt, either partially or wholly.</td>
<td></td>
</tr>
</tbody>
</table>
Chapter Six: Research Methodology

6.1 Introduction

The purpose of this chapter is to present and explain the research philosophy, approach, design and methods used to carry out this study. It discusses and justifies the selection of the sample, the data sources and the variables used in this study. The chapter also explains the statistical models used to examine the relationship between corporate governance mechanisms and firm performance.

The chapter is organized as follows. Section 6.2 explores the philosophical assumptions of the research paradigms that underpin the study. The research approach and research design are discussed in Sections 6.3 and 6.4, respectively. Section 6.5 describes and justifies the selection of the research sample and the data sources. Section 6.6 presents the definitions and measurements of all variables used in this study. The descriptive statistics of the variables are presented in Section 6.7. The models for the statistical analysis and details of the analysis used to examine the relationship between corporate governance and firm performance are presented in Section 6.8. Section 6.9 provides a summary of the chapter.

6.2 Research Paradigm

The selection of the appropriate research paradigm depends on research questions and research assumptions (Saunders, Lewis, & Thornhill, 2009). This study adopts a positivist paradigm to investigate the relationship between corporate governance and firm performance. The adoption of the positivist paradigm can be justified by considering the properties of this paradigm. The positivist paradigm is employed in research which is designed using the criteria of the natural science model of research which include research questions, predefined hypotheses, controlled observations, controlled deductions, replication and generalizability (Lee, 1989; Rowley, 2002; Yin, 2013). The topic of corporate governance and firm performance has been widely discussed and there is a substantial body of existing literature concerning this topic. In addition, various theories have been developed to explain and discuss the association between corporate governance and firm performance. These theories, along with prior empirical studies, can be used to generate specific hypotheses. Testing these hypotheses helps fill a gap in the corporate
governance literature in developing countries, especially in the Saudi Arabian context. Therefore, adopting a positivist paradigm is considered the most appropriate paradigm for this study.

Understanding the elements of the research paradigm plays a vital role in selecting the appropriate approach to answer research questions and examine research hypotheses. In addition, it is very important to determine the nature of the relationship between the research components. Grix (2010) explains the logical and directional relationship between the key components of research. He emphasizes the importance of understanding the relationship between the components of research stating that:

By selecting out clearly the interrelationship between what a researchers thinks can be researched (their ontological position), linking it to what we can know about it (their epistemological position) and how to go about acquiring it (their methodological approach) we can begin to comprehend the impact one’s ontological position can have on what and who we decide to study (Grix, 2010, p. 67).

Figure 6.1, adopted from Grix (2010), illustrates the interrelationship between the building blocks of the research.

In terms of research philosophy, Perry, Riege, and Brown (1999) and Saunders et al. (2009) suggest three basic components that underpin a paradigm which need to be considered by researchers. These components are ontology, epistemology and methodology. The starting point of all researchers is ontology which is concerned with the nature of reality (Carson, Gilmore, Perry, & Gronhaug, 2001). Epistemology is one of the main areas of philosophy that studies the relationship between reality and the researcher, focusing on the process of acquiring knowledge (Blaikie, 2000). Easterby-Smith, Thorpe, and Lowe (2002, p. 33) state that ontology is the “assumptions that we make about the nature of reality”, whereas epistemology is a “general set of assumptions about the best ways of inquiring into the nature of the world”. The third component is methodology which is the technique used to investigate that reality. These three components are discussed below from the perspective of the positivist paradigm and in relation to the current study.
6.2.1 Ontology

Under a positivist paradigm, reality is constant and independent of the individual (Eriksson & Kovalainen, 2008). Considering the objectives of the current study, the assumptions of ontology under a positivist paradigm are appropriate for this study. This study is conducted in the particular business environment of Saudi Arabia. The key aspect of this study is to examine the impact of corporate governance mechanisms on Saudi firms’ performance. Corporate governance mechanisms including board of director characteristics, ownership structure and capital structure are investigated. Corporate governance theories and previous studies suggest different impacts of these mechanisms on firm performance. For example, board of director characteristics such as board independence may improve firm performance by controlling managers’ actions. In contrast, board independence may have a negative impact on firm performance because independent directors may lack the relevant skills and knowledge. Similarly, ownership
concentration may affect firm performance positively or negatively. These relationships suggest the objective reality of corporate governance mechanisms.

6.2.2 Epistemology

Epistemology refers to the nature of knowledge and how researchers understand social reality (Bryman, 2012). Epistemological research examines the relationship between reality and the researcher. Within the context of a positivist paradigm, the researcher should be independent of that being researched (Creswell, 2013). The knowledge of a phenomenon is obtained through empirical tests which are applied on a large sample size to answer true or false questions (Tran, 2013). This study examines a number of hypotheses to determine the relationship between corporate governance mechanisms and firm performance. Previous studies suggest the use of a large sample size to examine the relationship between corporate governance and firm performance. Accordingly, the epistemological nature under a positivist paradigm is appropriate for this study. In addition, the study develops a series of hypotheses to address the research questions. Therefore, an empirical study that uses statistical models based on a large sample is considered most suitable for this study.

6.2.3 Methodology

Methodology is concerned with the overall approach to the research process, including the philosophical and theoretical framework and its implications for selection of methods. Under a positivist paradigm, the deductive process is used to test hypotheses based on causal relationships. Positivists use quantitative methods such as experiments and tests that help predict, explain and generalize the findings. To achieve the aims of this study, it is suitable to adopt quantitative statistical techniques to assess the causal relationship between corporate governance and firm performance in the Saudi corporate context. This is conducted by analysing board of director characteristics, ownership structure and capital structure to identify and explain the impact of these factors on firm performance through the use of statistical analysis, measures of association and the development of measurement models.

6.3 Research Approach

A research approach is related to the social level of the research paradigm, which includes
the adoption, verification and construction of theories (Ghauri & Grønhaug, 2005). There are two main research approaches widely used in research which are inductive and deductive. While inductive research aims to generate a new theory, deductive research aims to test an existing theory. Saunders et al. (2009) point out that the deductive approach is most common in the positivist approach. Under the deductive approach, research aims to test the existence, strength and interrelationship of a theory. The deductive approach is more common in scientific research, where the researchers start from a particular theory and with clear research questions and hypotheses (Ghauri & Grønhaug, 2005). According to Wilson (2013, p. 13), “the deductive approach is concerned with developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis”. The deductive approach is commonly used to explain and understand causal relationships between variables. In addition, this approach is associated with quantitative data with a highly structured methodology to test the hypotheses.

Given that a rich theoretical and empirical literature exists on the relationship between corporate governance and firm performance, the deductive approach is considered suitable for testing this causal relationship in the Saudi context. On the basis of this approach, a number of hypotheses are developed based on the research questions and related theories.

6.4 Research Design

The study is oriented in a positivist theoretical perspective, and the deductive approach is adopted to carry out this study. Under the deductive approach, a quantitative analysis is often used in the empirical investigation. The quantitative approach is the most popular approach in corporate governance studies (Albassam, 2014; Boyd et al., 2012; Cassell et al., 2005). For example, the literature on the relationship between corporate governance and firm performance (e.g., Bozec, 2005; Guest, 2009; Nicholson & Kiel, 2003; Veprauskaitė & Adams, 2013), ownership structure (e.g., Celenza & Rossi, 2013; Gorton & Schmid, 2000; Muravyev, 2002; Siala et al., 2009) and capital structure (e.g., Abor, 2005; Aggarwal et al., 2011; Dessí & Robertson, 2003; Fosu, 2013) rely extensively on quantitative methods.

According to Carson et al. (2001), research conducted under a positivist paradigm begins
with critical theory and ends by phenomenology. This study aims to examine and explain the relationship between corporate governance and firm performance by using the evidence from Saudi listed firms. As discussed in Chapter Three, the unique features of the Saudi business environment support the assumptions of stewardship, stakeholder, resource dependency and institutional theories. Therefore, this study uses multiple theoretical frameworks comprising all these theories to explain corporate governance practices in the Saudi context.

The study aims to investigate the relationship between corporate governance and firm performance in three main areas. Firstly, board of director characteristics including board independence, board size, CEO duality, CEO tenure and family CEO are examined. Secondly, ownership structure including ownership concentration, government, family, institutional and managerial ownership are investigated. Thirdly, capital structure including debt ratio and the type of debt are examined. These variables are selected based on previous studies which highlight the significance of these variables in corporate governance practices. In addition, these variables are most relevant to the Saudi business environment and they are expected to have significant impacts on Saudi firms’ performance.

Following the stages suggested by Robson (2002), the hypotheses of this study are developed firstly based on the relevant literature and theories. Secondly, the operationalization stage is undertaken to re-express research hypotheses in operational terms. That is, concepts and variables are defined to be quantitatively measurable in an experimental investigation. All investigated variables in this study, which are related either to corporate governance mechanisms or firm performance, are measured quantitatively and are used in the statistical models. Consistent with the deductive approach, a large sample of Saudi firms is investigated in this study. The data used in this study are collected independently by the researcher and are examined by using a highly structured methodology and statistical techniques to test the research hypotheses. As appropriate to the nature of this study, ANOVA and regression analysis are used to examine the relationship between the variables under investigation. In addition, the methodology includes sufficient details to facilitate replication and generalisation of the study. Based on the outcomes, the hypotheses will be either confirmed or rejected. The overall research design framework is presented in Figure 6.2.
Figure 6.2: The research design framework

- **Research Philosophy**: Positivism
- **Research Approach**: Deductive Approach
- **Source of Data**: Secondary Data
- **Methodology**: Quantitative and Experimental Design
- **Methods**: ANOVA and Regression Analysis

**Deducting Hypotheses**

**Reviewing the Literature**

- Theories: Stewardship Theory, Resource Dependency Theory, Stakeholder Theory and Institutional Theory

**Expressing the Hypotheses in Operational Terms (Variables)**

- **Corporate Governance (Independent Variables)**:
  - Board of Director Characteristics:
    1. Board Independence
    2. Board Size
    3. CEO Duality
    4. CEO Tenure
    5. Family CEO
  - Ownership Structure:
    1. Ownership Concentration
    2. Government Ownership
    3. Family Ownership
    4. Institutional Ownership
    5. Managerial Ownership
  - Capital Structure:
    1. Debt Ratio
    2. Islamic Financing

- **Firm Performance (Dependent Variables)**:
  - Accounting-Based Measures:
    1. Return on Assets (ROA)
    2. Return on Equity (ROE)
  - Market-Based Measures:
    1. Tobin’s Q
    2. Market to Book Ratio (MTB)

**Testing the Operational Hypotheses and Subsequent Examination of the Outcomes**

Based on the Outcomes, Hypotheses are Confirmed or Rejected
6.5 Data Collection

This section describes the sampling and data sources of the study. It includes two subsections. Subsection 6.5.1 provides information on the study population and sample, and Subsection 6.5.2 discusses the data sources.

6.5.1 Population and Sample

The sample used to examine the relationship between corporate governance and firm performance is selected from listed firms in Saudi Arabia. A total of 169 firms were listed on the Saudi Stock Exchange (Tadawul) as of 31 December 2014. The population of the study is made up of all Saudi listed firms except financial and insurance firms since they have different corporate governance practices and operations compared with other firms. In addition, the capital structures of financial and insurance firms are significantly different from other firms. This study is in parallel with previous studies which also exclude financial firms (Amran, 2012; El-Faitouri, 2014; Haniffa & Hudaib, 2006; Lemmon & Lins, 2003; Rose, 2005).

The study uses data that cover corporate governance and firm performance of non-financial firms listed on the Saudi Stock Exchange (Tadawul) over a six-year period from 2009 to 2014. The rationale for using this time duration is that although the CGRs were established as a guideline in 2006 by the CMA in Saudi Arabia, most Saudi listed firms did not comply with them until 2009 when the CGRs became mandatory. Accordingly, the sample period commences in 2009 due to the unavailability of corporate governance data for the majority of firms prior to this year. The sample period ends in 2014 because this is the most recent year in which data were available when collecting the data for this study. Table 6.1 presents a description of the study sample with an identification of the excluded items.

<table>
<thead>
<tr>
<th>Table 6.1: Description of the study sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Initial sample (All listed firms)</td>
</tr>
<tr>
<td>Excluded firms:</td>
</tr>
<tr>
<td>Insurance firms</td>
</tr>
<tr>
<td>Suspended firms</td>
</tr>
<tr>
<td>Missing data</td>
</tr>
</tbody>
</table>
Table 6.1 shows that the total number of listed firms on the Saudi Stock Exchange between 2009 and 2014 is 921. While there were 135 listed firms in 2009, the number of listed firms increased by 25% to 169 at the end of 2014. Consistent with previous studies (El-Faitouri, 2014; Haniffa & Hudaib, 2006), financial and insurance firms (67 and 191 firms, respectively) were excluded from the sample. In addition, 17 suspended firms were excluded from the sample due to missing data. The total number of excluded firms is 275 firms. Therefore, the final sample of the study includes 646 firm-year observations from 13 industries, which represents 70% of the total Saudi listed firms between 2009 and 2014. Table 6.2 provides information regarding the sample in terms of industries.

Table 6.2: Original distribution of the sample relative to industry

<table>
<thead>
<tr>
<th>Industry group</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building and Construction</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>87</td>
<td>13%</td>
</tr>
<tr>
<td>Agriculture and Food</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>86</td>
<td>13%</td>
</tr>
<tr>
<td>Petrochemical Industries</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>84</td>
<td>13%</td>
</tr>
<tr>
<td>Industrial Investment</td>
<td>11</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>79</td>
<td>12%</td>
</tr>
<tr>
<td>Cement</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>66</td>
<td>10%</td>
</tr>
<tr>
<td>Retail</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>12</td>
<td>14</td>
<td>64</td>
<td>10%</td>
</tr>
<tr>
<td>Real Estate Development</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>46</td>
<td>7%</td>
</tr>
<tr>
<td>Multi-Investment</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>40</td>
<td>7%</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>24</td>
<td>4%</td>
</tr>
<tr>
<td>Transport</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>24</td>
<td>4%</td>
</tr>
<tr>
<td>Media and Publishing</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>18</td>
<td>3%</td>
</tr>
<tr>
<td>Hotel and Tourism</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>16</td>
<td>2%</td>
</tr>
<tr>
<td>Energy and Utilities</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>12</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>97</td>
<td>102</td>
<td>105</td>
<td>111</td>
<td>113</td>
<td>118</td>
<td>646</td>
<td>100%</td>
</tr>
</tbody>
</table>

The industry classification of the sample is shown in Figure 6.3. As shown in this figure, agriculture and food, building and construction, petrochemical industries and industrial investment are the largest industries and, in combination, they represent more than 51% of the sample. On the other hand, hotel and tourism, and energy and utilities are the smallest industries comprising only 4% of the sample.
Compared with previous corporate governance studies conducted in the Saudi context, the current study uses a larger sample size and a longer observation period. While previous studies use a limited number of firms in one or two years, the sample of this study includes all non-financial listed firms over a six-year period from 2009 to 2014. For example, Al-Nodel and Hussainey (2010) investigate a very small number of firms (37 firms) in 2005. Similarly, Alsaeed (2006) employs a sample consisting of 40 listed firms in 2003. Another study by Al-Moataz and Hussainey (2012) uses a sample of 50 listed firms over two years. Ghabayen (2012) examines a relatively large sample size by investigating 102 listed firms. However, he uses only one year of data. Other studies are conducted within a limited scope. For example, Hussainey and Al-Nodel (2008) and Al-Sahafi et al. (2015) focus only on the banking sector which includes 11 banks.

These limitations in previous studies in terms of sample size and length of the period covered can be overcome by using a large sample size and a long observation period. Consequently, investigating a sample including 646 firm-year observations over six years is considered as an advantage of this study compared to previous studies.

### 6.5.2 Data Sources

The study is based on secondary data that were obtained from different sources. To investigate the relationship between corporate governance and firm performance, two
types of data are used. First, the data related to corporate governance were manually extracted from annual reports of listed firms\textsuperscript{11}. Annual reports provide substantial amount of financial and nonfinancial information about the firm including firm performance and corporate governance practices that are necessary for the purposes of the study. According to Karim (1996), a firm’s annual report is the most important, comprehensive and popular source of data for the firm. The study uses the Tadawul website (http://www.tadawul.com.sa) to collect the annual reports of all listed firms as it is the official website of the Saudi Stock Exchange. All Saudi listed firms are required to post their annual reports on it (CMA, 2007; Tadawul, 2007). In addition, Saudi firms are required to post other information on the Tadawul website such as the resignation and appointment of new members to the board of directors or the CEO. The Tadawul website has been widely used by previous corporate governance studies conducted in Saudi Arabia (Ghabayen, 2012; Hussainey & Al-Nodel, 2008).

Second, the data related to firm financial performance were collected from audited financial statements posted on the Tadawul website. This source was used because many of the mainstream databases used in previous studies of emerging markets, such as Datastream, do not cover the Saudi Arabian market. All listed firms in Saudi Arabia are required to post the audited financial statements on the Tadawul website immediately upon approval of these statements by the board of directors and the external auditors (CMA, 2007; Tadawul, 2007). According to Andres and Vallelado (2008), the financial data presented in annual reports are considered to be reliable as they have been audited by external auditors. In addition, the information related to firms’ stock prices was obtained from the Tadawul Annual Statistical Reports available on the Tadawul website.

6.6 The Variables: Definition and Measurement

In order to investigate the relationship between corporate governance and firm performance, definitions and measurements of variables are necessary. This section presents the definitions and measurements of the corporate governance variables, firm performance variables and control variables used in this study. This section includes three subsections. Subsection 6.6.1 discusses the dependent variables, which are performance

\textsuperscript{11} Where appropriate, annual reports are supplemented with data available on the Tadawul website, firms’ websites and national newspapers.
measures. Independent variables, which include board of director characteristics, ownership structure and capital structure, are presented in Subsection 6.6.2. In Subsection 6.6.3, the control variables are discussed.

6.6.1 Dependent Variables (Performance Measures)

The main task of dependent variables is to measure firm performance. There is a considerable debate and a lack of consensus in the literature about the appropriate measures of firm performance (Johnson et al., 1996; Mangena, Tauringana, & Chamisa, 2012). Ghalayini and Noble (1996) identify two phases of the development of performance measurement. The first phase started in the late 1880s and went through the 1980s. During this period, performance measurement was based on accounting systems which focus on financial data. This phase is known as the “traditional performance measurement” or accounting-based measures. The second phase began in the late of 1980s as a result of globalisation of trade and emergence of world economy. Due to these changes in the world market, “traditional performance measurement” may not be suitable for measuring the performance, and thus another type of performance measurement was developed. This measurement is known as the “non-traditional performance measure” or market-based measures. Both accounting-based and market-based measures are widely accepted as valid indicators of firm performance (Hoskisson, Hitt, Wan, & Yiu, 1999), and each of these measures has its strengths and weaknesses. The next subsections shed light on the features and the drawbacks of these measures. In addition, the selected performance measures employed in this study are also discussed.

6.6.1.1 Accounting-Based Measures

Accounting-based measures are indicators that capture historical performance. These measures use information presented in financial statements including the balance sheet, the profit and loss statement, and the cash flow statement. Sloan (2001) argues that financial accounting plays a positive role in reducing agency problems since it provides shareholders with an independently verified source of information about managers’ performance, and thus financial accounting and corporate governance are inexorably linked. Examples of accounting-based measures include return on assets (ROA), return on equity (ROE), profit margin or return on sales (ROS) and earnings per share (EPS). These measures are used in many studies that investigate the relationship between
corporate governance and firm performance (Bennedsen et al., 2007; Henderson et al., 2006; Hermelin & Weisbach, 1991; Koerniadi & Tourani-Rad, 2012; Lam & Lee, 2008; Mashayekhi & Bazaz, 2008; Peni, 2014).

Kihn (2005) summarises the main strengths of using accounting-based measures in assessing firm performance. These strengths include “appropriateness at both the macro and micro levels of analysis, relatively high criterion stability, the possibility of using single or multiple criteria, precise measurement and high generalizability of criteria and results” (Kihn, 2005, p. 162). However, relying only on accounting-based measures entails some limitations. Chakravarthy (1986) criticises accounting-based measures because they can be affected by unfair and unsound practices, including fraud and manipulation of accounting information. In this regard, Schilit (2002) identifies a number of ways in which corporate management can manipulate the financial statements of a firm such as treatment of certain revenue and expenditure items, under-valuation of strategic assets, depreciation policies, inventory valuation and the methods of consolidating accounts. In addition, intangible assets are not considered in accounting-based measures, given that these assets can make up an important part of a firm’s market value, especially in knowledge-intensive firms (Webb & Schlemmer, 2008).

6.6.1.2 Market-Based Measures

Market-based measures are considered to be the best indicators of organizational economic performance (Copeland, Koller, & Murrin, 2000; Robinson, 1995). Unlike accounting-based measures which capture historical performance, market-based measures quickly reflect the actions taken by management and changes in the economic value if the firm is in an efficient market. Lubatkin and Shriever (1986) point out that market-based measures consider all relevant information including both financial and non-financial. In addition, these measures include “the value created by both the execution on existing opportunities, as well as the risk-adjusted expected value of future opportunities that have yet to be realised” (Carton & Hofer, 2006, p. 76). Subrahmaniyam (2009) argues that the issues associated with the use of accounting-based measures do not influence market-based measures. That is, market-based measures, in a well-regulated market, are not subject to manipulation by management like accounting-based measures. Examples of market-based measures include Tobin’s Q, market to book ratio (MTB) and market value added (MVA). These measures are commonly used in corporate governance
studies (Anderson & Reeb, 2003; Del Guercio & Hawkins, 1999; Lassoued & Attia, 2013; McConnell & Servaes, 1990; Miguel et al., 2004).

It should be noted that market-based measures have also been criticised on several grounds. The primary criticism is that the stock market prices may not accurately reflect the true value of the firm, especially in developing countries where the capital markets are not well developed and are inefficient (Joh, 2003; Lindenberg & Ross, 1981). In addition, Bacidore, Boquist, Milbourn, and Thakor (1997, p. 11) point out that market-based measures “may not be an efficient contracting parameter because it is driven by many factors beyond the control of the firm’s executives”\(^\text{12}\). These factors include investors’ expectations about future events, noise trading, signalling, group behaviour and mistakes (Kapopoulos & Lazaretou, 2007). Market-based measures have also been criticized by Claessens and Djankov (1999) for being unsuitable, particularly in countries with weak legal protection for minority shareholders like many developing countries. They argue that the use of stock market performance may lead to “downward bias in the relationship between ownership and firm’s valuation” in a country where the minority protection is weak (Claessens & Djankov, 1999, p. 502).

6.6.1.3 Performance Measurement Used in this Study

In order to select the appropriate measures of performance to examine the relationship between corporate governance and firm performance, a number of factors have been considered. First, there are inconsistencies in the literature regarding the optimal measurement to assess firm performance. Second, a variety of measures have been used to evaluate firm performance including both accounting-based and market-based measures. Third, each measure has its strengths and weaknesses. Considering all these factors, this study uses both accounting-based and market-based measures to assess firm performance.

The study uses two accounting-based measures, namely return on assets (ROA) and return on equity (ROE), and two market-based measures, namely Tobin’s Q and market to book ratio (MTB). The underlying reason for selecting both types of measures is that the combination of these measures helps provide a robustness check for the results and

\(^{12}\) See Milboun (1996) for a theoretical and empirical examination of some of these factors.
improves comparability with the existing studies (Haniffa & Hudaib, 2006). While ROA and ROE are profitability ratios which are historic and backward-looking, Tobin’s Q and MTB are forward-looking based on market value. By using different measures, the strengths of one measure can overcome the weaknesses of the other measure. It is argued that “the use of only accounting or market based performance measures are responsible for the inconsistencies in establishing a clear relationship between corporate governance and corporate performance” (Kyereboah-Coleman, 2008, p. 7). In addition, these measures of performance are widely adopted in corporate governance studies (Juras & Hinson, 2008; Mahadeo et al., 2012; Marn & Romuald, 2012; Mehran, 1995; Munisi & Randøy, 2013). The next subsections discuss the performance measures used in this study.

6.6.1.3.1 Return on Assets

Return on assets (ROA) is an important measure of how profitable a firm is relative to its assets. ROA relates to a number of other financial performance measures because it focuses on firm performance as a whole, and thus it is considered as the best overall measure of firm financial performance (Dehning & Stratopoulos, 2003). In addition, Mangena et al. (2012) argue that ROA dominates the accounting-based measures and is the most powerful operating financial measure because it possesses distributional properties. For example, a firm’s equity can be zero or negative, while a firm’s total assets are strictly positive. This measure is commonly used in studies to assess firm performance (Dey et al., 2011; MoIlah & Talukdar, 2007; Morck et al., 2000; Nor et al., 2014; Pérez-González, 2006; Soliman, 2010).

Return on assets is used to evaluate the efficiency of management in using firm assets to generate earnings (Dickie, 2006). It is calculated as the earnings before interest and tax (EBIT) divided by the book value of total assets (Moles, Parrino, & Kidwell, 2011). A higher ROA is an indicator of the efficiency of management in utilising the firm’s resources to achieve higher returns for shareholders (Haniffa & Hudaib, 2006). Despite the aforementioned benefits of using ROA to assess firm performance, ROA has received some criticisms because it depends on the estimated value of a firm’s assets which can be manipulated by the firm’s management and affected by changes in accounting policies such as depreciation methods (Lev & Sunder, 1979). ROA is calculated as follows:
ROA_{it} = \frac{EBIT_{it}}{TA_{it}}

Where ROA_{it} is return on assets of firm i in year t, EBIT_{it} is earnings before interest and tax, and TA_{it} is total assets.

### 6.6.1.3.2 Return on Equity

Return on equity (ROE) expresses the level of the success of the management in utilising a firm’s equity to meet the main objective of the firms, i.e., maximizing the wealth of shareholders (Dickie, 2006). ROE is a good measure of the efficiency of a firm’s management in utilising shareholders’ equity. Gadoiu (2014) points out that this efficiency refers to the management’s ability to remunerate shareholders (by the payment of dividends or by other forms of remuneration) and increase their value over time. ROE is used in many studies as a proxy for firm financial performance (Donaldson & Davis, 1991; Mashayekhi & Bazaz, 2008; Wahla et al., 2012).

Return on equity provides information about the profit that is generated by using the income received from shareholders. ROE is calculated by dividing net income by total assets (Brealey, Myers, Allen, & Mohanty, 2012; Ross, Westerfield, & Jaffe, 2002). Like other measures, ROE has received some criticisms. The main criticism of using ROE is that it only takes into consideration the shareholders’ equity and ignores the impact of the amount of debt (Poza & Daugherty, 2013). Thus, a firm could have an excessive amount of debt and still appears to be in a good financial position according to the ROE ratio. Even though a firm might have a high ROE ratio, it could be close to bankruptcy due to the high debt levels. ROE is measured as follows:

ROE_{it} = \frac{NI_{it}}{TE_{it}}

Where ROE_{it} is return on equity of firm i in year t, NI_{it} is net income and TE_{it} is total equity.
6.6.1.3.3 Tobin’s Q

Tobin’s Q ratio was introduced by James Tobin to evaluate a firm’s future investments (Tobin, 1969). It is the ratio of the market value of the firm to the replacement cost of its assets (Ammann, Oesch, & Schmid, 2013). Tobin’s Q is used as a measurement for firm value from the investors’ perspective. It assesses to what extent the management is successful in utilizing the firm’s assets to maximize shareholders’ wealth. Tobin’s Q is associated with the quality of investment opportunities and is considered as a good indicator of a firm’s performance and value, as well as of the ability of management to exploit growth opportunities. Landsman and Shapiro (1995) argue that Tobin’s Q is a better measure of a firm’s economic performance than accounting measures. In the corporate governance literature, Tobin’s Q is widely used as a measure of firm value (Amran, 2012; Coles et al., 2008; McConnell & Servaes, 1990; Omran et al., 2008; Upadhyay et al., 2014).

This study adopts the definition of approximation of Tobin’s Q suggested by Chung and Pruitt (1994), which explains at least 96.6% of the variability of the original Tobin’s Q. The reason behind using the approximation of Tobin’s Q instead of the original Tobin’s Q is the extreme difficulty of obtaining the information required to evaluate the replacement cost of a firm’s assets. According to Cho (1998), if the replacement cost of a firm’s assets are measured with error, there will be a serious problem because the results will be misleading or incorrect. Due to the unavailability of such data, this study uses book value of assets as a proxy for the replacement cost of a firm’s assets to ensure sufficient data availability throughout the sample. Consistent with Agrawal and Knoeber (1996) and El-Faitouri (2014), Tobin’s Q is calculated as the book value of total assets minus the book value of total equity plus the market value of equity, all divided by the book value of total assets. Tobin’s Q is expected to exceed one if a firm has valuable intangible assets such as high growth opportunities or good management (Goergen, Mallin, Mitleton-Kelly, Al-Hawamdeh, & Chiu, 2010). The market value of equity is calculated as the closing share price at the end of each financial year multiplied by the number of shares outstanding at the end of the same year.

Despite the benefits of using Tobin’s Q as a measure of firm value, it has some limitations. Chung and Pruitt (1994) argue that Tobin’s Q is a costly measure because it requires large data and calculating efforts, especially for measuring the replacement cost of a firm’s
assets. Consequently, different approximations of Tobin’s Q have been developed to use the book value of assets, and thus Tobin’s Q has been criticised because of its dependence on historical asset values (Lewellen & Badrinath, 1997; Perfect & Wiles, 1994). In this regard, Padgett and Shabbir (2005) argue that Tobin’s Q has the same limitations as accounting-based measures, such as the potential manipulation by management. However, this criticism can be considered unimportant especially in the light of the increasing trend towards the use of fair value accounting (Alexander, Britton, & Jorissen, 2007), or the use of a mixed accounting approach of market to book accounting and historical cost accounting (Danbolt & Rees, 2008). Another drawback of using Tobin’s Q is that it can be affected by speculation and the sentiment of investors (Henwood, 1998). For the purposes of this study, Tobin’s Q is calculated as:

\[ Q_{it} = \frac{(MVE_{it} + TA_{it} - TE_{it})}{TA_{it}} \]

Where \( Q_{it} \) is Tobin’s Q of firm \( i \) in year \( t \), \( MVE_{it} \) is the firm’s market value of equity which is calculated as the closing share price at the end of year \( t \) multiplied by the number of shares outstanding at the end of year \( t \), \( TA_{it} \) is the book value of total assets and \( TE_{it} \) is the book value of total equity.

### 6.6.1.3.4 Market to Book Ratio

The market to book ratio (MTB) measures the relative value of a firm compared to its share price. It is also known as price to book ratio. This ratio gives an indication of the market value of the firm’s assets. It assumes that there is a consistent relationship between the net book value and market value of the firm (Ryan, 2007). The MTB ratio reflects investors’ expectations and assessments of the firm’s performance, growth and financial health (Meggison, Lucey, & Smart, 2008). According to Walton (2012, p. 92), “this ratio (MTB) is perhaps the fullest expression of the way the stock market considered the firm overall. It sums up the general opinion of investors on the firm, its management, results, liquidity and prospects”. The MTB ratio is calculated by dividing the firm’s current share price by the book value per share. A high MTB ratio indicates that the investors have high expectations of future firm performance. The MTB ratio has been used in many studies investigating the relationship between corporate governance and firm performance (Al Farooque et al., 2007; Bortolotti & Faccio, 2006; Ferreira & Kirchmaier, 2013). Similar to other market-based measures, the MTB ratio has some limitations regarding the impact
of factors such as speculation and noise trading on share price (Kapopoulos & Lazaretou, 2007). In addition, book value is a historical value and does not reflect the current market value, which leads to a lack of precision in measurement (Walton, 2012). MTB is measured as follows:

\[ \text{MTB} = \frac{\text{Stock price per share}}{\text{Book value per share}}. \]

### 6.6.2 Independent Variables (Corporate Governance Mechanisms)

The study examines three corporate governance mechanisms, which are board of director characteristics, ownership structure and capital structure. Both the theoretical and empirical literature regarding the relationship between these mechanisms and firm performance are reviewed in Chapter Four. This section provides the definitions and measurements of the corporate governance mechanisms that are used in this study as independent variables.

#### 6.6.2.1 Board of Director Characteristics

Five characteristics of the board of directors are investigated: board independence, board size, CEO duality, CEO tenure and family CEO. These characteristics are defined and measured as follows.

**A. Board Independence (BIND)**

Board independence depends on the number of independent directors on the board. It is measured by the proportion of independent directors on the board to the total number of directors on the board (Bozec, 2005; Nicholson & Kiel, 2003). In this study, independent directors are defined as those who do not have any material interest in the firm (Clarke, 2007; Rechner & Dalton, 1986), and who also meet the definition of independent directors provided by the CGRs in Saudi Arabia. According to the CGRs, an independent director is a member who enjoys complete independence. The following constitute an infringement of such independence (CMA, 2006, pp. 3-4):

1) He/she holds a five percent or more of the issued shares of the company or any of its group.

2) Being a representative of a legal person that holds a five percent or more of the issued shares of the company or any of its group.
3) He/she, during the preceding two years, has been a senior executive of the company or of any other company within that company’s group.

4) He/she is a first-degree relative of any board member of the company or of any other company within that company’s group.

5) He/she is first-degree relative of any of senior executives of the company or of any other company within that company’s group.

6) He/she is a board member of any company within the group of the company which he is nominated to be a member of its board.

7) If he/she, during the preceding two years, has been an employee with an affiliate of the company or an affiliate of any company of its group, such as external auditors or main suppliers; or if he/she, during the preceding two years, had a controlling interest in any such party.

B. Board Size (BSZ)

Board size is measured by the total number of directors on the board including both independent and inside directors (Dhamadasa et al., 2014; Mak & Kusnadi, 2005).

C. CEO Duality (CEOD)

CEO duality refers to a situation when the same person holds the positions of CEO and chairman of the board of directors. CEO duality is a dummy variable, which equals 1 if the same person occupies the positions of chairman and CEO, and 0 otherwise (Haniffa & Hudaib, 2006; Ujunwa, 2012).

D. CEO Tenure (CEOT)

CEO Tenure is measured by the number of years that the CEO has served in that position (Allgood & Farrell, 2000; Arosa et al., 2013; Dikolli et al., 2014).

E. Family CEO (FCEO)

Family CEO refers to a situation when a family firm is served by a CEO who is a family member. The family firm with a family CEO indicator is a dummy variable, which equals 1 if the firm is a family firm and, at the same time, the CEO is a family member, and 0 otherwise (Anderson & Reeb, 2003; Barontini & Caprio, 2006; Jiang & Peng, 2011). The study adopts the definition of the family firm employed by Al-Dubai, Ismail, and Amran
That is, a firm is considered as a family firm if the controlling shareholder holds at least 5% of the firm’s total shares and at least one of his/her relatives by blood (i.e. sharing the same surname)\textsuperscript{13} serves either as CEO or chairman, or occupies a position on the board of directors.

6.6.2.2 Ownership Structure

The study examines five types of ownership: ownership concentration, government, family, institutional and managerial ownership. These types of ownership are defined and measured as follows.

A. Ownership Concentration (OWN)

Ownership concentration is defined as the proportion of firm shares owned by majority shareholders, the so-called ‘controlling shareholders or concentrated shareholders’ (Azam et al., 2011; Blair, 1995). It is measured by the percentage of firm shares held by shareholders with at least 5% of the firm’s total shares (Manawaduge, 2012; Tran, 2013; Zeitun & Tian, 2007b).

B. Government Ownership (GOV)

Government ownership is defined as the proportion of firm shares owned by government shareholders. It is measured by the percentage of firm shares held by government shareholders with at least 5% of the firm’s total shares.

C. Family Ownership (FAM)

Family ownership is defined as the proportion of firm shares owned by family shareholders. It is measured by the percentage of firm shares held by family shareholders with at least 5% of the firm’s total shares.

D. Institutional Ownership (INSTO)

Institutional ownership is defined as the proportion of firm shares owned by Institutional shareholders. It is measured by the percentage of firm shares held by Institutional

\textsuperscript{13} In Saudi Arabia, it is relatively easy to identify the family name of members of a family compared with other countries because all members in a family have the same family name whether they are males or females, before or after marriage. Therefore, the family names of owners in Saudi firms are clear and easy to identify. In addition, it is rarely to find unrelated people share the same surname.
shareholders with at least 5% of the firm’s total shares.

E. Managerial Ownership (MAN)

Managerial ownership is defined as the proportion of firm shares owned by directors. It is measured by the percentage of firm shares held by all board members.

6.6.2.3 Capital Structure

The study investigates the impact of capital structure and Islamic financing on firm performance. These two elements are defined and measured as follows.

A. Capital Structure (Debt ratio)

Capital structure is measured as the debt ratio. Consistent with previous studies (Agrawal & Knoeber, 1996; Al Farooque et al., 2007; Aliakbar et al., 2013; Rashid, 2009), this study uses three capital structure ratios: total debt ratio (TD), long-term debt ratio (LD) and short-term debt ratio (SD).

B. Islamic Financing (IS)

Islamic financing refers to the debt obtained from the Islamic financing system\(^\text{14}\) (Hamouri et al., 2014; Zeitun et al., 2007). Islamic financing is a dummy variable, which equals 1 if the firm is wholly financed by Islamic debt, and 0 otherwise. Islamic financing is measured using three interaction terms: between total Islamic debt and total debt ratio (IS*TD), between long-term Islamic debt and long-term debt ratio (IS*LD), and between short-term Islamic debt and short-term debt ratio (IS*SD).

6.6.3 Control Variables

The related literature suggests additional variables that have explanatory power when examining the relationship between corporate governance and firm performance (Coles et al., 2008; Majumdar & Chhibber, 1999). The study uses a set of control variables to reduce endogeneity and possible omitted variables. These variables are selected based on the related theories and the empirical evidence from previous studies that examine the

\(^{14}\) The Islamic financing system should comply with Islamic Sharia principles. The main principles of the Islamic financing system are the prohibition of interest (riba) charged on any transaction or service and the profit and loss participation concept.
relationship between corporate governance and firm performance.

The control variables used in this study are firm size, firm age, firm growth, capital expenditure, leverage and industry. There might be other variables that could influence corporate governance and firm performance, but they are not included in this study because of the lack of theoretical support or unavailability of data. The theoretical basis for selecting the control variables and the empirical evidence from previous studies are discussed below, along with the definition and measurement of each variable.

A. Firm Size (FS)

Firm size is an important factor that has a direct impact on corporate governance practices and firm performance (Samaha, Dahawy, Hussainey, & Stapleton, 2012). It is argued that firm size positively influences corporate governance practices due to differences in operations, market regulations, compliance costs and agency problems between firms of different sizes (Bebchuk & Weisbach, 2010; Himmelberg et al., 1999; Jensen, 1986). Because large firms have more complex capital structure, agency problems of large firms are greater than smaller firms, and thus they are more likely to have better corporate governance discloser to reduce information asymmetry (Eng & Mak, 2003; Jensen & Meckling, 1976). In contrast, while it is easy for large firms to secure external funding, smaller firms need to improve their corporate governance practices to obtain external finance (Klapper & Love, 2004).

Previous studies reveal a positive relationship between firm size and firm performance. Because large firms have a greater variety of capabilities (Majumdar & Chhibber, 1999) and more flexibility to raise funds at a lower cost (Botosan, 1997), they are expected to have higher profitability than smaller firms. However, large firms may have some coordination and communication problems which negatively influence their performance (George, Joll, & Lynk, 1992). Smaller firms are likely to perform better than large firms in terms of growth opportunities, which are associated positively with firm performance (Young, Tsai, & Hsieh, 2008). Consistent with previous studies (Durnev & Kim, 2007; Haniffa & Hudaib, 2006; Tornyeva & Wereko, 2012), this study uses firm size as a control variable measured as the natural logarithm of total assets.

B. Firm Age (AGE)
Firm age is another factor that can affect firm performance. Older firms have been argued to be more efficient than younger firms because they have had more time to learn and become more experienced, and thus achieve the best possible performance (Ang, Cole, & Lin, 2000; Hill & Kalirajan, 1991). On the other hand, younger firms may perform better than older firms. According to the life-cycle theory, after firms reach the growth stage and maturity stage, a decline stage starts with lower performance and fewer opportunities to grow. Thus, younger firms are expected to be more profitable than older firms since they are in the growth stage in which sales and profits increase rapidly. Firm age is used in many studies as a control variable (Ang et al., 2000; Hill & Kalirajan, 1991; Majumdar & Chhibber, 1999; Rashid, 2009). Therefore, this study includes firm age as a control variable measured by the natural logarithm of the number of years a firm has been listed on the stock market.

C. Firm Growth (FG)

It is argued that firms that have higher investment opportunities grow faster than other firms (Durnev & Kim, 2005). Given that high growth firms usually require greater access to external financing, they are more likely to adopt better corporate governance practices in order to secure external financing as well as reduce financing costs (Beiner, Drobetz, Schmid, & Zimmermann, 2006; Chung & Zhang, 2011; Bozec, Dia, & Bozec, 2010). In addition, the successful growth of a firm is associated with the presence of an active board of directors and good management to attract potential investors (Chen, 2011). Previous studies reveal a positive relationship between firm performance and growth measured by year-on-year sales growth (Beiner, Drobetz, Schmid, & Zimmermann, 2004; Gompers, Ishii, & Metrick, 2003; Haniffa & Hudaib, 2006; Luo, Kanuri, & Andrews, 2014; Ntim & Soobaroyen, 2013). Consistent with previous studies, the current study adopts the growth rate of the firm’s sales as a control variable.

D. Capital Expenditure (CAPEX)

Capital expenditures are the expenditures that generate future benefits to a firm. They are incurred when a firm acquires new fixed assets or upgrades existing fixed assets to create long-term benefits and improve earning capacity (Triantis, 2013). The corporate governance literature indicates that capital expenditures are related to the value of a firm’s growth opportunities (Pearce & Zahra, 1992; Pfeffer, 1973). Capital expenditure is a
function of how fast a firm is expected to grow. Rapid growth requires high capital expenditures and other investments. Accordingly, board of directors need to be more active to provide valuable support to the management and protect shareholders’ interests (Conyon & He, 2011; Nicholson & Kiel, 2007). Previous studies that investigate the relationship between capital expenditure and firm performance reveal mixed results. While some studies found a positive relationship (Haniffa & Hudaib, 2006; Sudiyatno, Puspitasari, & Kartika, 2012; Weir et al., 2002), other studies show a negative relationship (Jackling & Johl, 2009; Mangena et al., 2012). Hall and Bagchi-Sen (2002) report that capital expenditure has no impact on firm performance. Following previous studies, this study employs capital expenditure as a control variable measured as the ratio of net capital expenditure to total assets (Albassam, 2014; Weir et al., 2002).

E. Leverage (LEV)

Leverage is widely used as a control variable in studies examining the relationship between corporate governance and firm performance. Both the theoretical and empirical literature regarding the relationship between leverage (capital structure) and firm performance are discussed in Chapter Four. In line with previous studies (Akhtaruddin, Hossain, Hossain, & Yao, 2009; Alkdai & Hanefah, 2012; Luo et al., 2014), this study uses leverage as a control variable measured by the ratio of total debt to total assets.

F. Industry (IND)

Firm performance is expected to be different among firms based on industry types (Hussainey & Al-Nodel, 2008). Industry attributes such as industry growth rate, industry concentration and industry outsourcing intensity can influence firm performance in two different ways: a direct way by affecting access to valuable resources, and an indirect way through influence the relationship between firm-level variables and firm performance (Wimble & Singh, 2015). In addition, variations in firm performance could also be caused by differences in business nature, capital structure and ownership structure (Hussainey & Al-Nodel, 2008). Consistent with previous studies (Haniffa & Cooke, 2002; Luo et al., 2014; Samaha et al., 2012; Wimble & Singh, 2015), the current study includes industry dummies as a control variable to control for unobserved industry type heterogeneity. Based on the Saudi Stock Market classifications, the sample of this study is classified into 13 industries.
6.6.4 Summary of Variables

The study adopts a number of dependent, independent and control variables. There are four dependent variables used to measure firm performance and twelve independent variables to investigate corporate governance mechanisms related to board of director characteristics (five variables), ownership structure (five variables) and capital structure (two variables). In addition, the study uses six control variables. The definitions and measurements of these variables are summarised in Table 6.3.

Table 6.3: Summary of variables used in the study

<table>
<thead>
<tr>
<th>Type</th>
<th>Variable</th>
<th>Symbol</th>
<th>Definitions and Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A: Dependent Variables (Firm Performance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Measures</td>
<td>Return on assets</td>
<td>ROA</td>
<td>Earnings before interest and tax (EBIT) to total assets.</td>
</tr>
<tr>
<td></td>
<td>Return on equity</td>
<td>ROE</td>
<td>Net income to total assets.</td>
</tr>
<tr>
<td></td>
<td>Tobin’s Q</td>
<td>Q</td>
<td>Total assets minus total equity plus market value of equity, all divided by total assets.</td>
</tr>
<tr>
<td></td>
<td>Market to book</td>
<td>MTB</td>
<td>Share price to book value per share.</td>
</tr>
<tr>
<td>Panel B: Independent Variables (Corporate Governance Mechanisms)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board of Director Characteristics</td>
<td>Board independence</td>
<td>BIND</td>
<td>The proportion of independent directors on the board to the total number of directors on the board.</td>
</tr>
<tr>
<td></td>
<td>Board size</td>
<td>BSZ</td>
<td>The total number of directors on the board.</td>
</tr>
<tr>
<td></td>
<td>CEO duality</td>
<td>CEOD</td>
<td>Equals 1 if the same person occupies the positions of chairman and CEO, and 0 otherwise.</td>
</tr>
<tr>
<td></td>
<td>CEO tenure</td>
<td>CEOT</td>
<td>Total number of years that the CEO has served in that position.</td>
</tr>
<tr>
<td></td>
<td>Family CEO</td>
<td>FCEO</td>
<td>Equals 1 if the firm is a family firm and the CEO is a family member, and 0 otherwise.</td>
</tr>
<tr>
<td>Ownership Structure</td>
<td>Ownership concentration</td>
<td>OWN</td>
<td>The percentage of firm shares held by shareholders with at least 5% of the firm’s total shares.</td>
</tr>
<tr>
<td></td>
<td>Government ownership</td>
<td>GOV</td>
<td>The percentage of firm shares held by government shareholders with at least 5% of the firm’s total shares.</td>
</tr>
<tr>
<td></td>
<td>Family ownership</td>
<td>FAM</td>
<td>The percentage of firm shares held by family shareholders with at least 5% of the firm’s total shares.</td>
</tr>
<tr>
<td></td>
<td>Institutional ownership</td>
<td>INST</td>
<td>The percentage of firm shares held by institutional shareholders with at least 5% of the firm’s total shares.</td>
</tr>
<tr>
<td></td>
<td>Managerial ownership</td>
<td>MAN</td>
<td>The percentage of firm shares held by all board members.</td>
</tr>
<tr>
<td>Capital Structure</td>
<td>Total debt ratio</td>
<td>TD</td>
<td>Total debt to total assets.</td>
</tr>
<tr>
<td></td>
<td>Long-term debt ratio</td>
<td>LD</td>
<td>Long-term debt to total assets.</td>
</tr>
<tr>
<td>Type</td>
<td>Variable</td>
<td>Symbol</td>
<td>Definitions and Measures</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------</td>
<td>--------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Short-term debt ratio</td>
<td>SD</td>
<td>Short-term debt to total assets.</td>
</tr>
<tr>
<td>Islamic financing</td>
<td>Total Islamic debt and total debt ratio</td>
<td>IS*TD</td>
<td>IS equals 1 if the firm is wholly financed by Islamic debt, and 0 otherwise. TD is total debt to total assets.</td>
</tr>
<tr>
<td>Interaction terms</td>
<td>Long-term Islamic debt and long-term debt ratio</td>
<td>IS*LD</td>
<td>IS equals 1 if the firm is wholly financed by Islamic debt, and 0 otherwise. LD is long-term debt to total assets.</td>
</tr>
<tr>
<td></td>
<td>Short-term Islamic debt and short-term debt ratio</td>
<td>IS*SD</td>
<td>IS equals 1 if the firm is wholly financed by Islamic debt, and 0 otherwise. SD is short-term debt to total assets.</td>
</tr>
</tbody>
</table>

Panel C: Control Variables

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>Variable</th>
<th>Symbol</th>
<th>Definitions and Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firm size</td>
<td>FS</td>
<td>The natural logarithm of total assets.</td>
</tr>
<tr>
<td></td>
<td>Firm age</td>
<td>AGE</td>
<td>The natural logarithm of the number of years a firm has been listed on the stock market.</td>
</tr>
<tr>
<td></td>
<td>Firm growth</td>
<td>FG</td>
<td>Year-on-year sales growth.</td>
</tr>
<tr>
<td></td>
<td>Capital expenditure</td>
<td>CAPEX</td>
<td>Net capital expenditure to total assets.</td>
</tr>
<tr>
<td></td>
<td>Leverage</td>
<td>LEV</td>
<td>Total debt to total assets.</td>
</tr>
<tr>
<td></td>
<td>Industry</td>
<td>IND</td>
<td>A dummy variable for each industry on the stock market (classified into thirteen industries)</td>
</tr>
</tbody>
</table>

6.7 Data and Descriptive Statistics

This section provides descriptive statistics (mean, median, standard deviation, minimum and maximum) of all variables used in this study. The descriptive statistics of the dependent variables, independent variables and control variables are presented in Subsections 6.7.1, 6.7.2 and 6.7.3, respectively.

6.7.1 Dependent Variables (Performance Measures)

The descriptive statistics of dependent variables (performance measures) for the entire sample period from 2009 to 2014 are presented in Table 6.4.
Table 6.4: Descriptive statistics of dependent variables (performance measures)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>STD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.077</td>
<td>0.064</td>
<td>0.092</td>
<td>-0.672</td>
<td>0.449</td>
</tr>
<tr>
<td>ROE</td>
<td>0.103</td>
<td>0.092</td>
<td>0.159</td>
<td>-1.869</td>
<td>0.566</td>
</tr>
<tr>
<td>Tobin’s Q</td>
<td>1.718</td>
<td>1.320</td>
<td>1.169</td>
<td>0.363</td>
<td>8.725</td>
</tr>
<tr>
<td>MTB</td>
<td>2.408</td>
<td>1.856</td>
<td>1.724</td>
<td>0.500</td>
<td>12.438</td>
</tr>
</tbody>
</table>

As Table 6.4 shows, the average ROA in the sample was 7.7%, ranging from -67.2% to 44.9%. This average is consistent with previous studies in emerging economies. For example, Klapper and Love (2004) report the average ROA to be 10% in Malaysia, 6% in Pakistan and 5% in Turkey. Similarly, the average ROA was found to be 7.42% and 11% in Hong Kong and South Africa, respectively (Lam & Lee, 2008; Ntim, Opong, Danbolt, & Thomas, 2012). On the other hand, studies conducted in developed countries reveal a lower ROA compared with this study. For instance, ROA was found to be 3.09% in German and 3.30% in Canada (Gupta, Kennedy, & Weaver, 2009; Wulf et al., 2010).

The average ROE of the entire sample was 10.3%, with a minimum of -186.9% and a maximum of 56.6%. Previous studies conducted in Arabic countries show a similar average ROE. For example, the average ROE was found to be 11% in the UAE (Muzahem, 2011) and 14% in Egypt (Amer, Ragab, & Ragheb, 2014). Another study in Malaysia reveals a relatively lower ROE (6.73%) compared with this study (Shukeri et al., 2012). In addition, Berger and Bonaccorsi di Patti (2006) found the average ROE for US firms to be 10%, which is consistent with the findings of the current study.

Table 6.4 also shows that the average Tobin’s Q and MTB were 1.71 and 2.40, respectively. The highest Tobin’s Q ratio among the sampled firms was 8.72, whilst the lowest was 0.36. The MTB ratio ranged from 0.50 to 12.43. The average Tobin’s Q and MTB are consistent with previous studies in developing countries. For example, Klapper and Love (2004) report the average Tobin’s Q to be 1.95, 1.84, 1.73 and 1.90 in Hong Kong, Malaysia, Singapore and South Africa, respectively. Similarly, a study by Booth et al. (2001) found MTB ratio to be 2.3 in Malaysia and 1.9 in Turkey. On the other hand, the average Tobin’s Q and MTB found in this study were very low compared with developed countries. For instance, while the average MTB was found to be above 4.20 in the UK and the US, the average Tobin’s Q was reported to be about 3.0 in both countries (De Andres et al., 2005).
Figure 6.4 illustrates the trends in accounting-based measures (ROA and ROE) for the firms in the sample over a six-year period from 2009 to 2014.

Figure 6.4: The means of accounting-based measures between 2009 and 2014

The average ROA and ROE, as Figure 6.4 shows, slightly increased across the sample period. While ROA and ROE decreased noticeably in 2011, they increased significantly in 2012 from 6.7% to 8.8% and from 7.8% to 12.1%, respectively. Over the next two years, the average ROA and ROE decreased slightly to 8.2% and 11.2%, respectively.

Figure 6.5 illustrates the trends in market-based measures (Tobin’s Q and MTB) for the firms in the sample over a six-year period from 2009 to 2014.

Figure 6.5: The means of market-based measures between 2009 and 2014

As can be observed in Figure 6.5, the average Tobin’s Q and MTB increased gradually between 2009 and 2014. The average Tobin’s Q in the sample increased from 1.41 in 2009 to 2.01 in 2014. Similarly, the average MTB increased continuously from 1.93 in 2009 to 2.94 in 2014.
6.7.2 Independent Variables (Corporate Governance Mechanisms)

Different variables of corporate governance are investigated in this study including board of director characteristics, ownership structure and capital structure. The descriptive statistics of these variables are presented below.

6.7.2.1 Board of Director Characteristics

The study selects five characteristics of the board of directors: board independence, board size, CEO duality, CEO tenure and family CEO. The descriptive statistics of these characteristics are presented in Table 6.5.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>STD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board independence</td>
<td>0.38</td>
<td>0.38</td>
<td>0.09</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Board size</td>
<td>8.19</td>
<td>8</td>
<td>1.57</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>CEO duality</td>
<td>0.19</td>
<td>0</td>
<td>0.39</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>CEO tenure</td>
<td>5.62</td>
<td>4</td>
<td>4.38</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Family CEO</td>
<td>0.21</td>
<td>0</td>
<td>0.41</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 6.5 shows that the average board independence level was 38%, consistent with the CGRs in Saudi Arabia which require that at least one-third of board members should be independent. The table shows a large variation in the proportion of independent directors ranging from 0% to 100%. The average board independence in Saudi firms seems to be relatively similar to that in developing countries. For example, board independence was found to be 44% in Malaysia (Nor et al., 2014) and 45% in Nigeria (Akpan & Amran, 2014). However, compared with developed countries, the average board independence in Saudi firms is very low. De Andres et al. (2005) report the average board independence to be 74% in Canada and 80% in the US and France.

As Table 6.5 shows, the average board size was 8.19 members, with a minimum of 3 and a maximum of 11 members. This average is consistent with the CGRs in Saudi Arabia, which recommend that the number of board members should be between three and eleven members. The average board size observed in this study is in line with previous studies conducted in Saudi Arabia. For example, Al-Abbas (2009) report the average board size in Saudi firms to be 8.30. Similarly, the average board size was found to be 8.30 in Bangladesh (Al Farooque et al., 2007), 8.32 in Jordan (Alwshah, 2009) and 7.97 in Malaysia (Haniffa & Hudaib, 2006). The average board size in Saudi firms is also
consistent with the findings of previous studies in developed countries. For instance, board size was found to be 7.96 in the UK, 8.91 in the US and 8.06 in Australia (El-Faitouri, 2014; Faleye, 2007; Henry, 2008).

The average CEO duality in the sample was only 19%. This low level of CEO duality in Saudi firms can be attributed to the CGRs, which recommend the separation of the CEO and chairman positions. The average CEO duality in Saudi firms is well below the average in many developing and developed countries. For example, it is found that the average CEO duality was 39%, 36% and 61% in Bangladeshi, South African and Egyptian firms, respectively (Al Farooque et al., 2007; Mangena & Chamisa, 2008; Samaha et al., 2012). Similarly, the average CEO duality was found to be 78% in the US (Faleye, 2007) and 55% in different European countries including Denmark, France and Germany (Chen, 2014).

With regard to CEO tenure, the average was 5.62 years and the longest CEO tenure was 25 years. This average is consistent with studies conducted in emerging economics. For instance, CEO tenure was found to be 5.44 in Tunisian firms, 7.0 in Kuwaiti firms and 7.05 in Ghanaian firms (E. Al-Matari et al., 2012; Lassoued & Attia, 2013; Tornyeva & Wereko, 2012). Recently, Baatwah, Salleh, and Ahmad (2015) report the average CEO tenure to be 5.22 in Omani firms. The average CEO tenure in Saudi firms is also similar to the average reported in the US and the UK (5.5 and 6.8, respectively) (Coates & Kraakman, 2007; Dimopoulos & Wagner, 2012).

The last characteristic of board of directors investigated in this study is family CEO. The sample included 383 family firms, which represent 60% of the total firms in the sample. As shown in Table 6.5, the average family CEO across the entire sample was 21%, whereas the average family CEO among family firms was 34%. This finding indicates that family firms are much more likely to adopt a family CEO. While the average family CEO among Saudi firms is relatively lower than the average in Taiwanese firms which was found to be 53% (Chen, Gray, & Nowland, 2013), it is very high compared with the findings of a study undertaken by Garcia-Castro and Aguilera (2014) which reveals that the average family CEO was 16% in a large cross-country sample including 38 countries.

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15 A firm is considered as a family firm if the controlling shareholder holds at least 5% of the firm’s total shares and at least one of his/her relatives by blood (i.e. sharing the same surname) serves either as CEO or chairman, or occupies a position on the board of directors.
Table 6.6 shows a comparison of the means of the board of director characteristics between 2009 and 2014.

Table 6.6: The means of board of director characteristics between 2009 and 2014

<table>
<thead>
<tr>
<th>Variable</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board independence</td>
<td>0.38</td>
<td>0.39</td>
<td>0.39</td>
<td>0.39</td>
<td>0.38</td>
<td>0.38</td>
</tr>
<tr>
<td>Board size</td>
<td>8.14</td>
<td>8.11</td>
<td>8.13</td>
<td>8.17</td>
<td>8.23</td>
<td>8.34</td>
</tr>
<tr>
<td>CEO duality</td>
<td>0.19</td>
<td>0.18</td>
<td>0.17</td>
<td>0.18</td>
<td>0.18</td>
<td>0.22</td>
</tr>
<tr>
<td>CEO tenure</td>
<td>4.68</td>
<td>5.26</td>
<td>5.40</td>
<td>5.92</td>
<td>6.05</td>
<td>6.21</td>
</tr>
<tr>
<td>Family CEO</td>
<td>0.17</td>
<td>0.20</td>
<td>0.21</td>
<td>0.23</td>
<td>0.21</td>
<td>0.22</td>
</tr>
</tbody>
</table>

As shown in Table 6.6, the percentage of independent directors remained at the same level over the six years (38%). Similarly, the average board size remained generally stable over the period from 2009 to 2012 at 8.14 members, and then increased slightly in 2013 and 2014 to 8.23 and 8.34, respectively. The average CEO duality was also reasonably constant across time, although there was an increase from 18% to 22% in 2014. While the average CEO tenure was 4.68 in 2009, it increased consistently to 6.21 in 2014. Similarly, the proportion of firms with a family CEO also increased from 17% in 2009 to 22% in 2014.

6.7.2.2 Ownership Structure

The descriptive statistics of ownership structure for the entire sample period from 2009 to 2014 are presented in Table 6.7.

Table 6.7: Descriptive statistics of ownership structure

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>STD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership concentration</td>
<td>0.37</td>
<td>0.35</td>
<td>0.24</td>
<td>0.00</td>
<td>0.95</td>
</tr>
<tr>
<td>Government ownership</td>
<td>0.09</td>
<td>0.00</td>
<td>0.18</td>
<td>0.00</td>
<td>0.84</td>
</tr>
<tr>
<td>Family ownership</td>
<td>0.20</td>
<td>0.13</td>
<td>0.22</td>
<td>0.00</td>
<td>0.95</td>
</tr>
<tr>
<td>Institutional ownership</td>
<td>0.07</td>
<td>0.00</td>
<td>0.15</td>
<td>0.00</td>
<td>0.70</td>
</tr>
<tr>
<td>Managerial ownership</td>
<td>0.19</td>
<td>0.11</td>
<td>0.22</td>
<td>0.00</td>
<td>0.96</td>
</tr>
</tbody>
</table>

As Table 6.7 shows, the average ownership concentration in Saudi firms was 37%. The maximum percentage of shares owned by large shareholders was 95% and the minimum was 0%. This average is consistent with the findings of previous studies in Saudi Arabia. For example, AlNodel and Hussainey (2010) found the average ownership concentration to be 35% in Saudi firms. Similarly, Ahmad, Ishak, and Abd Manaf (2003) report the average ownership concentration to be 34% in Malaysian firms. However, there was a
higher level of ownership concentration in listed firms in Kenya (72%), South Africa (62%) and Egypt (57%) compared with Saudi firms (Barako, Hancock, & Izan, 2006; Ntim, Opong, Danbolt, et al., 2012; Samaha et al., 2012).

Regarding government ownership, the average was 9% among the sample and the highest level of government ownership was 84%. While Al-Moataz and Lakhal (2012) and Al-Janadi et al. (2013) report a similar level of government ownership in Saudi firms, Albassam (2014) found the average government ownership in Saudi firms to be 40%. The high level of government ownership reported by Albassam (2014) is due to the sample size used in the study which includes both financial and non-financial firms. His finding is not surprising given that government ownership in financial firms, especially in the banking sector, is very high. In Arabic countries, Al-Saidi and Al-Shammari (2015) report the average government ownership to be 7% in Kuwaiti firms. The same average was also found in Malaysian firms (Zakaria, Purhanudin, & Palanimally, 2014).

Among all types of ownership, family and managerial ownership were the largest types of ownership in Saudi firms with an average of 20% and 19%, respectively. For both family and managerial ownership, the maximum level was about 95% and the minimum was 0%. The similarity in the level of family and managerial ownership can be attributed to the involvement of family owners on the board of directors. Families with large ownership stakes in Saudi firms tend to participate in the management of investee firms. Similar findings were observed in some studies conducted in Saudi Arabia (Alghamdi, 2012; Attar, 2014). Similarly, studies undertaken by Zakaria et al. (2014) and Ghazali (2010) found family and managerial ownership in Malaysian firms to be 16% and 21%, respectively.

On the other hand, institutional ownership was the lowest type of ownership in Saudi firms. Across the entire sample, the average was 7%, with a minimum of 0% and a maximum of 40%. The low level of institutional ownership is consistent with previous studies in Saudi Arabia. For example, Albassam (2014) and Attar (2014) report the average institutional ownership to be 6% and 4%, respectively. This low level of institutional ownership could be attributed to the dominance of individual investors in the Saudi Stock Market. Similar levels of institutional ownership were reported by Aggarwal et al. (2011) who found the percentage of institutional ownership to be 8% in Greece,
Hong Kong and New Zealand. In contrast, there was a higher level of institutional ownership (over 50%) documented in Kenya, South Africa and the US (Barako et al., 2006; Chung & Zhang, 2011; Ntim, Opong, Danbolt, et al., 2012).

Figure 6.6 reports a mean-based comparison of ownership structure between 2009 and 2014.

![Figure 6.6: The means of ownership structure between 2009 and 2014](image)

As Figure 6.6 illustrates, the level of ownership concentration remained constant across the entire sample period (37%). Interestingly, the level of all types of ownership including government, family, institutional and managerial ownership were relatively constant over the six years (9%, 20%, 7% and 19%, respectively). These findings suggest that large shareholders of listed firms in Saudi Arabia have a direct and long investment horizon with the investee firms. These findings may also imply the absence of short-term institutional investors such as mutual funds and insurance companies.

### 6.7.2.3 Capital Structure

Table 6.8 shows the descriptive statistics of capital structure (debt ratio) for the entire sample period from 2009 to 2014.

<table>
<thead>
<tr>
<th>Year</th>
<th>Concentration</th>
<th>Family</th>
<th>Managerial</th>
<th>Government</th>
<th>Institutional</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>36%</td>
<td>19%</td>
<td>18%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>2010</td>
<td>38%</td>
<td>20%</td>
<td>19%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>2011</td>
<td>37%</td>
<td>20%</td>
<td>19%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>2012</td>
<td>37%</td>
<td>20%</td>
<td>19%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>2013</td>
<td>37%</td>
<td>20%</td>
<td>19%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>2014</td>
<td>37%</td>
<td>20%</td>
<td>19%</td>
<td>9%</td>
<td>7%</td>
</tr>
</tbody>
</table>
As can be observed in Table 6.8, the total debt ratio among Saudi listed firms was 20%, with large variations ranging from 0% to 67%. A similar debt ratio was found in previous studies concerning Saudi firms (Al-Abbas, 2009; Albassam, 2014). In developing countries, the debt ratio is also comparable with the finding of this study. Mule and Mukras (2015) and Haniffa and Cooke (2002) found a debt ratio to be 25% and 20% in Kenya and Malaysia, respectively. The table also shows that the average long-term debt ratio was higher than the average short-term debt ratio (12% and 8%, respectively). Both ratios indicate that Saudi firms use a lower level of debt compared with firms in most developed countries. For example, Hall, Hutchinson, and Michaelas (2000) report the long-term and short-term debt ratios to be 28.5% and 12%, respectively, in the UK. Figure 6.7 compares the means of capital structure of Saudi firms between 2009 and 2014.

As shown in Figure 6.7, the level of total debt increased slightly from 19% in 2009 to 21% in 2014. Similarly, the level of short-debt increased from 6% in 2009 to 9% in 2014. However, the average long-term debt remained stable at 12% over the six years from 2009 to 2014.

The descriptive statistics of the types of financing (Islamic and non-Islamic) are presented in Table 6.9.
Table 6.9: Descriptive statistics of the types of financing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type of financing</th>
<th>Mean</th>
<th>Median</th>
<th>STD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total debt ratio</td>
<td>Islamic</td>
<td>0.11</td>
<td>0.04</td>
<td>0.13</td>
<td>0.00</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>Non-Islamic</td>
<td>0.05</td>
<td>0.00</td>
<td>0.11</td>
<td>0.00</td>
<td>0.67</td>
</tr>
<tr>
<td>Long-term debt ratio</td>
<td>Islamic</td>
<td>0.06</td>
<td>0.00</td>
<td>0.09</td>
<td>0.00</td>
<td>0.49</td>
</tr>
<tr>
<td></td>
<td>Non-Islamic</td>
<td>0.03</td>
<td>0.00</td>
<td>0.08</td>
<td>0.00</td>
<td>0.67</td>
</tr>
<tr>
<td>Short-term debt ratio</td>
<td>Islamic</td>
<td>0.05</td>
<td>0.01</td>
<td>0.09</td>
<td>0.00</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td>Non-Islamic</td>
<td>0.02</td>
<td>0.00</td>
<td>0.06</td>
<td>0.00</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Table 6.9 indicates that there was a higher level of total Islamic debt than non-Islamic debt. While the average Islamic debt was 11%, the average non-Islamic debt was 5%. However, the maximum level of non-Islamic debt was higher than that of Islamic debt. The average long-term debt was slightly higher than the average short-term debt for both types of financing. Regarding Islamic financing, while the average long-term debt was 6%, the average short-term debt was 5%. Similarly, the level of long-term debt was 3% in non-Islamic debt compared with 2% for short-term debt. Figure 6.8 presents the means of the types of financing for all the firms in the sample between 2009 and 2014.

Figure 6.8: The means of the types of financing between 2009 and 2014

Notes: ISTD is total Islamic debt ratio, Non-ISTD is total non-Islamic debt ratio, ISLD is long-term Islamic debt ratio, Non-ISLD is long-term non-Islamic debt ratio, ISSD is short-term Islamic debt ratio and Non-ISSD is short-term non-Islamic debt ratio.

Figure 6.8 shows that, for all types of debt, the proportion of Islamic debt increased across the sample period, while the level of non-Islamic debt remained constant. For example,
the average total Islamic debt increased from 9% in 2009 to 12% in 2014, whereas the average non-Islamic debt remained constant at about 5% over the six years.

6.7.3 Control Variables

The descriptive statistics of the control variables for the entire sample period from 2009 to 2014 are presented in Table 6.10.

Table 6.10: Descriptive statistics of the control variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>STD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm age</td>
<td>2.62</td>
<td>2.71</td>
<td>0.91</td>
<td>0.00</td>
<td>4.08</td>
</tr>
<tr>
<td>Firm growth</td>
<td>0.13</td>
<td>0.07</td>
<td>0.51</td>
<td>-0.94</td>
<td>5.40</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>0.04</td>
<td>0.01</td>
<td>0.12</td>
<td>-0.78</td>
<td>0.96</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.20</td>
<td>0.17</td>
<td>0.18</td>
<td>0.00</td>
<td>0.67</td>
</tr>
</tbody>
</table>

The average firm age in the sample, as Table 6.10 shows, was 2.62 (13.74 years), ranging from 0 (1 year) to 4.08 (59 years). Regarding firm size, the average was 21.37 (which equates to a market value of $509 million), with a minimum of 14 ($0.32 million) and a maximum of 26.55 ($90 billion). The level of firm growth in the sample varied significantly across the firms. While the minimum of firm growth was -94%, the maximum was 540% and the average was 13%. The table also shows that the average capital expenditure was 4%, ranging from -78% to 96%. These findings are in line with previous studies conducted in Saudi Arabia. For example, Albassam (2014) report relatively similar results regarding the average firm age, firm size, firm growth and capital expenditure. The average leverage ratio, measured by total debt to total assets, was 20% and the standard deviation was 18%. Table 6.11 reports a mean-based comparison of all control variables between 2009 and 2014.

Table 6.11: The means of the control variables between 2009 and 2014

<table>
<thead>
<tr>
<th>Variable</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm age</td>
<td>2.82</td>
<td>2.75</td>
<td>2.70</td>
<td>2.58</td>
<td>2.53</td>
<td>2.42</td>
</tr>
<tr>
<td>Firm growth</td>
<td>0.04</td>
<td>0.16</td>
<td>0.20</td>
<td>0.15</td>
<td>0.10</td>
<td>0.15</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>0.05</td>
<td>0.04</td>
<td>0.04</td>
<td>0.05</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.19</td>
<td>0.19</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.21</td>
</tr>
</tbody>
</table>

While the average firm age decreased from 2.82 in 2009 to 2.42 in 2014, due to the increasing number of new firms listed on the Saudi Stock Exchange over the period, firm
size remained roughly stable at 21.30. Similarly, the average capital expenditure and leverage remained relatively constant at 4% and 20%, respectively. The average firm growth increased considerably from 4% in 2009 to 20% in 2011, followed by a sharp decline over the next two years, and then increased again in 2014 to 15%.

6.8 Data Analysis

This section discusses data analysis procedures and statistical techniques adopted in this study to investigate the relationship between corporate governance and firm performance. The study employs two different methods. The first method focuses on univariate analysis which includes ANOVA and t-tests. The second method introduces multivariate analysis which includes panel data regression. These two methods are explained in Subsections 6.8.1 and 6.8.2, respectively.

6.8.1 Univariate Analysis (ANOVA)

ANOVA is an exploratory analysis used to test hypotheses about the differences in the mean among different groups (Jackson, 2015). The null hypothesis for ANOVA is that all the population means are equal. The study uses ANOVA to analyse the differences in corporate governance mechanisms and firm performance. In order to use ANOVA, the data need to be split into different groups. There are different methods that can be used to split the data. However, due to the lack of theoretical basis for how the data should be split, the choice of a specific method should be based on its appropriateness to the data. That is, the selected method should divide the data into different groups with an adequate number of observations in each group.

The study uses the criterion of mean ± 0.50 standard deviation as the appropriate method for the data of this study. Based on this criterion, variables related to board of director, ownership structure and capital structure are divided into three groups:

1. High: all the scores falling above the mean + 0.50 standard deviation.
2. Medium: all the scores falling between the mean ± 0.50 standard deviation.
3. Low: all the scores falling below the mean − 0.50 standard deviation16.

Variables that are measured as dummy variables such as CEO duality, family CEO and

16 If the mean − 0.50 standard deviation is less than 5%, 5% is used as an alternative percentage.
Islamic financing are classified into two groups (yes/no).

One-way ANOVA tests and t-tests are performed to determine significant mean differences between corporate governance mechanisms (independent variables) and firm performance (dependent variables). While one-way ANOVA tests are used to examine whether the differences among groups are statistically significant, t-tests are employed to explain any significant differences that are identified through a comparison of pair wise differences. To ensure the validity of the ANOVA tests that are employed, Levene’s test for homogeneity of variances is used to verify that the variances are equal across groups. A p-value >0.05 is required before proceeding with the ANOVA test. For all variables, the results of Levene’s test indicate that there are no statistical significant differences in the variances, and thus the homogeneity of variance assumption was met.

It is important to stress that although the ANOVA analysis is employed to verify whether the differences between the groups are significant, it does not allow conclusions to be reached beyond the hypotheses. Because the results obtained from ANOVA analysis may be driven by omitted variables that can directly influence firm performance such as firm size, age, growth, capital expenditure, leverage and industry, the study uses regression analysis as the main analytical method to control for these variables that are not captured by performing the ANOVA analysis. Therefore, the conclusions of the ANOVA analysis are not the major findings of this study, but it helps to present and summarise data in a more meaningful way.

6.8.2 Multivariate Analysis (Regression Analysis)

The linear multiple regression analysis is the main analytical tool employed in this study. In order to answer the three research questions, the hypotheses related to each question are tested by using panel data regression for a period of six years between 2009 and 2014. Baltagi (2008) identifies a number of advantages of using panel dataset. First, “panel data give more informative data, more variability, less collinearity among the variables, more degrees of freedom and more efficiency” (Baltagi, 2008, p. 7). Second, as panel data contain a number of firms over a period of time, this helps control for unobserved heterogeneity. Third, they allow a better representation of the adjustment dynamics. Fourth, they are better able to capture and measure effects that cannot be detected in pure cross-section or pure time-series data. For instance, it is difficult to examine the effect of
changes in corporate governance mechanisms on firm performance in cross-section data because the impact of these changes needs to be examined over a number of years. Fifth, panel data models have the ability to test more complicated behavioural models. Finally, using a panel dataset helps avoid possible aggregation biases and mitigate the endogeneity problems (Baltagi, 2008).

Although a number of corporate governance studies have previously been conducted in Saudi Arabia, only a few studies have used panel data to examine the relationship between corporate governance and firm performance. Previous studies that use panel data have only examined a limited number of years, such as Al-Moataz and Hussainey (2012) who use two years of cross-section data. Unlike previous studies, this study uses panel data covering all non-financial listed firms in Saudi Arabia over a six-year period from 2009 to 2014.

The regression analysis allows for an investigation of the relationship between firm performance, as a dependent variable, and corporate governance mechanisms including board of director characteristics, ownership structure and capital structure, as independent variables. In addition, a set of control variables is selected to reduce endogeneity and possible omitted variable bias. This section includes four subsections. Subsection 6.8.2.1 presents the details of the model specifications for the empirical analysis. Subsection 6.8.2.2 provides the criteria and tests that are applied to determine the most appropriate panel regression model for this study. The underlying assumptions of statistical analysis are discussed in Subsection 6.8.2.3. Subsection 6.8.2.4 discusses the problems of endogeneity.

6.8.2.1 Model Specifications for Empirical Analysis

The study develops a number of regression models to test the relationship between firm performance and board of director characteristics, ownership structure and capital structure. These models are explained below.

6.8.2.1.1 Board of Director Characteristics and Firm Performance

To answer the first research question concerning the relationship between board of director characteristics and firm performance, the following regression models are developed.
The first model tests Hypothesis 1, which is related to the relationship between board independence and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{BIND}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \varepsilon_{it}$$  \hspace{1cm} (1)

The second model tests Hypothesis 2, which is related to the relationship between board size and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{BSZ}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \varepsilon_{it}$$  \hspace{1cm} (2)

The third model tests Hypothesis 3, which is related to the relationship between CEO duality and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{CEO}_D_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \varepsilon_{it}$$  \hspace{1cm} (3)

The fourth model tests Hypothesis 4, which is related to the relationship between CEO tenure and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{CEO}_T_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \varepsilon_{it}$$  \hspace{1cm} (4)

The fifth model tests Hypothesis 5, which is related to the relationship between family CEOs and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{FCEO}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \varepsilon_{it}$$  \hspace{1cm} (5)

$\text{Perf}_{it}$ is the dependent variable, which is one of the four measures of performance (ROA, ROE, Tobin’s Q and MTB) of firm $i$ in year $t$. The independent variables are $\text{BIND}_{it}$ which is board independence, $\text{BSZ}_{it}$ which is board size, $\text{CEO}_D_{it}$ which is CEO duality, $\text{CEO}_T_{it}$ which is CEO tenure and $\text{FCEO}_{it}$ which is family CEO. Controlling variables include $\text{FS}_{it}$ which is firm size, $\text{AGE}_{it}$ which is firm age, $\text{FG}_{it}$ which is firm growth, $\text{CAPEX}_{it}$ which is capital expenditure, $\text{LEV}_{it}$ which is leverage and $\text{IND}_{it}$ which is industry. The $\alpha$ term is...
the intercept, $\beta$ is the regression coefficient and $\epsilon_{it}$ is the error term or residual.

The study examines the relationship between firm performance and each of the five board characteristics separately to avoid multicollinearity problems. As explained later in Section 6.8.2.3, the correlation between some variables such as boards size and board independence, and CEO duality and family CEO are very high (above 0.80). Therefore, these variables should not be included in the same regression model.

### 6.8.2.1.2 Ownership Structure and Firm Performance

To answer the second research question concerning the relationship between ownership structure and firm performance, the following regression models are developed.

- The sixth model tests Hypothesis 6, which is related to the relationship between ownership concentration and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{OWN}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \epsilon_{it} \quad (6)$$

- The seventh model tests Hypothesis 7, which is related to the relationship between government ownership and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{GOV}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \epsilon_{it} \quad (7)$$

- The eighth model tests Hypothesis 8, which is related to the relationship between family ownership and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{FAM}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \epsilon_{it} \quad (8)$$

- The ninth model tests Hypothesis 9, which is related to the relationship between institutional ownership and firm performance:

$$\text{Perf}_{it} = \alpha + \beta_1 \text{INST}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{FG}_{it} + \beta_5 \text{CAPEX}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{IND}_{it} + \epsilon_{it} \quad (9)$$
The tenth model tests Hypothesis 10, which is related to the relationship between managerial ownership and firm performance:

$$Perf_{it} = \alpha + \beta_1 MAN_{it} + \beta_2 FS_{it} + \beta_3 AGE_{it} + \beta_4 FG_{it} + \beta_5 CAPEX_{it} + \beta_6 LEV_{it} + \beta_7 IND_{it} + \epsilon_{it}$$ (10)

$Perf_{it}$ is the dependent variable, which is one of the four measures of performance (ROA, ROE, Tobin’s Q and MTB) of firm $i$ in year $t$. The independent variables are $OWN_{it}$ which is ownership concentration, $GOV_{it}$ which is government ownership, $FAM_{it}$ which is family ownership, $INST_{it}$ which is institutional ownership and $MAN_{it}$ which is managerial ownership. Controlling variables include $FS_{it}$ which is firm size, $AGE_{it}$ which is firm age, $FG_{it}$ which is firm growth, $CAPEX_{it}$ which is capital expenditure, $LEV_{it}$ which is leverage and $IND_{it}$ which is industry. The $\alpha$ term is the intercept, $\beta$ is the regression coefficient and $\epsilon_{it}$ is the error term or residual.

Similar to the board of director variables, the variables related to ownership structure are examined separately to avoid any multicollinearity problems which occur due to the high level of correlation between investigated variables. As explained later in Section 6.8.2.3, the correlation between some variables such as family ownership and managerial ownership are very high (above 0.90).

**6.8.2.1.3 Capital Structure and Firm Performance**

To answer the third research question concerning the relationship between capital structure and firm performance, the following regression models are developed.

- Models 11 and 12 test Hypothesis 11, which is related to the relationship between capital structure and firm performance:
\[ \text{Perf}_{it} = \alpha + \beta_1 T_D_{it} + \beta_2 F_S_{it} + \beta_3 A G_E_{it} + \beta_4 F_G_{it} + \beta_5 C A P E X_{it} + \beta_6 I N D_{it} + \varepsilon_{it} \]  
(11)  
\[ \text{Perf}_{it} = \alpha + \beta_1 L_D_{it} + \beta_2 S_D + \beta_3 F_S_{it} + \beta_4 A G_E_{it} + \beta_5 F_G_{it} + \beta_6 C A P E X_{it} + \beta_7 I N D_{it} + \varepsilon_{it} \]  
(12)

- Models 13 and 14 test Hypothesis 12, which is related to the relationship between Islamic financing and firm performance:

\[ \text{Perf}_{it} = \alpha + \beta_1 T_D_{it} + \beta_2 I S * T_D_{it} + \beta_3 F_S_{it} + \beta_4 A G_E_{it} + \beta_5 F_G_{it} + \beta_6 C A P E X_{it} + \beta_7 I N D_{it} + \varepsilon_{it} \]  
(13)  
\[ \text{Perf}_{it} = \alpha + \beta_1 L_D_{it} + \beta_2 I S * L_D_{it} + \beta_3 S_D_{it} + \beta_4 I S * S_D_{it} + \beta_5 F_S_{it} + \beta_6 A G_E_{it} + \beta_7 F_G_{it} + \beta_8 C A P E X_{it} + \beta_9 I N D_{it} + \varepsilon_{it} \]  
(14)

\( \text{Perf}_{it} \) is the dependent variable, which is one of the four measures of performance (ROA, ROE, Tobin’s Q and MTB) of firm \( i \) in year \( t \). The independent variables are \( T_D_{it} \) which is total debt ratio, \( L_D_{it} \) which is long-term debt ratio, \( S_D_{it} \) which is short-term debt ratio, \( I S * T_D_{it} \) which is the interaction term between total Islamic debt and total debt ratio, \( I S * L_D_{it} \) which is the interaction term between long-term Islamic debt and long-term debt ratio and \( I S * S_D_{it} \) which is the interaction term between short-term Islamic debt and short-term debt ratio. Controlling variables include \( F_S_{it} \) which is firm size, \( A G_E_{it} \) which is firm age, \( F_G_{it} \) which is firm growth, \( C A P E X_{it} \) which is capital expenditure and \( I N D_{it} \) which is industry. The \( \alpha \) term is the intercept, \( \beta \) is the regression coefficient and \( \varepsilon_{it} \) is the error term or residual.

### 6.8.2.2 Panel Model Selection

To determine the most appropriate panel data regression model for this study, the Breusch-Pagan Lagrange Multiplier (LM) test and the Hausman test are applied. The LM test helps to identify the most suitable model between either the pooled OLS regression or the alternative random effects (RE) or fixed effects (FE) regression (Breusch & Pagan, 1980). The null hypothesis for the LM test is that the variances of the groups are zero. If the p-value is less than 0.05, then the null hypothesis is rejected, which means that the alternative random or fixed effects regression is more appropriate than OLS. The results of the LM test are presented in Table 6.12.
Table 6.12: Breusch-Pagan Lagrange Multiplier (LM) test

<table>
<thead>
<tr>
<th>Model</th>
<th>ROA</th>
<th>ROE</th>
<th>Tobin’s Q</th>
<th>MTB</th>
<th>OLS Vs. RE&amp;FE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chi²</td>
<td>p-value</td>
<td>Chi²</td>
<td>p-value</td>
<td>Chi²</td>
</tr>
<tr>
<td>1</td>
<td>636.44</td>
<td>0.000</td>
<td>598.21</td>
<td>0.000</td>
<td>558.79</td>
</tr>
<tr>
<td>2</td>
<td>640.66</td>
<td>0.000</td>
<td>602.54</td>
<td>0.000</td>
<td>564.65</td>
</tr>
<tr>
<td>3</td>
<td>639.68</td>
<td>0.000</td>
<td>598.66</td>
<td>0.000</td>
<td>575.00</td>
</tr>
<tr>
<td>4</td>
<td>615.13</td>
<td>0.000</td>
<td>577.96</td>
<td>0.000</td>
<td>584.21</td>
</tr>
<tr>
<td>5</td>
<td>620.22</td>
<td>0.000</td>
<td>571.06</td>
<td>0.000</td>
<td>570.70</td>
</tr>
<tr>
<td>6</td>
<td>601.46</td>
<td>0.000</td>
<td>580.05</td>
<td>0.000</td>
<td>562.53</td>
</tr>
<tr>
<td>7</td>
<td>591.91</td>
<td>0.000</td>
<td>579.20</td>
<td>0.000</td>
<td>576.14</td>
</tr>
<tr>
<td>8</td>
<td>616.45</td>
<td>0.000</td>
<td>578.95</td>
<td>0.000</td>
<td>576.60</td>
</tr>
<tr>
<td>9</td>
<td>627.99</td>
<td>0.000</td>
<td>584.16</td>
<td>0.000</td>
<td>605.74</td>
</tr>
<tr>
<td>10</td>
<td>612.43</td>
<td>0.000</td>
<td>575.92</td>
<td>0.000</td>
<td>578.36</td>
</tr>
<tr>
<td>11</td>
<td>644.14</td>
<td>0.000</td>
<td>609.90</td>
<td>0.000</td>
<td>576.05</td>
</tr>
<tr>
<td>12</td>
<td>618.19</td>
<td>0.000</td>
<td>591.14</td>
<td>0.000</td>
<td>575.22</td>
</tr>
<tr>
<td>13</td>
<td>666.31</td>
<td>0.000</td>
<td>584.16</td>
<td>0.000</td>
<td>605.74</td>
</tr>
<tr>
<td>14</td>
<td>615.17</td>
<td>0.000</td>
<td>568.97</td>
<td>0.000</td>
<td>578.10</td>
</tr>
</tbody>
</table>

As Table 6.12 shows, the null hypothesis is rejected for all the regression models with a p-value less than 0.01, which confirms that the pooled OLS regression is inappropriate and the alternative random or fixed effects regression is preferred.

As a second step, Hausman (1978) test is employed to choose between random and fixed effects models. The Hausman test is used to test the null hypothesis that the conditional mean of the disturbances given the regressors is zero. If the null hypothesis is accepted, the random effects model is more appropriate than the fixed effects model. Otherwise, if the null hypothesis is rejected, the fixed effects model should be used. The results of the Hausman test are presented in Table 6.13.

Table 6.13: Hausman specification test statistics

<table>
<thead>
<tr>
<th>Model</th>
<th>DV</th>
<th>Chi²</th>
<th>p-value</th>
<th>FE vs. RE</th>
<th>DV</th>
<th>Chi²</th>
<th>p-value</th>
<th>FE vs. RE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ROA</td>
<td>11.44</td>
<td>0.07</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>86.44</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>9.35</td>
<td>0.15</td>
<td>Random effects</td>
<td>MTB</td>
<td>109.03</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>2</td>
<td>ROA</td>
<td>10.5</td>
<td>0.10</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>86.33</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>7.39</td>
<td>0.28</td>
<td>Random effects</td>
<td>MTB</td>
<td>108.53</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>3</td>
<td>ROA</td>
<td>7.96</td>
<td>0.24</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>85.72</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>6.81</td>
<td>0.34</td>
<td>Random effects</td>
<td>MTB</td>
<td>108.04</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>4</td>
<td>ROA</td>
<td>9.32</td>
<td>0.15</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>82.04</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>6.25</td>
<td>0.39</td>
<td>Random effects</td>
<td>MTB</td>
<td>104.70</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>5</td>
<td>ROA</td>
<td>9.45</td>
<td>0.15</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>87.03</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>8.86</td>
<td>0.19</td>
<td>Random effects</td>
<td>MTB</td>
<td>110.11</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>6</td>
<td>ROA</td>
<td>12.50</td>
<td>0.06</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>89.45</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>11.65</td>
<td>0.07</td>
<td>Random effects</td>
<td>MTB</td>
<td>113.42</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>Model</td>
<td>DV</td>
<td>Chi²</td>
<td>p-value</td>
<td>FE vs. RE</td>
<td>DV</td>
<td>Chi²</td>
<td>p-value</td>
<td>FE vs. RE</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>-----------------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>7</td>
<td>ROA</td>
<td>8.68</td>
<td>0.19</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>85.61</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>9.74</td>
<td>0.13</td>
<td>Random effects</td>
<td>MTB</td>
<td>108.71</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>8</td>
<td>ROA</td>
<td>8.93</td>
<td>0.17</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>87.40</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>9.19</td>
<td>0.16</td>
<td>Random effects</td>
<td>MTB</td>
<td>110.24</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>9</td>
<td>ROA</td>
<td>8.89</td>
<td>0.03</td>
<td>Fixed effects</td>
<td>Tobin’s Q</td>
<td>95.54</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>13.42</td>
<td>0.17</td>
<td>Random effects</td>
<td>MTB</td>
<td>115.52</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>10</td>
<td>ROA</td>
<td>9.76</td>
<td>0.13</td>
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<td>Tobin’s Q</td>
<td>82.78</td>
<td>0.00</td>
<td>Fixed effects</td>
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<td></td>
<td>ROE</td>
<td>9.42</td>
<td>0.15</td>
<td>Random effects</td>
<td>MTB</td>
<td>105.91</td>
<td>0.00</td>
<td>Fixed effects</td>
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<tr>
<td>11</td>
<td>ROA</td>
<td>7.31</td>
<td>0.19</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>85.7</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>5.32</td>
<td>0.32</td>
<td>Random effects</td>
<td>MTB</td>
<td>108.30</td>
<td>0.00</td>
<td>Fixed effects</td>
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<tr>
<td>12</td>
<td>ROA</td>
<td>13.19</td>
<td>0.04</td>
<td>Fixed effects</td>
<td>Tobin’s Q</td>
<td>75.89</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>7.40</td>
<td>0.01</td>
<td>Fixed effects</td>
<td>MTB</td>
<td>110.34</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>13</td>
<td>ROA</td>
<td>7.56</td>
<td>0.27</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>78.32</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>13.15</td>
<td>0.14</td>
<td>Random effects</td>
<td>MTB</td>
<td>104.05</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>14</td>
<td>ROA</td>
<td>6.21</td>
<td>0.62</td>
<td>Random effects</td>
<td>Tobin’s Q</td>
<td>73.12</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>9.46</td>
<td>0.30</td>
<td>Random effects</td>
<td>MTB</td>
<td>104.84</td>
<td>0.00</td>
<td>Fixed effects</td>
</tr>
</tbody>
</table>

As can be observed in Table 6.13, the null hypothesis is supported for the majority of models which use accounting-based measures (ROA and ROE) as dependent variables, indicating that the random effects model is appropriate when ROA and ROE are used as firm performance measures. However, when using market-based measures (Tobin’s Q and MTB) as dependent variables, the null hypothesis is rejected for all the regression models. Therefore, the random effects model is rejected in favour of the fixed effects model when the models are estimated using Tobin’s Q and MTB.

### 6.8.2.3 Assumptions of Statistical Analysis

Statistical analysis relies on a variety of assumptions about the nature of the underlying data. If these assumptions are not met, the results often are not valid. Therefore, it is important to examine these assumptions to develop a valid and unbiased model to ensure estimated parameters have the right sign (Gujarati, 2003). Consistent with corporate governance studies (Gompers et al., 2003; Haniffa & Hudaib, 2006; Ntim & Soobaroyen, 2013; Rashid, 2009), the assumptions of statistical analysis including normality, multicollinearity, autocorrelation, heteroscedasticity and linearity are tested in order to make sure they are met and are valid.

#### A. Normality

The assumption of normality requires that data is normally distributed (Black, 2001; Cooke, 1998). According to Gujarati (2003), it is difficult for data to be perfectly
normally distributed, and thus a level of non-normality in some variables is expected. In addition, Jackson (2014) argues that slight violations of normality are not likely to affect the results. However, it is claimed that with large sample sizes, the violations of the assumption of normality are of little concern (Coakes, Steed, & Ong, 2009). In the same vein, Brooks (2008, p. 164) argues that “for sample sizes that are sufficiently large, violation of the normality assumption is virtually inconsequential”. Accordingly, as this study investigates a large sample size of 646 firm-year observations, it can be argued that the assumption of normality should not be a material concern.

In line with existing studies (Ntim, Opong, & Danbolt, 2012; Rashid, 2009), this study examines the normality of data using probability-probability (P-P), quintile-quintile (Q-Q) and histograms. In general, the findings reveal that the assumption of normality was not violated in this study\(^{17}\). While most of the variables that measure board of director characteristics were relatively normally distributed, ownership structure variables showed mixed results. For example, ownership concentration, family and managerial ownership were fairly normally distributed, whereas institutional and government ownership deviated from normality. Regarding performance measures, while ROA and ROE appeared to be normally distributed, Tobin’s Q and MTB were not approximately normally distributed. In addition, some control variables, including firm size, capital expenditure and firm growth were also not normally distributed. Consistent with previous studies (Albassam, 2014; Muzahem, 2011; Ramly, 2012), non-normality of the distribution in some variables was addressed by transforming the data. In addition, winsorising the data was used as a second step for the variables which were still not normally distributed after transforming the data. These variables were capital expenditure and firm growth. Winsorising the data was done at the 5% and 95% levels. Therefore, the 32 lowest and 32 highest values were replaced with 33\(^{\text{th}}\) and 614\(^{\text{th}}\) values, respectively. Transforming the data helps to avoid violation of the statistical analysis, check outliers and homogeneity, and moderate the issues of non-normality (Haniffa & Hudaib, 2006; Ntim, Opong, & Danbolt, 2012).

The normality of data was also tested using skewness and kurtosis. As a common rule, the data are considered to be normally distributed if the standard error of skewness of the

\(^{17}\) Because of the large dataset and for brevity reasons, the results are not reported.
data is within the range of ±1.96, and the standard kurtosis falls in the range of ±2 or ±3 (Gujarati, 2003; Haniffa & Hudaib, 2006; Randolph & Myers, 2013). Table 6.14 shows the value of skewness and kurtosis for all variables.

Table 6.14: Skewness, Kurtosis, VIF and Tolerance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>VIF</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.82</td>
<td>1.93</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.36</td>
<td>1.40</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>1.00</td>
<td>0.81</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>MTB</td>
<td>0.62</td>
<td>0.38</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>BIND</td>
<td>0.86</td>
<td>1.84</td>
<td>1.58</td>
<td>0.63</td>
</tr>
<tr>
<td>BSZ</td>
<td>0.11</td>
<td>-1.07</td>
<td>1.44</td>
<td>0.70</td>
</tr>
<tr>
<td>CEO</td>
<td>1.60</td>
<td>0.57</td>
<td>1.25</td>
<td>0.80</td>
</tr>
<tr>
<td>CEOT</td>
<td>1.27</td>
<td>1.54</td>
<td>1.15</td>
<td>0.87</td>
</tr>
<tr>
<td>FCEO</td>
<td>1.45</td>
<td>0.11</td>
<td>1.37</td>
<td>0.73</td>
</tr>
<tr>
<td>OWN</td>
<td>0.16</td>
<td>-1.08</td>
<td>1.35</td>
<td>0.74</td>
</tr>
<tr>
<td>GOV</td>
<td>1.04</td>
<td>-0.52</td>
<td>1.73</td>
<td>0.58</td>
</tr>
<tr>
<td>FAM</td>
<td>1.11</td>
<td>0.42</td>
<td>1.71</td>
<td>0.59</td>
</tr>
<tr>
<td>INST</td>
<td>1.53</td>
<td>0.57</td>
<td>1.42</td>
<td>0.70</td>
</tr>
<tr>
<td>MAN</td>
<td>1.19</td>
<td>0.54</td>
<td>1.74</td>
<td>0.58</td>
</tr>
<tr>
<td>TD</td>
<td>0.51</td>
<td>-0.94</td>
<td>1.78</td>
<td>0.56</td>
</tr>
<tr>
<td>LD</td>
<td>1.37</td>
<td>1.19</td>
<td>1.98</td>
<td>0.51</td>
</tr>
<tr>
<td>SD</td>
<td>1.67</td>
<td>2.06</td>
<td>1.48</td>
<td>0.68</td>
</tr>
<tr>
<td>IS*TD</td>
<td>1.12</td>
<td>0.14</td>
<td>1.42</td>
<td>0.70</td>
</tr>
<tr>
<td>IS*LD</td>
<td>0.77</td>
<td>-1.09</td>
<td>1.74</td>
<td>0.57</td>
</tr>
<tr>
<td>IS*SD</td>
<td>0.69</td>
<td>-1.02</td>
<td>1.45</td>
<td>0.69</td>
</tr>
<tr>
<td>FS**</td>
<td>-0.61</td>
<td>2.91</td>
<td>(1.50 to 1.93)</td>
<td>(0.67 to 0.52)</td>
</tr>
<tr>
<td>AGE**</td>
<td>-0.41</td>
<td>-0.63</td>
<td>(1.24 to 1.47)</td>
<td>(0.81 to 0.68)</td>
</tr>
<tr>
<td>FG**</td>
<td>1.19</td>
<td>1.93</td>
<td>(1.07 to 1.08)</td>
<td>(0.93 to 0.92)</td>
</tr>
<tr>
<td>CAPEX**</td>
<td>1.37</td>
<td>1.10</td>
<td>(1.21 to 1.23)</td>
<td>(0.82 to 0.81)</td>
</tr>
<tr>
<td>LEV**</td>
<td>0.51</td>
<td>-0.94</td>
<td>(1.78 to 1.80)</td>
<td>(0.56 to 0.55)</td>
</tr>
</tbody>
</table>

Notes: ** indicates control variables that are used in all models.

Table 6.14 shows that while the values of skewness for all variables fall between -0.61 and 1.67, the kurtosis values fall in the range from -1.09 to 2.06, except firm size which has a value of 2.91. The results of skewness and kurtosis analysis indicate that the data of this study are normally distributed. Based on the results of all the tests carried out to examine the normality assumption, it can be concluded that the assumption of normality was met in this study.

B. Multicollinearity

Multicollinearity refers to high correlations among the variables. It arises if a high correlation coefficient is found between two variables. It is argued that multicollinearity may be a problem if the correlation between two variables exceeds 0.80 (Gujarati, 2003;
Ramly, 2012). Following Rashid (2009) and Das, Dixon, and Michael (2015), the Pearson correlation coefficients (parametric) and Spearman correlation coefficients (non-parametric) are used to examine if there is multicollinearity among the independent variables.

Table 6.15 shows the correlation matrix for all variables used in this study. Overall, as the table shows, the results of both Pearson correlation coefficients and Spearman correlation coefficients are relatively constant in magnitude and direction. This supports the previous finding regarding the absence of any serious problem of non-normality among the variables in the models used in this study. According to Ntim and Soobaroyen (2013), similarity in results of Pearson and Spearman correlation coefficients suggests that no serious non-normality problems exist.

The results in Table 6.15 show a high level of correlation between some of board of director variables, ownership variables and capital structure variables. Regarding board of director variables, a high correlation was found between board independence (BIND) and board size (BSZ), and between CEO duality (CEOD) and family CEO (FCEO) (0.96 and 0.79, respectively). Two ownership variables which are family ownership (FAM) and managerial ownership (MAN) had a very high level of correlation (above 0.95). In addition, a number of variables related to capital structure had a high level of correlation which are total debt ratio (TD) and both long-term debt ratio (LD) and short-term debt ratio (SD). Similarly, a high correlation was also found between the interaction term between total Islamic debt and total debt ratio (IS*TD) and both the interaction term between long-term Islamic debt and long-term debt ratio (IS*LD) and the interaction term between short-term Islamic debt and short-term debt ratio (IS*SD). Therefore, in order to avoid multicollinearity problems, the study investigates each of board of director variables, ownership variables and capital structure variables separately. Regarding the control variables, the results indicate that there were no strong correlations among these variables. The correlation matrixes of all the regression models adopted in this study reveal that the bivariate correlations were fairly low (less than 0.50), indicating that there are no serious multicollinearity problems in these models.
Table 6.15: Pearson and Spearman correlation matrices
Variable BIND BSZ
BIND

1

BSZ

-.960*** 1

-.998

***

**

.063

CEOT

-.120*** .087**

-.097

***

FCEO

.066

OWN

-.131*** .156***

-.106

***

GOV

.347

FAM

-.013

INST

-.079

MAN

-.052

-.419

***

.115

***

*

TD

-.055

LD

-.080** .111***

SD

.018

IS*TD

-.069* .063

IS*LD

-.114

***

IS*SD

.008

**

-.217

ROE

-.236*** .172***
***

***

.136

***

-.180

***

-.069*

***

.207***
**

.231

.221*** -.191*** .115***

AGE

.034

FS

-.493*** .430***

-.031

.085

-.140

***

-.096**

.145***
***

-.066

*

.181***

-.133

***

.453***

-.013

.058

-.072*

-.074*

**

.141***

***

.374***
.095

**

.110***
.008

CAPEX -.061

.035

.058

.071

FG

.007

-.025

.020

*

0.065

***

-.275

.115

-.012

***

-.241

***

.201***

.958***

**

***

.199***
.085

**

.157***

.219

.253***

.049

-0.032

1

.167

***

.329

-.096

-.049

.221***

-.010

-.089

.038

-.082**
***

-.280

***

.318

***

.092**

-.136

***

.144***

SD
-0.039

-.075

0.041

.098**

***

.104

.176***

.117***

***

*

0.016

.207

***

***

.223***

.143***

.473

.290***
-.337

***

***

.138

*

.121

.164***

0.036

.174

***

1

.584

.298***

.074

***

.200***

.043

.249***

.198

.375***

.054

.146

-.031

-.069*

.082

.105***

.010
.171

***

-.036

.511

-.209

.048

***

-.092

**

-.105*** -.026
-.336

***

-.207

***

.357***

***

***

.147

.203***

-.184

-.169

-0.013

***

-.085

**

.203***

0.007

.187

***

.210***

.253***

-0.051

-0.024

.581

.554

0.066

.536

.175***

-.188

***

.115

-0.014

.534***

.570***

.281***

-.157*** -0.010

***

***

***

0.026

.157

***

.864***

0.010

.164***

.302

.774***
***

.764***
-.068

-.230

-.233

1

.454

.147***

1

-.045

***

***

.603

-.057

.078*
-.228

***

-.141

.040

.261***

.363***

.036

.164

***

***

-.055

.061

.175

-.122

.117***

-.211
.036
.074

.122

0.055

.187***
.948

.921***
***

-.133*** -.004
***

-0.006

1

.052
***

*

-.023

.396

***

.355***
***

***

***

.347

***

.372***
***

-.061

-.164

.119***

.168***

.087

**

.122***

.146

-.383

***

***

.149***

-0.073

*

-0.010
-.290

***

.497***
-.125

***

.106***
-.158

***

.396

***

.459

***

-.304*** -.083**

0.024

-.147

-.125

***

-.506

***

*

***

-.290

***

.114

***

-.332*** -0.026
-.266

***

.441

***

-.348*** -.156*** -.215*** .461***
-.180

***

-0.019

-.223*** -.078**
-.224

***

-.110

***

-.119*** 0.008
.405

***

.360***

1

-0.004

FS

-.338*** .340***

0.063

0.065

-.089**
***

.264***

.117***

0.005

.124

.091

**

.166

***

.117

0.022

.085**
***

.213***

.092**

-0.004

**

*

.334

.112

*

.750

.595***

-.026

.310***

.132***

.168***

.290

.208

***

***

.140

.221***

***

-.164*** -.168*** -.049

**

.183

.312***

-.379

.069*

***

***

.048

***

***

.140***

-.023

-.273*** -.043

***

0.049

.178

***

.292***

***

-.268

.428***

***

.084**

-.418

.395***

.268***

.040

-.257

.130***

***

.067*
-.395

.111

0.070*

***

-0.072

1

***

0.044

AGE

-.165*** -.156*** 0.001

0.077*

.669

***

***

.163

***

.086

.563***

-.099**

***

.166

MTB

***

.224***

1

-.222

.200***

Q

0.027

.381***

***

.157***

***

-.208

***

-.166

.391***

.399***

ROE

0.047

***

1

***

-0.048

.108***

.719

ROA

**

.005

.440***

.121***

.084

.002

***

.222***

-.127

***

0.030

.859

***

***

-.111

***

.136

.536***
.524

*

***

0.045

.814***

***

-.064

.150

.229***

.208***
***

-.054
.311

0.078

.094

**

.080**

.073

***

**

0.002

***

***

IS*TD IS*LD IS*SD

.105***

.293***
.113

-.082

LD

**

0.027

.247***

.051

TD

.261***

-.236*** 1

.043

**

0.056

-.232

**

.103***

.231

.335***

.275***

.112

***

-.108

***

***

.059
-.370

-.095**

-.145*** -.090**

-.024

***

.119

-.164

***

-0.065

-.236*** .920***

***

-.113*** .285***
***

.363***

.445***

-.011

***

.486

***

**

***

.178***

.240***

***

.114***

.128

.345

***

1

***

***

.117***

-.330

-.093

*

-.107

.229***
-.081

MAN

***

0.001

1

.371

INST

-0.005

.470***

.202***

.343***

***

FAM

-.016

-.063

.256

***

.292***

1

.125

-.303

.100**

-.196

***

.009

.055
.345

.204

.281***

.194***

0.065

.212

***

-.265

***

*

.158

.470***

.001

***

1

.189

.037

.026

.792

***

.354***
***

-.161

***

-.120*** .175***

.181***

.080

.145

***

.115

***

-.025

.131***

MTB

-.206

.327

***

Q

-.018

***

.171***

.057

.171***

***

ROA

.151

.792

.124

-.001
***

1

.015

-.025

.098

.263

.226***

.308***

.012
.075

-.102

1

.345***

-.013
**

.105

***

-.110*** .097**

CEOD

*

CEOD CEOT FCEO OWN GOV

.191

***

-.261*** .364***
-.189

***

.417

***

-.219*** .177***

FG

-0.013

-0.031

0.011

0.031

0.061

0.030

.143***

.146***

***

0.065*

.241***

.125***

0.000

0.014

.158***

0.021

0.073

.091**

.178***

0.073*

***

.101**

.124

.108

.112***
.092

**

.145***
0.048

.198***

.147***

***

.172***

.169***

.105***

***

.235***

.204

***

-0.028

0.046

.135

.380***

-.089**

.145***

.193***

.271***

0.026

-0.035

0.064*

0.001

.355

1

.937

.946***

1

-.037

-.180

***

CAPEX

***

-0.041

-.407

***

-.123*** -.304***

-.139

***

1

-.386*** -.328*** .004
**

.038

.085

-.072*

-.033

-.203

***

***

-.138***

0.035

-.188

1

0.075*

.126***

1

.191***

.115***

1

.116

***

-.106*** .094**

Notes: The bottom left half of the table contains Pearson’s parametric correlation coefficients, whereas the upper right half of the table shows Spearman’s non-parametric correlation coefficients. ***, ** and * indicate
significance at 1%, 5% and 10% levels, respectively. BIND is board independence, BSZ is board size, CEOD is CEO duality, CEOT is CEO tenure, FCEO is family CEO, OWN is ownership concentration, GOV is
government ownership, FAM is family ownership, INST is institutional ownership, MAN is managerial ownership, TD is total debt ratio, LD is long-term debt ratio, SD is short-term debt ratio, IS*TD is the interaction
term between total Islamic debt and total debt ratio, IS*TD is the interaction term between long-term Islamic debt and long-term debt ratio, IS*SD is the interaction term between short-term Islamic debt and short-term
debt ratio, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, AGE is firm age, FS is firm size, CAPEX is capital expenditure and FG is firm growth.

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According to Gujarati (2003), multicollinearity may still exist even if the correlation between variables is small. Therefore, the study uses another two additional tests to examine the presence of multicollinearity among the variables in each model. Following Uwuigbe (2013) and Dam and Scholtens (2012), Variance Inflation Factor (VIF) and tolerance statistics tests are employed. Multicollinearity may be a problem if the VIF value is greater than 10 or the tolerance statistic is less than 0.10 (Gujarati, 2003). Table 6.14 shows the results of the tolerance and VIF tests. As can be observed in this table, the largest VIF value was 1.98, which is well below the critical value of 10. In addition, the tolerance values of all variables fall between 0.51 and 0.93. These results indicate that the variables used in this study are acceptable and free from multicollinearity problems, and thus the regression models are not afflicted by multicollinearity.

C. Heteroscedasticity

Heteroscedasticity refers to the circumstance in which the variance of the error term in a regression model is not constant. Thus, any non-constant variance of the residuals leads to heteroscedasticity. In line with Cooke (1998) and Abbaszaded and Taebi (2014), this study applies the Breusch-Pagan/Cook-Weisberg test to check for the presence of heteroscedasticity. The results indicate that almost all the regression models used in this study suffer from heteroscedasticity. An appropriate method to treat heteroscedasticity is to adopt Robust Standard Errors that address the issue of errors that are not independent and identically distributed (Alghamdi, 2012). Following Bharath, Jayaraman, and Nagar (2013) and Mitton (2002), the Robust Standard Errors method was used to account for the existence of heteroscedasticity.

D. Autocorrelation

Autocorrelation refers to the correlation of a time series with its own past and future values. The presence of autocorrelation may lead to incorrect standard errors. Similar to previous studies (Ajanthan, 2013; Ntim, Opong, Danbolt, et al., 2012), the Durbin-Watson test was used to test for autocorrelation. A value near 2 indicates non-autocorrelation. The results of all the regression models reveal that the values of Durbin-Watson range from 1.23 to 1.49, indicating the absence of autocorrelation.
E. Linearity

In order to use regression analysis, the relationship between dependent and independent variables need to be linear. Consistent with Alghamdi (2012), the residuals are plotted against the values of the independent variables. The results of all the regression models show that the relationship between dependent and independent variables was linear\(^\text{18}\). Consequently, the assumption of linearity was met.

6.8.2.4 Endogeneity Problems

Endogeneity may pose a serious problem when investigating the relationship between corporate governance and firm performance (Denis, 2001). It can lead to biased coefficient estimates, and thus faulty conclusions regarding the outcomes of the hypotheses (Chenhall & Moers, 2007). Endogeneity is “a term used to describe the presence of an endogenous explanatory variable in a multiple regression model that is correlated with the error term, either because of an omitted variable, measurement error, or simultaneity” (Wooldridge, 2009, p. 848).

The first cause of endogeneity is the omission of control variables. Black, Jang, and Kim (2006) argue that corporate governance likely correlates with economic variables, which makes the selection of control variables important to reduce endogeneity problems causes by omitted variables. The relationship between corporate governance and firm performance might be wrongly estimated if some economic variables that have a direct impact on both governance and performance are omitted (Chong & Lopez-de-Silanes, 2007). For example, firms with more growth opportunities tend to enhance their corporate governance practices in order to raise external finance. In such a circumstance, these firms may decide to increase the number of independent directors on the board or split the CEO and chairman roles. Thus, if a study does not control for these variables, the governance factors will capture the impact of the economic variables on the firm’s performance.

The second cause of endogeneity is measurement errors, which occur if the variables are imperfectly measured (Wooldridge, 2009). Measurement errors are more common in

\(^{18}\) Because of the large dataset and for brevity reasons, the results are not reported.
studies that investigate corporate governance based on indexes rather than single variables. This could be justified based on the econometric grounds that “the measurement error in computing a single variable such as a board’s stock ownership, for instance, might well be lower than that of an index, which requires accurate identification of a multitude of board processes, executive compensation practices and firm character and bylaw provisions” (Baker & Anderson, 2010, p. 104). Finally, endogeneity may occur due to simultaneity. Simultaneity arises when one or more of the explanatory variables is simultaneously determined by the dependent variables (Jo & Harjoto, 2011; Ntim, Opong, & Danbolt, 2012). In the governance-performance relationship, corporate governance mechanisms and control characteristics may be determined simultaneously with firm performance (Schultz & Tan, 2010). For instance, a firm may select board characteristics based on the expected performance.

Although endogeneity problems can increase the bias in the results, most previous studies of corporate governance, especially in the Saudi context, do not adequately address these problems. In order to address the potential endogeneity problems, this study adopts alternative approaches of econometric and statistical techniques. One of the statistical methods is to use both cross-sectional and time-series data. According to Borsch-Supan and Koke (2002), using panel data can help solve simultaneity problems. They argue that “panel data can provide instruments that are not available in cross-sectional data” (Borsch-Supan & Koke, 2002, p. 301). Therefore, using panel data from all non-financial listed firms in Saudi Arabia over a six-year period helps mitigate the simultaneity problems in this study. In addition, in line with Ntim, Opong, Danbolt, and Thomas (2012) and Black et al. (2006), a set of control variables is included in the regression models to address the potential impacts of endogeneity caused by omitted variables.

Following recent studies in addressing the problems of endogeneity (Owusu, 2012; Renders, Gaeremynck, & Sercu, 2010), the study also adopts a lagged structure method, which is considered as an appropriate technique to deal with simultaneity and omitted variables problems (Ammann et al., 2013). Larcker and Rusticus (2010) suggest that in corporate governance studies, estimating the lagged governance-performance relationship is an effective way to address endogeneity problems. The importance of
lagging governance mechanisms is that a firm’s corporate governance structures in a particular year may yield results in the following year. For example, splitting the roles of CEO and chairman may not influence firm performance in the same year it occurred, but it may affect firm performance in the following year. The lagged structure models are used to re-investigate the relationship between corporate governance mechanisms and firm performance. Therefore, the study re-estimates all the regression models presented in Section 6.8.2.1 with a one-year lag between firm performance (dependent variables) and corporate governance mechanisms (independent variables), using the following equation:

\[
Perf_{it} = \alpha + \beta_1 IVs_{it-1} + \beta_2 FS_{it-1} + \beta_3 AGE_{it-1} + \beta_4 FG_{it-1} + \beta_5 CAPEX_{it-1} \\
+ \beta_6 LEV_{it-1} + \beta_7 IND_{it} + \epsilon_{it-1}
\]

\(Perf_{it}\) is the dependent variable, which is one of the four measures of performance (ROA, ROE, Tobin’s Q and MTB) of firm \(i\) in year \(t\). \(IVs_{it-1}\) are the independent variables which represent the variables related to board of director characteristics, ownership structure and capital structure of firm \(i\) in year \(t-1\). Controlling variables include \(FS_{it-1}\) which is firm size, \(AGE_{it-1}\) which is firm age, \(FG_{it-1}\) which is firm growth, \(CAPEX_{it-1}\) which is capital expenditure, \(LEV_{it-1}\) which is leverage and \(IND_{it}\) which is industry. The \(\alpha\) term is the intercept, \(\beta\) is the regression coefficient and \(\epsilon_{it-1}\) is the error term or residual.

Given that the estimated lagged structure models are based on re-estimating each model by moving forward one year, year 2009 (the first year of the data) is excluded from the sample. In addition, new firms that are listed in the Saudi Stock Exchange in year 2014 are excluded. Therefore, the entire sample size is reduced from 646 to 516 firm-year observations.

### 6.9 Summary

This chapter presents the research paradigms, approach, design and methods used to carry out this study. The study is oriented in a positivist theoretical perspective, and the deductive approach is adopted to investigate the causal relationship between corporate governance and firm performance. The population of the study is made up of all non-
financial firms listed on the Saudi Stock Exchange (Tadawul) over a six-year period from 2009 to 2014. The final sample of the study includes 646 firm-year observations from 13 industries, which represents 70% of the total Saudi listed firms between 2009 and 2014. The study is based on secondary data that were obtained from audited financial statements and annual reports of the listed firms.

In order to investigate the relationship between corporate governance and firm performance, the study adopts a set of variables. For firm performance (dependent variables), the study selects two accounting-based measures which are ROA and ROE, and two market-based measures which are Tobin’s Q and MTB. Regarding independent variables, the study selects five characteristics of the board of directors (board independence, board size, CEO duality, CEO tenure and family CEO), five types of ownership (ownership concentration, government, family, institutional and managerial ownership) and two variables of capital structure (debt ratio and Islamic financing). In addition, the study uses a set of control variables which are firm size, firm age, firm growth, capital expenditure, leverage and industry.

The study employs two different methods to analyse the data which are ANOVA and regression analysis. A number of regression models are developed to test the relationship between corporate governance and firm performance. Based on the results of the Breusch-Pagan Lagrange Multiplier test and the Hausman test, the study adopts random effects and fixed effects models to analyse the data. In addition, the study tests all the assumptions of statistical analysis including normality, multicollinearity, autocorrelation, heteroscedasticity and linearity to make sure these assumptions are met and are valid before carrying out the analysis. Finally, a lagged structure method is also employed to deal with endogeneity problems.

The next chapter presents the results of the analysis concerning the relationship between board of director characteristics and firm performance along with a discussion of these results in light of the relevant literature.
Chapter Seven: Results and Discussion

Board of Director Characteristics and Firm Performance

7.1 Introduction

This chapter presents and discusses the results of the analysis conducted to answer the first research question concerning the relationship between board of director characteristics and Saudi firms’ performance. It presents the results of both univariate and multivariate analysis (ANOVA and regression analysis). As discussed in Chapter Five, five hypotheses are developed under the first research question. These hypotheses are related to five characteristics of the board of directors which are board independence, board size, CEO duality, CEO tenure and family CEO. The findings of the analysis undertaken to test each of these hypotheses are reported along with a discussion of the findings in light of the existing literature in Sections 7.2, 7.3, 7.4, 7.5, and 7.6. Section 7.7 presents and discusses the results of robustness tests carried out to deal with endogeneity problems. The chapter ends with a summary of the main findings.

7.2 Board Independence and Firm Performance

This section provides the findings of both ANOVA and regression analysis used to examine the first hypothesis which states that there is a negative relationship between board independence and firm performance.

As an initial step to examine the relationship between board independence and firm performance, an ANOVA test is used to compare firm performance among various levels of board independence. Based on the criterion used in this study, the sample is divided into three levels of board independence:

---

19 Because the results obtained from ANOVA may be driven by other omitted variables that can directly influence firm performance such as firm size, growth and leverage, regression analysis is used as the main analytical method of this study to control for these variables.

20 The criterion used in this study is mean ± 0.50 standard deviation. The average board independence in the sample was 38% and the standard deviation was 9%. 

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High level: including firms with a proportion of independent directors more than 43% (the mean + 0.50 standard deviation).

Medium level: including firms with a proportion of independent directors between 33% and 43% (the mean ± 0.50 standard deviation).

Low level: including firms with a proportion of independent directors less than 33% (the mean − 0.50 standard deviation).

Table 7.1 provides the means of the four firm performance measures for each level of board independence.

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 43%)</td>
<td>71</td>
<td>0.022</td>
<td>0.025</td>
<td>2.517</td>
<td>3.193</td>
</tr>
<tr>
<td>Medium (33% to 43%)</td>
<td>272</td>
<td>0.084</td>
<td>0.113</td>
<td>1.934</td>
<td>2.505</td>
</tr>
<tr>
<td>Low (less than 33%)</td>
<td>303</td>
<td>0.088</td>
<td>0.123</td>
<td>1.703</td>
<td>2.121</td>
</tr>
</tbody>
</table>

As Table 7.1 illustrates, the majority of Saudi firms (89%) have less than 43% of independent directors on the board. As the table shows, the performance of firms with a medium level of board independence and those with a low level were relatively similar under all performance measures. Regarding accounting-based measures (ROA and ROE), firms with a low or medium level of board independence performed better than those with a high level of board independence. On the other hand, firms with a high level of board independence achieved higher Tobin’s Q and MTB than other firms with a low or medium level. The differences in the means of firm performance among the three levels of board independence can be observed in Figure 7.1.
In order to examine whether the differences among the three levels of board independence are statistically significant, a one-way ANOVA test is used. In addition, a t-test is used to find out whether a significant difference between each pair of levels exists. Table 7.2 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three levels of board independence.

Table 7.2: ANOVA and t-test results for the differences in the means of performance among the three levels of board independence

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th></th>
<th>t-test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
<td>t</td>
<td>p-value</td>
</tr>
<tr>
<td>ROA</td>
<td>18.43</td>
<td>0.00</td>
<td>-6.46</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>17.57</td>
<td>0.00</td>
<td>-6.67</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>14.67</td>
<td>0.00</td>
<td>5.47</td>
<td>0.00</td>
</tr>
<tr>
<td>MTB</td>
<td>12.41</td>
<td>0.00</td>
<td>5.24</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Medium &amp; Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>t</td>
</tr>
<tr>
<td>ROA</td>
<td>-5.12</td>
<td>0.00</td>
<td>-0.61</td>
<td>0.54</td>
</tr>
<tr>
<td>ROE</td>
<td>-4.64</td>
<td>0.00</td>
<td>-0.98</td>
<td>0.32</td>
</tr>
<tr>
<td>Q</td>
<td>3.39</td>
<td>0.00</td>
<td>2.54</td>
<td>0.01</td>
</tr>
<tr>
<td>MTB</td>
<td>2.69</td>
<td>0.01</td>
<td>2.79</td>
<td>0.01</td>
</tr>
</tbody>
</table>

As can be observed in Table 7.2, the results of the ANOVA test indicate that there are significant differences in the means of all performance measures among the three levels of board independence. The results of the t-tests show that there are significant differences in means between the high and low levels and between the high and medium levels of board independence based on all performance measures. Whereas there are no significant differences in means between the medium and low levels of board independence under
ROA and ROE, the differences in means between these two levels are significant based on Tobin’s Q and MTB.

The study uses regression analysis as the main analytical method to test the first hypothesis. Table 7.3 shows the regression results for Model 1 which is used to investigate the relationship between board independence and firm performance.

Table 7.3: Regression analysis of board independence and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>ROA Random Effects</th>
<th>ROE Random Effects</th>
<th>ROA Fixed Effects</th>
<th>ROE Fixed Effects</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.202***</td>
<td>-0.329***</td>
<td>1.362</td>
<td>6.812***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2.82)</td>
<td>(-3.01)</td>
<td>(1.12)</td>
<td>(3.75)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIND</td>
<td>-0.030*</td>
<td>-0.078***</td>
<td>-0.021</td>
<td>-0.058</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-1.68)</td>
<td>(-2.70)</td>
<td>(-0.37)</td>
<td>(-0.82)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.011***</td>
<td>0.017***</td>
<td>0.010</td>
<td>0.034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3.34)</td>
<td>(3.34)</td>
<td>(0.22)</td>
<td>(0.50)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.011*</td>
<td>-0.024***</td>
<td>-0.522***</td>
<td>-2.798***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-1.66)</td>
<td>(-2.49)</td>
<td>(-4.92)</td>
<td>(-17.32)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.055***</td>
<td>0.077***</td>
<td>-0.013</td>
<td>-0.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(7.69)</td>
<td>(6.63)</td>
<td>(-0.65)</td>
<td>(-0.54)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.014</td>
<td>-0.002</td>
<td>0.188*</td>
<td>0.255**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-0.52)</td>
<td>(-0.04)</td>
<td>(2.06)</td>
<td>(2.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.157***</td>
<td>-0.168***</td>
<td>-0.076</td>
<td>0.160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-6.58)</td>
<td>(-4.45)</td>
<td>(-0.77)</td>
<td>(1.11)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.150</td>
<td>0.126</td>
<td>0.828</td>
<td>0.795</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.198***</td>
<td>6.095***</td>
<td>24.810***</td>
<td>20.182***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, BIND is board independence, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. *** and * indicate significance at 1%, 5% and 10% levels, respectively.

As shown in Table 7.3, the regression coefficients suggest that there is a significant negative relationship between board independence and firm performance measured by ROA and ROE at the 10% and 1% levels of significance, respectively. However, there is
no significant relationship between board independence and firm value measured by Tobin’s Q and MTB. Based on the regression results, the first hypothesis which suggests a negative relationship between board independence and firm performance is supported under ROA and ROE, whereas it is rejected under Tobin’s Q and MTB. The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the ANOVA test. However, after controlling for other factors that explain firm performance, the relationship between market-based measures of firm performance and board independence is not robust. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable.

The negative impact of board independence on firm performance measured by ROA and ROE is consistent with stewardship theory. This theory assumes that independent directors lack the relevant knowledge about the nature of the firm’s operations, which reduces their ability to improve firm performance (Weir & Laing, 2000). In addition, independent directors give inadequate effort and time to exercise their roles effectively which adversely affects firm performance (Jiraporn et al., 2009). Stewardship theory argues that firm performance is likely to be higher when inside directors represent a high proportion of the board due to their better understanding and relevant business experience which help them make superior decisions, and thus improve firm performance (Donaldson, 1990; Donaldson & Davis, 1994). Managers and executive directors are viewed by stewardship theory as good stewards whose actions are aligned with the objectives of shareholders. Accordingly, there is no need for extensive monitoring by independent directors. However, this finding of the study is inconsistent with agency theory which views managers as self-interested, and thus their actions are required to be controlled and monitored by independent directors to protect shareholders’ interests (Chalevas, 2011; Jensen & Meckling, 1976; Shleifer & Vishny, 1997).

In the Saudi context, the negative relationship between the proportion of independent directors on the board and firm performance (ROA and ROE) can be attributed to the process applied to establish the CGRs in Saudi Arabia. Consistent with corporate governance principles in Western countries which require a combination of both
dependent and independent directors on the board to achieve an optimal balance of both stewardship and agency goals, the CGRs in Saudi Arabia require that at least one-third of the board members should be independent directors. Although this composition of the board may be appropriate for Western countries and contribute positively to firm performance, this may not be the case in the Saudi context. Even though Saudi firms tend to appoint a sufficient number of independent directors on their boards to comply with the CGRs and gain legitimacy in society, a firm’s efficiency and performance may not be improved by adherence to such regulations due to the differences in the institutional environment between Saudi Arabia and Western countries from which these governance regulations were derived. Therefore, there are a number of issues related to the recently adopted requirements regarding independent directors in the context of Saudi firms. One issue is related to the appointment process of independent directors. It is argued that there is a lack of transparency and clarity in the selection process of independent directors in Saudi firms (Albassam, 2014; Ezzine, 2011). In addition, socio-cultural factors such as favouritism and tribalism significantly influence the appointment of independent directors in Saudi firms, given that membership of a board of directors is considered in Saudi society as a notable achievement (Alghamdi, 2012; Falgi, 2009). Moreover, political connections and informal social relations play an important role in the Saudi business environment (Al-Twaijry, 2011; Hussainey & Al-Nodel, 2008). Another issue is related to the qualifications and experiences of the independent directors. Al-Moataz (2003) argues that most independent directors in Saudi firms lack appropriate skills and experience. This could be attributed to the absence of clear and specific standards in terms of the qualifications and experiences that need to be met by candidates for membership of board of directors in Saudi firms. As a result, the presence of independent directors on the board negatively influences Saudi firms’ performance.

This finding of the study indicates that a higher proportion of inside directors on the board positively affects Saudi firms’ performance. This can be explained by reference to a number of factors affecting the Saudi business environment. Saudi society is extensively influenced by Islamic values which highlight the importance of justice, secretariat and truthfulness. Muslims are required to keep their promises, trusts and contracts as well as to stay away from unfair behaviour such as deception and stealing. Such values increase
the degree of trust in business transactions and financial affairs (Abeng, 1997). In addition, the appointment of managers and executives in Saudi firms is subject to their reputation and trust (Fischer & Manstead, 2000). A high level of consideration is taken by a firm’s owners to hire those who they know and trust. Accordingly, managers and executives in Saudi firms are considered as good stewards and trustworthy. The positive impact of inside directors on Saudi firms’ performance can also be attributed to the nature of ownership structure in Saudi firms. Due to the fact that many listed firms in Saudi Arabia were family firms converted to joint stock companies, inside directors possess superior knowledge about the nature of their firms compared with independent directors who lack such knowledge (Alsanosi, 2010). Consequently, they can effectively enhance firm performance more than independent directors.

The result of this study regarding the negative impact of independent directors is empirically consistent with previous studies. For example, Ghabayen (2012) examines the impact of independent directors on Saudi firms’ performance over a short time period (one year) and reports a negative relationship between board independence and ROA. Similarly, studies undertaken in developing countries including Malaysia (Shukeri et al., 2012), Mauritius (Mahadeo et al., 2012) and China (Zhang & Wang, 2013) reveal a negative impact of independent directors on ROA and ROE. On the other hand, this finding of the study is inconsistent with some studies in developed countries. For example, Ferreira and Kirchmaier (2013) found a positive relationship between independent directors and firm performance in 28 European countries. The same relationship is also reported in the US (Millstein & MacAvoy, 1998) and France (Ammari et al., 2014). This inconsistency could be attributed to the criteria used to select independent directors in those countries compared with Saudi Arabia. While the selection criteria for independent directors in most developed countries rely on the qualifications and relevant knowledge and experiences, they depend more on personal relationships in Saudi Arabia (Alghamdi, 2012; Hussainey & Al-Nodel, 2008). In addition, the absence of the legislative requirements that independent directors must have adequate experience and qualifications could be another reason for the apparent inadequacy of independent directors in improving Saudi firms’ performance.
The results presented in Table 7.3 also show that there is no significant relationship between board independence and firm value measured by Tobin’s Q and MTB. A similar result is found in studies conducted in Malaysia and Bangladesh (Haniffa & Hudaib, 2006; Rashid et al., 2010). On the other hand, this result differs from some studies that report a negative relationship between board independence and firm value in developed countries. This includes studies undertaken by Coles et al. (2008) in the US and Nicholson and Kiel (2003) in Australia. This inconsistency in the results could be attributed to the inefficiency of the Saudi Stock Market (Al Abdulhadi, Shetty, & Alshamali, 2015). Like many stock markets in developing countries, the Saudi Stock Market is subject to inherent market anomalies such as price fixing and insider trading, which restrict the ability of market-based measures such as Tobin’s Q and MTB to give a true picture of firm value (Al-Sahafi et al., 2015; Manawaduge, De Zoysa, & Chandrakumara, 2010).

Regarding the control variables, Table 7.3 shows that firm size and firm growth have a positive impact on accounting based measures (ROA and ROE), whereas capital expenditure is positively associated with firm value measured by Tobin’s Q and MTB. On the other hand, a negative relationship is found between firm age and firm performance under all measures of performance, and between leverage and firm performance only under accounting-based measures. These findings are consistent with the findings of previous studies. For example, Al-Dubai et al. (2014a) report that both firm size and firm growth are positively related to Saudi firms’ performance. Similarly, studies by Nor et al. (2014) and Al-Matari, Fadzil, and Al-Swidi (2014) reveal a positive relationship between these variables and firm performance among Malaysian and Omani firms. Capital expenditure is also found to have a positive impact on MTB in Bangladesh (Al Farooque et al., 2007). In addition, studies undertaken by Chen et al. (2013) in Taiwan and Arosa et al. (2013) in Spain show a negative impact of firm age on firm performance. The negative coefficient of leverage is in line with a number of previous studies. For instance, studies conducted in Oman, Kuwait, India and the UK reveal a negative relationship between leverage and firm performance measured by ROA and ROE (E. Al-Matari et al, 2012; Al-Matari et al., 2014; Jackling & Johl, 2009; Weir et al., 2002).
7.3 Board Size and Firm Performance

This section provides the results of both ANOVA and regression analysis used to examine the second hypothesis which states that there is a positive relationship between board size and firm performance.

As an initial step to examine the second hypothesis, an ANOVA test is used to compare firm performance among different board size groups. Based on the criterion used in this study, board size is categorised into three groups:

- Large size: including firms with a board size of 10 members or more (the mean ± 0.50 standard deviation).
- Medium size: including firms with a board size of 7 to 9 members (the mean ± 0.50 standard deviation).
- Small size: including firms with a board size of 6 members or less (the mean − 0.50 standard deviation).

Table 7.4 provides the means of the four firm performance measures for each size of board of directors.

<table>
<thead>
<tr>
<th>Size</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large (10 members or more)</td>
<td>102</td>
<td>0.081</td>
<td>0.118</td>
<td>1.571</td>
<td>1.904</td>
</tr>
<tr>
<td>Medium (7 to 9 members)</td>
<td>477</td>
<td>0.086</td>
<td>0.117</td>
<td>1.863</td>
<td>2.392</td>
</tr>
<tr>
<td>Small (6 members or less)</td>
<td>67</td>
<td>0.025</td>
<td>0.031</td>
<td>2.548</td>
<td>3.187</td>
</tr>
</tbody>
</table>

Table 7.4 shows that only 10% of Saudi firms are classified as having a small board size (6 members or less), whereas board size of the majority of Saudi firms ranged from 7 to 9 members. It can be seen that while firms with large boards and those with medium boards achieved relatively similar ROA and ROE, the performance of firms with a small board size was considerably lower in terms of accounting-based measures than other firms with large or medium boards. However, with respect to market-based measures,

---

21 The criterion used in this study is mean ± 0.50 standard deviation. The average board size in the sample was 8.19 members and the standard deviation was 1.57.
firms with a small board size achieved higher Tobin’s Q and MTB than other firms with large or medium boards.

The differences in the means of firm performance among the three groups of board size can be observed in Figure 7.2.

![Figure 7.2: Firm performance among the three groups of board size](image)

In order to examine whether the differences among the three groups of board size are statistically significant, a one-way ANOVA test and t-tests are used. Table 7.5 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three groups of board size.

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
</tr>
<tr>
<td>ROA</td>
<td>15.32</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>13.49</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>14.80</td>
<td>0.00</td>
</tr>
<tr>
<td>MTB</td>
<td>11.38</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As Table 7.5 shows, the results of the ANOVA test indicate that there are significant differences in the means of all performance measures (ROA, ROE, Tobin’s Q and MTB)
among the three groups of board size. The t-test results show that, for all measures of performance, the means of small board size are significantly different from the means of both large and medium board size. While there are no significant differences in the means between large and medium board size under accounting-based measures (ROA and ROE), the differences in the means between these two groups are significant based on market-based measures (Tobin’s Q and MTB).

In order to formally examine the relationship between board size and firm performance, regression Model 2 is employed. Table 7.6 shows the regression results from the estimation of this model.

Table 7.6: Regression analysis of board size and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td>-0.215***</td>
<td>-0.364***</td>
<td>1.327</td>
<td>6.760***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.82)</td>
<td>(-3.58)</td>
<td>(1.09)</td>
<td>(3.73)</td>
</tr>
<tr>
<td>BSZ</td>
<td></td>
<td>0.003</td>
<td>0.010**</td>
<td>0.004</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.82)</td>
<td>(2.12)</td>
<td>(0.49)</td>
<td>(0.84)</td>
</tr>
<tr>
<td>FS</td>
<td></td>
<td>0.012***</td>
<td>0.019***</td>
<td>0.010</td>
<td>0.035</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3.29)</td>
<td>(3.65)</td>
<td>(0.22)</td>
<td>(0.51)</td>
</tr>
<tr>
<td>AGE</td>
<td></td>
<td>-0.011</td>
<td>-0.025***</td>
<td>-0.514</td>
<td>-2.787***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.32)</td>
<td>(-2.19)</td>
<td>(-4.74)</td>
<td>(-17.03)</td>
</tr>
<tr>
<td>FG</td>
<td></td>
<td>0.055***</td>
<td>0.077***</td>
<td>-0.013</td>
<td>-0.014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.14)</td>
<td>(5.42)</td>
<td>(-0.65)</td>
<td>(-0.53)</td>
</tr>
<tr>
<td>CAPEX</td>
<td></td>
<td>-0.014</td>
<td>-0.001</td>
<td>0.189***</td>
<td>0.256**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.59)</td>
<td>(-0.02)</td>
<td>(2.06)</td>
<td>(2.01)</td>
</tr>
<tr>
<td>LEV</td>
<td></td>
<td>-0.158***</td>
<td>-0.173***</td>
<td>-0.077</td>
<td>0.160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-4.38)</td>
<td>(-3.34)</td>
<td>(-0.78)</td>
<td>(1.10)</td>
</tr>
<tr>
<td>IND</td>
<td></td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Adj. R²</td>
<td></td>
<td>0.148</td>
<td>0.124</td>
<td>0.828</td>
<td>0.795</td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td>7.104***</td>
<td>5.979***</td>
<td>24.825***</td>
<td>20.197***</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, BSZ is board size, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
As shown in Table 7.6, the regression coefficients suggest that there is a significant positive relationship between board size and ROE at the 5% level of significance. However, the other measures (ROA, Tobin’s Q and MTB) have a positive but insignificant relationship with board size. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on the regression results, the second hypothesis which suggests a positive relationship between board size and firm performance is supported under ROE, whereas it is rejected under ROA, Tobin’s Q and MTB. The outcome of the regression analysis where ROE is used as a firm performance is consistent with the results obtained from the ANOVA test. However, after taking into account the variables that influence firm performance, the relationship between board size and the other performance measures, namely ROA, Tobin’s Q and MTB, is not robust.

The positive relationship between board size and firm performance as measured by ROE is consistent with both stewardship theory and resource dependency theory. Stewardship theory argues that board size should be large enough to enhance firm performance by providing different skills, knowledge and experiences, which help make better decisions (Dalton et al., 1998; Setia-Atmaja et al., 2009; Yawson, 2006). In the same vein, resource dependency theory suggests that critical resources such as business contracts and finance are more easily secured by a firm with a large board, which in turn increases the firm’s opportunities to improve its operations (Goodstein et al., 1994; Pearce & Zahra, 1992). The positive impact of large boards on Saudi firms’ performance can be attributed to the fact that, in Saudi society, personal relationships are very important in arranging business contracts and enhancing the link between the firm and its environment, which help enhance firm performance (Adeyemi-Bello & Kincaid, 2012). This finding is empirically consistent with previous studies that reveal a positive relationship between board size and firm performance as measured by ROE. For example, Gull et al. (2013) and Amer et al. (2014) report a positive impact of a large board on ROE of Pakistani and Egyptian firms, respectively. The same positive relationship is also reported in Nigeria (Dabor, Isiavwe, Ajagbe, & Oke, 2015).
The results also show an insignificant positive relationship between board size and ROA. This non-significant impact of a large board size could be caused by the composition of the board. That is, the positive impact of board size, as stewardship and resource dependency theories assume, depends on the diversity of experiences and knowledge of the directors which help them participate effectively in the decision-making process (Dalton et al., 1998; Setia-Atmaja et al., 2009). However, if the board comprises a number of directors who are not qualified or lack the relevant knowledge about the nature of the firm’s operations, the advantages of large boards can be lost. In Saudi firms, the CGRs require that at least one-third of the board members should be independent directors. However, the majority of those directors, as argued by Al-Moataz (2003), lack appropriate skills and experience, and thus they negatively influence firm performance. This argument is supported by the finding of this study regarding the negative impact of independent directors on the performance of Saudi firms, as discussed in Section 7.2. Consequently, the existence of independent directors on the board mitigates the advantages of large board size which leads to the insignificant influence of large boards on ROA in Saudi firms. This finding is in line with a study conducted in Kuwaiti by E. Al-Matari et al. (2012) and reveals that there is no significant relationship between board size and ROA. Recently, Pratheepkanth, Hettihewa, and Wright (2015) investigate firms listed in Sri Lanka and report that the size of the board has no effect on ROA. On the other hand, this finding of the study is inconsistent with studies conducted in Malaysia and Ghana which reveal a positive impact of board size on firm performance measured by ROA (Nor et al., 2014; Tornyeva & Wereko, 2012).

Regarding market-based measures, the results presented in Table 7.6 indicate that there is no relationship between board size and Tobin’s Q or MTB. This finding is in line with previous studies in Saudi Arabia examining this issue over a short time period. For example, Al-Matari, Al-Swidi, and Fadzil (2012) investigate 135 Saudi firms in 2010 and report no significant impact of board size on firm value measured by Tobin’s Q. A similar result is also reported in Arabic countries. For example, a study investigating Egyptian firms reveals that there is a positive but insignificant relationship between board size and Tobin’s Q (Desoky & Mousa, 2012). The same relationship is also reported in a study conducted in India (Kumar & Singh, 2012). In contrast, this finding of the study is
inconsistent with some studies undertaken in developed countries, which generally show a positive association between board size and firm value. For instance, Coles et al. (2008) and Nicholson and Kiel (2003) report a positive relationship between board size and Tobin’s Q in both the US and Australia.

The regression results related to the control variables are similar to the results obtained from Model 1. While firm size and firm growth have a positive impact on ROA and ROE, capital expenditure is associated positively with Tobin’s Q and MTB. In contrast, a negative relationship is found between firm age and both ROE and MTB, and between leverage and both ROA and ROE. These results are discussed in Section 7.2.

7.4 CEO Duality and Firm Performance

This section presents the results of both t-tests and regression analysis employed to examine the third hypothesis which suggests a positive relationship between CEO duality and firm performance.

As an initial step to investigate the relationship between CEO duality and firm performance, a t-test\textsuperscript{22} is used to compare firm performance between the two types of board leadership structure (CEO duality and CEO non-duality). The sample is divided into two groups:

- CEO duality: including firms with a combination of the two positions (CEO and chairman of the board) in the same person.
- CEO non-duality: including firms with a separation of the two positions (CEO and chairman of the board) between two persons.

Table 7.7 provides the means of the four performance measures for CEO duality and non-duality firms.

\textsuperscript{22} Because the sample is divided into two groups, a t-test is used instead of an ANOVA test which is used if there are three or more groups in the sample.
Table 7.7: Performance of CEO duality and non-duality firms

<table>
<thead>
<tr>
<th>Leadership structure</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO duality</td>
<td>119</td>
<td>0.105</td>
<td>0.164</td>
<td>2.045</td>
<td>2.785</td>
</tr>
<tr>
<td>CEO non-duality</td>
<td>527</td>
<td>0.073</td>
<td>0.095</td>
<td>1.856</td>
<td>2.313</td>
</tr>
</tbody>
</table>

As Table 7.7 shows, firms with a dual CEO comprise only 19% of the total firms listed in Saudi Arabia. This can be attributed to the CGRs which recommend the separation of the CEO and chairman positions. The results reported in Table 7.7 suggest that the performance of firms that combine the role of CEO and chairman was much better than non-duality firms under all performance measures. Specifically, duality firms outperformed non-duality firms by 3.2%, 6.9%, 0.19 and 0.47 for ROA, ROE, Tobin’s Q and MTB, respectively. The differences in the means of firm performance between the two types of board leadership structure (CEO duality and CEO non-duality) can be seen in Figure 7.3.

Figure 7.3: Performance of CEO duality and non-duality firms

In order to examine whether the differences in the performance of CEO duality and non-duality firms are statistically significant, t-tests are used. Table 7.8 presents the results of the t-tests for the differences in the means of performance between the two types of board leadership structure (CEO duality and CEO non-duality).

204
Table 7.8: T-test results for the differences in the means of performance between CEO duality and non-duality firms

<table>
<thead>
<tr>
<th>Measure</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>3.68</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>5.33</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>1.59</td>
<td>0.11</td>
</tr>
<tr>
<td>MTB</td>
<td>2.71</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As shown in Table 7.8, the results of the t-tests indicate that there are significant differences in the means of ROA, ROE and MTB between CEO duality and non-duality firms, whereas the differences in the means under Tobin’s Q are not significant.

The study uses regression analysis as the main analytical method to test the third hypothesis. Table 7.9 shows the regression results for Model 3 which is used to investigate the relationship between CEO duality and firm performance.

Table 7.9: Regression analysis of CEO duality and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.217***</td>
<td>-0.356***</td>
<td>1.375</td>
<td>6.924***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.97)</td>
<td>(-3.20)</td>
<td>(1.11)</td>
<td>(3.77)</td>
<td></td>
</tr>
<tr>
<td>CEOD</td>
<td>0.018*</td>
<td>0.031**</td>
<td>0.013</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.79)</td>
<td>(1.95)</td>
<td>(0.43)</td>
<td>(0.19)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.013***</td>
<td>0.022***</td>
<td>0.012</td>
<td>0.036</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.02)</td>
<td>(4.35)</td>
<td>(0.25)</td>
<td>(0.52)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.011*</td>
<td>-0.025***</td>
<td>-0.532***</td>
<td>-2.833***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.64)</td>
<td>(-2.50)</td>
<td>(-5.07)</td>
<td>(-17.71)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.054***</td>
<td>0.075***</td>
<td>-0.014</td>
<td>-0.015</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.58)</td>
<td>(6.45)</td>
<td>(-0.72)</td>
<td>(-0.60)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.015</td>
<td>-0.003</td>
<td>0.188**</td>
<td>0.256**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.54)</td>
<td>(-0.06)</td>
<td>(2.06)</td>
<td>(2.02)</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.162***</td>
<td>-0.179***</td>
<td>-0.081</td>
<td>0.157</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-6.74)</td>
<td>(-4.69)</td>
<td>(-0.80)</td>
<td>(1.07)</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.149</td>
<td>0.121</td>
<td>0.828</td>
<td>0.795</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.175***</td>
<td>5.820***</td>
<td>24.816***</td>
<td>20.145***</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 7.9, the regression results of CEO duality and firm performance indicate that while CEO duality is positively associated with ROA and ROE (at the 10% and 5% levels of significance, respectively), the regression results do not show any significant relationship between CEO duality and firm value measured by Tobin’s Q and MTB. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on these results, the third hypothesis which suggests a positive relationship between CEO duality and firm performance is supported under accounting-based measures (ROA and ROE), whereas it is rejected under market-based measures (Tobin’s Q and MTB). The results of the regression analysis where ROA, ROE and Tobin’s Q are used as performance measures are consistent with the results obtained from the t-tests. However, after controlling for other factors that explain firm performance, the relationship between MTB and CEO duality is not robust.

The positive relationship between CEO duality and firm performance measured by ROA and ROE is in line with the perspective of stewardship theory which argues that CEOs are trustworthy and work in the best interests of all shareholders (Davis et al., 1997). Thus, “the fusion of the incumbency of the roles of chairman and CEO will enhance effectiveness and produce, as a result, superior returns to shareholders than separation of the roles of chairman and CEO” (Donaldson & Davis, 1991, p. 52). This theory assumes that CEO duality enhances a firm’s leadership to be clearer and more consistent for both directors and managers, since the power and the authority are concentrated in the same person (Donaldson & Davis, 1991). Consequently, the firm will gain the advantages of strong control and unity of direction in improving its performance. In addition, CEO duality helps avoid confusion among managers and facilitates making timely and optimal decisions (Hsu et al., 2012). From another perspective, this finding of the study supports institutional theory in that despite the positive impact of CEO duality on Saudi firms’
performance, the majority of Saudi firms (81%) tend to separate the CEO and chairman positions as a result of the pressure exercised by the CMA. Institutional theory suggests that firms may adopt corporate governance practices seeking legitimacy and social acceptance, regardless of the effectiveness of these practices (Saudagarvan & Diga, 1997). On the other hand, the positive impact of CEO duality observed in this study is contrary to agency theory which argues that CEO duality leads to expropriation of shareholders’ wealth by self-interested managers such as excessive pay in the form of salaries and compensations, which negatively influences firm performance (Chalevas, 2011; Jensen, 1993; Jensen & Meckling, 1976; Shleifer & Vishny, 1997).

The positive impact of CEO duality on Saudi firms’ performance can be attributed to the fact that CEOs in Saudi firms are considered trustworthy and their appointment are based on a person’s reputation and trust (Fischer & Manstead, 2000). Therefore, a combined CEO and chairman position promotes a strong and unified leadership with a clear sense of strategic direction, which leads to better firm performance (Lam & Lee, 2008). This finding supports the argument made by Siebels and Knyphausen-Aufseb (2012) that in a country where managers are considered trustworthy by a firm’s stakeholders, combining the roles of chairman and CEO could be the most appropriate system to make a firm more successful. Even though the CGRs in Saudi Arabia recommend splitting the CEO and chairman positions, the positive impact of CEO duality observed in this study indicates that this duality is financially advantageous for Saudi firms. This finding is consistent with a study by Lam and Lee (2008) who report a positive relationship between CEO duality and both ROA and ROE in Hong Kong. Recently, Peni (2014) found a similar result among firms in the US. However, this finding is different from some studies which reveal that CEO duality negatively affects firm performance (Dey et al., 2011; Haniffa & Hudaib, 2006; Ujunwa, 2012; Veprauskaitė & Adams, 2013).

The results of market-based measures indicate that there is no significant relationship between CEO duality and Tobin’s Q or MTB. This finding is consistent with the findings of some previous studies conducted in Saudi Arabia, which examine this issue using a small sample size and a single year period. For example, Y. Al-Matari et al. (2012) and Al-Abbas (2009) report that CEO duality has no impact on Tobin’s Q. A similar result is
revealed in studies by Elsayed (2007) in Egypt, Cheung et al. (2006) in Hong Kong and Nicholson and Kiel (2003) in Australia. On the other hand, this finding of the study is inconsistent with some studies that show either a positive or a negative relationship between CEO duality and firm value (Dahya et al., 1996; Faleye, 2007; Haniffa & Hudaib, 2006; Omran et al., 2008; Wellalage & Locke, 2011).

In terms of the control variables, the regression results show that while firm size and firm growth have a positive relationship with ROA and ROE, capital expenditure is positively related to Tobin’s Q and MTB. On the other hand, there is a negative relationship between firm age and firm performance under all measures of performance. A negative relationship is also observed between leverage and firm performance measured by ROA and ROE. These results are consistent with the findings of Models 1 and 2 which are discussed in Section 7.2.

7.5 CEO Tenure and Firm Performance

This section provides the results of both ANOVA and regression analysis used to investigate the fourth hypothesis which states that there is a positive relationship between CEO tenure and firm performance.

As an initial step to examine the fourth hypothesis, an ANOVA test is used to compare firm performance among different CEO tenure groups. Based on the criterion used in this study, CEO tenure is categorized into three groups:

- Long tenure: including CEOs who have served more than 7 years (the mean + 0.50 standard deviation).
- Medium tenure: including CEOs who have served between 4 to 7 years (the mean ± 0.50 standard deviation).
- Short tenure: including CEOs who have served less than 4 years (the mean − 0.50 standard deviation).

23 The criterion used in this study is mean ± 0.50 standard deviation. The average CEO tenure in the sample was 5.62 years and the standard deviation was 4.38.
A comparison of the means of the four firm performance measures for the three groups of CEO tenure is presented in Table 7.10.

Table 7.10: Firm performance among the three groups of CEO tenure

<table>
<thead>
<tr>
<th>CEO Tenure</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long (more than 7 years)</td>
<td>172</td>
<td>0.120</td>
<td>0.181</td>
<td>2.071</td>
<td>2.808</td>
</tr>
<tr>
<td>Medium (4 to 7 years)</td>
<td>209</td>
<td>0.085</td>
<td>0.117</td>
<td>1.720</td>
<td>2.102</td>
</tr>
<tr>
<td>Short (less than 4 years)</td>
<td>265</td>
<td>0.047</td>
<td>0.052</td>
<td>1.906</td>
<td>2.368</td>
</tr>
</tbody>
</table>

Table 7.10 illustrates that about 27% of the CEOs in Saudi firms have tenure of more than 7 years. Under all performance measures, long-tenured CEOs achieved considerably higher performance than other CEOs with medium or short tenures. In addition, while medium-tenured CEOs outperformed short-tenured CEOs in terms of ROA and ROE, CEOs with short tenures achieved relatively better firm value measured by Tobin’s Q and MTB compared to their peers with medium tenures.

The differences in the means of firm performance among the three groups of CEO tenure can be observed in Figure 7.4.

Figure 7.4: Firm performance among the three groups of CEO tenure

In order to examine whether the differences among the three groups of CEO tenure are statistically significant, a one-way ANOVA test and t-tests are used. Table 7.11 presents the results of the ANOVA and the t-tests for the differences in the means of performance
among the three groups of CEO tenure.

Table 7.11: ANOVA and t-test results for the differences in the means of performance among the three groups of CEO tenure

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
</tr>
<tr>
<td>ROA</td>
<td>43.14</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>62.16</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>4.78</td>
<td>0.01</td>
</tr>
<tr>
<td>MTB</td>
<td>8.13</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As can be observed in Table 7.11, the results of the ANOVA test show that there are significant differences in the means of all performance measures among the three groups of CEO tenure. The t-test results indicate that there are significant differences in means between all pairs of CEO tenure groups under ROA and ROE. However, the results of the t-tests related to Tobin’s Q and MTB are mixed. While there are significant differences in means between CEOs with long tenure and those with medium tenure, the differences in means between medium CEO tenure and short CEO tenure are not significant. In addition, there are no significant differences in means between long-tenured CEOs and short-tenured CEOs in terms of Tobin’s Q. However, the differences in means between these two groups are significant based on MTB.

In order to formally examine the relationship between CEO tenure and firm performance, regression Model 4 is employed. Table 7.12 shows the regression results from the estimation of this model.

Table 7.12: Regression analysis of CEO tenure and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.185***</td>
<td>-0.296***</td>
<td>1.397</td>
<td>6.921***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.51)</td>
<td>(-2.88)</td>
<td>(1.16)</td>
<td>(3.82)</td>
<td></td>
</tr>
<tr>
<td>CEOT</td>
<td>0.003***</td>
<td>0.006***</td>
<td>0.001</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.91)</td>
<td>(3.76)</td>
<td>(0.19)</td>
<td>(0.22)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.011***</td>
<td>0.018***</td>
<td>0.010</td>
<td>0.036</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 7.12, the regression coefficients suggest that there is a significant positive relationship between CEO tenure and firm performance, as measured by ROA and ROE, at the 1% level of significance. However, CEO tenure is not significantly related to either Tobin’s Q or MTB. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on the regression results, the fourth hypothesis which suggests a positive relationship between CEO tenure and firm performance is supported under ROA and ROE, whereas it is rejected based on Tobin’s Q and MTB. The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the ANOVA test. However, after taking into account the variables that influence firm performance, the relationship between market-based measures of firm performance and CEO tenure is not robust.

The positive relationship between CEO tenure and firm performance measured by ROA and ROE is consistent with stewardship theory, which argues that managerial skills and
experiences need a long time to be gained and they are not easily transferred or replicated (Hu & Alon, 2008). Consequently, CEOs with longer tenure have unique firm-specific and industry-specific knowledge which help manage the firm’s resources in more efficient and superior ways (Castanias & Helfat, 1991; Govindarajan, 1989). In addition, a longer CEO tenure develops a stronger sense of belonging to the firm, and thus increases the CEO’s level of stewardship behaviour (Davis et al., 1997). The positive impact of long tenure is also aligned with resource dependency theory, which suggests that the longer the CEO served in his/her position, the more knowledge and experience he/she will gain (Pfeffer, 1987). This theory also emphasizes the importance of human resources and relationships in improving firm performance. In this regard, customer relations are considered as a valuable resource and pathway for CEO tenure to enhance firm performance. On the other hand, this finding of the study is contrary to agency theory which assumes that CEO tenure negatively affects firm performance. A longer CEO tenure, as agency theory claims, leads to an increase in the CEO’s power which can be used to obtain more private interests (Hill & Phan, 1991; Westphal & Zajac, 1995).

In the Saudi corporate context, the positive impact of CEO tenure on firm performance can be explained by reference to the nature of ownership structure in Saudi firms which is dominated by families. That is, firms that are controlled by family shareholders usually keep their CEOs for a long term, which in turn helps increase the CEOs’ understanding of the business and enhances their loyalty and commitment to the firm. (Adeyemi-Bello & Kincaid, 2012; Al Kahtani, 2013). In addition, because many listed firms in Saudi Arabia evolved from traditional family-owned firms, CEOs in these firms develop superior knowledge about the nature of their firms over the long tenure of their appointment, given that most of these firms have family members serving as CEOs (Alsanosi, 2010). As a result, long-serving CEOs can effectively improve the performance of Saudi firms. This result is in line with the findings of studies conducted in Arabic countries such as Oman and Tunisia (E. Al-Matari et al., 2014; Lassoued & Attia, 2013). Similarly, Tornyeva and Wereko (2012) and Hu and Alon (2008) report that CEO tenure has a positive impact on ROA and ROE among Ghanaian and Chinese firms, respectively. The same positive impact is also reported in some developed countries such as the US and Germany (Dikolli et al., 2014; Henderson et al., 2006; Patel et al., 2012).
On the other hand, the results reported in Table 7.12 show no significant association between CEO tenure and firm value measured by Tobin’s Q and MTB. This finding is inconsistent with some studies that found a negative impact of CEO tenure on firm value (Al Farooque et al., 2007; Azar et al., 2014).

The results related to the control variables are similar to the results obtained from Models 1, 2 and 3. The results indicate that while firm size and firm growth have a positive impact on ROA and ROE, capital expenditure has a positive impact on Tobin’s Q and MTB. On the other hand, there is a negative relationship between firm age and ROE, Tobin’s Q and MTB. The same negative relationship is also found between leverage and both ROA and ROE. These results are discussed in Section 7.2.

### 7.6 Family CEO and Firm Performance

In order to examine the fifth hypothesis which states that firms with high family ownership that are run by a family CEO perform better than firms run by a non-family CEO, t-tests and regression analysis are employed. The results of both tests are provided in this section.

As an initial step, a t-test\(^2\) is used to compare firm performance according to family and non-family CEOs. The sample is divided into two groups:

- Family CEO: including firms that are run by a family CEO.
- Non-family CEO: including firms that are run by a non-family CEO.

The comparison between these two groups of CEOs is made firstly among only family firms\(^5\) and secondly across all firms in the sample. Table 7.13 provides the means of the four performance measures for firms with a family CEO and those with a non-family CEO based on family firms and all firms.

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\(^2\) Because the sample is divided into two groups, a t-test is used instead of an ANOVA test which is used if there are three or more groups in the sample.

\(^5\) A firm is considered as a family firm if the controlling shareholder holds at least 5% of the firm’s total shares and at least one of his/her relatives by blood (i.e. sharing the same surname) serves either as CEO or chairman, or occupies a position on the board of directors (Al-Dubai et al., 2014a; Tang, 2008).
Table 7.13: Performance of firms with family and non-family CEOs

<table>
<thead>
<tr>
<th>Sample</th>
<th>CEO</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firms</td>
<td>Family</td>
<td>131</td>
<td>0.122</td>
<td>0.195</td>
<td>2.081</td>
<td>2.915</td>
</tr>
<tr>
<td>(383 firms)</td>
<td>Non-family</td>
<td>252</td>
<td>0.064</td>
<td>0.083</td>
<td>1.531</td>
<td>1.932</td>
</tr>
<tr>
<td>All firms</td>
<td>Family</td>
<td>131</td>
<td>0.122</td>
<td>0.195</td>
<td>2.081</td>
<td>2.915</td>
</tr>
<tr>
<td>(646 firms)</td>
<td>Non-family</td>
<td>515</td>
<td>0.067</td>
<td>0.085</td>
<td>1.842</td>
<td>2.268</td>
</tr>
</tbody>
</table>

Table 7.13 shows that approximately 60% of the Saudi listed firms are considered as family firms. About 34% of those firms are run by a family CEO. The performance of family firms that are run by a family CEO was considerably higher than family firms that are run by a non-family CEO under all performance measures. Specifically, family firms with a family CEO achieved double the performance of family firms run by a non-family CEO based on ROA and ROE. In terms of Tobin’s Q and MTB, there was about a 50% increase in the performance of family firms with a family CEO compared to those with a non-family CEO. Similar results were found when comparing the performance of family CEOs with non-family CEOs using a sample comprised all firms. The differences in the means of firm performance between family and non-family CEOs can be seen in Figure 7.5 and 7.6.

Figure 7.5: Performance of firms with family and non-family CEOs (family firms)
In order to examine whether the differences in performance of firms with a family CEO and those with a non-family CEO are statistically significant, a t-test is used. Table 7.14 presents the results of the t-tests for the differences in the means of performance between family and non-family CEOs.

Table 7.14: T-test results for the differences in the means of performance between family and non-family CEOs

<table>
<thead>
<tr>
<th>Measure</th>
<th>Family firms</th>
<th>All firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>p-value</td>
</tr>
<tr>
<td>ROA</td>
<td>8.02</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>8.97</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>6.08</td>
<td>0.00</td>
</tr>
<tr>
<td>MTB</td>
<td>6.08</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As Table 7.14 shows, the t-test results indicate that the differences in the means of all performance measures (ROA, ROE, Tobin’s Q and MTB) between a family CEO and a non-family CEO are statistically significant.

The study uses regression analysis as the main analytical method to test the fifth hypothesis. Table 7.15 shows the regression results for Model 5 which is employed to examine the relationship between family CEOs and firm performance based on a sample comprised only of family firms (383 firms).
As shown in Table 7.15, using a sample comprised only of family firms, the regression coefficients suggest that there is a significant positive relationship between family CEOs and firm performance measured by ROA and ROE at the 1% level of significance. However, there is a positive but insignificant relationship between family CEOs and firm value as measured by Tobin’s Q and MTB.

Table 7.16 provides the regression results of the relationship between family CEOs and firm performance based on a sample comprised all firms (646 firms).
As can be observed in Table 7.16, the results of the regression analysis based on a sample comprising all firms indicate that a significant positive association exists between family CEOs and firm performance under accounting-based measures (ROA and ROE) at the 1% level of significance. On the other hand, there is an insignificant positive relationship between family CEOs and firm value as measured by Tobin’s Q and MTB. These results are consistent with the results obtained from a sample comprised only of family firms.

For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all the models explain a reasonably large amount of variation in the dependent variable. The regression results with ROA and ROE as the dependent

<table>
<thead>
<tr>
<th>IVs</th>
<th>ROA (Random Effects)</th>
<th>ROE (Random Effects)</th>
<th>Q (Fixed Effects)</th>
<th>MTB (Fixed Effects)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DVs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.230***</td>
<td>-0.382***</td>
<td>1.289</td>
<td>6.766***</td>
</tr>
<tr>
<td></td>
<td>(-2.97)</td>
<td>(-3.44)</td>
<td>(1.06)</td>
<td>(3.69)</td>
</tr>
<tr>
<td>FCEO</td>
<td>0.045***</td>
<td>0.087***</td>
<td>0.051</td>
<td>0.073</td>
</tr>
<tr>
<td></td>
<td>(3.99)</td>
<td>(4.06)</td>
<td>(0.85)</td>
<td>(0.84)</td>
</tr>
<tr>
<td>FS</td>
<td>0.013***</td>
<td>0.022***</td>
<td>0.015</td>
<td>0.042</td>
</tr>
<tr>
<td></td>
<td>(3.58)</td>
<td>(4.19)</td>
<td>(0.32)</td>
<td>(0.61)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.007</td>
<td>-0.018</td>
<td>-0.528***</td>
<td>-2.823***</td>
</tr>
<tr>
<td></td>
<td>(-0.87)</td>
<td>(-1.53)</td>
<td>(-5.09)</td>
<td>(-17.69)</td>
</tr>
<tr>
<td>FG</td>
<td>0.055***</td>
<td>0.075***</td>
<td>-0.014</td>
<td>-0.016</td>
</tr>
<tr>
<td></td>
<td>(6.16)</td>
<td>(5.26)</td>
<td>(-0.71)</td>
<td>(-0.62)</td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.017</td>
<td>-0.007</td>
<td>0.186**</td>
<td>0.252**</td>
</tr>
<tr>
<td></td>
<td>(-0.73)</td>
<td>(-0.13)</td>
<td>(2.07)</td>
<td>(2.02)</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.164***</td>
<td>-0.183***</td>
<td>-0.087</td>
<td>0.145</td>
</tr>
<tr>
<td></td>
<td>(-4.49)</td>
<td>(-3.50)</td>
<td>(-0.85)</td>
<td>(0.97)</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.163</td>
<td>0.145</td>
<td>0.828</td>
<td>0.795</td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.867***</td>
<td>6.949***</td>
<td>24.884***</td>
<td>20.226***</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, FCEO is family CEO, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
variables support the fifth hypothesis which states that firms with high family ownership that are run by a family CEO perform better than firms run by a non-family CEO. However, this hypothesis is rejected under Tobin’s Q and MTB. The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the t-tests. In contrast, after controlling for other variables that explain firm performance, the relationship between market-based measures of firm performance and family CEOs is not robust.

The positive relationship between family CEOs and firm performance measured by ROA and ROE is in line with stewardship theory which argues that family CEOs have the motivation and ability to run the firms in more efficient ways. Because family CEOs have strong concerns over family and firm reputation, they have higher non-financial rewards associated with firms’ success than other CEOs (Davis et al., 1997; Hillier & McColgan, 2009). In addition, family CEOs have a strong sense of belonging to the firm and a high level of awareness and relevant knowledge which help enhance firm performance (Fischer & Manstead, 2000). The positive impact of family CEOs found in this study, on the one hand, is consistent with an agency theory perspective which considers a family CEO as a good solution for eliminating the conflicts of interest between managers and shareholders (Anderson & Reeb, 2003; Jiang & Peng, 2011). This finding also provides empirical support for the argument that the positive effect of family CEOs should be particularly pronounced in developing countries where minority shareholder protection is low (Peng & Jiang, 2010). On the other hand, this finding of the study is contrary to the other perspective of agency theory which assumes that family CEOs can lead to agency problems between majority and minority shareholders. According to agency theory, family CEOs may expropriate minority shareholders’ interests by using their power to preferentially benefit the interests of their family (Burkart et al., 2003; Lansberg, 1983).

The positive impact of family CEOs on Saudi firms’ performance can be explained by the importance of family in Saudi social life (Adeyemi-Bello & Kincaid, 2012). Family reputation is very important in Saudi society and every member in a family takes special consideration of his/her family. A success of a family firm increases the prestige of the family name as well as the prestige of the CEO in the family, and thus a family CEO is
more concerned with the importance of the firm’s success compared with a non-family CEO. In addition, since Saudi listed firms comprise a large number of firms that were family firms, family CEOs possess knowledge and experience about the nature of their business, which help them improve firm performance (Adeyemi-Bello & Kincaid, 2012). This positive impact of family CEOs is consistent with the findings of studies by Adams et al. (2009) and Cai et al. (2012) who found a positive relationship between family CEOs and firm performance measured by ROA in the US and China, respectively. On the other hand, the results of this study regarding the insignificant relationship between family CEOs and firm value measured by Tobin’s Q and MTB is contrary to some studies that show a positive relationship between family CEOs and both Tobin’s Q and MTB (Adams et al., 2009; Amran, 2012; Caprio et al., 2007; Tan et al., 2001). As mentioned earlier, this inconsistency in the results could be attributed to the inefficiency of the Saudi Stock Market which makes market-based measures such as Tobin’s Q and MTB less likely to reflect the true value of firms (Al Abdulhadi et al., 2015).

The results presented in Table 7.16 regarding the control variables are similar to the results obtained from Models 1, 2, 3 and 4. Table 7.16 shows that while ROA and ROE are positively associated with both firm size and firm growth, they have a negative relationship with leverage. In addition, while Tobin’s Q and MTB have a negative impact on firm age, they are positively related to capital expenditure. These results are discussed in Section 7.2.

7.7 Robustness Test

To address the potential endogeneity problems, the study re-estimates the main models with a one-year lag between the dependent variables (firm performance) and the independent variables (board of director characteristics and control variables). This section presents and discusses the results obtained from the lagged structure models. A comparison between the results of lagged models and the main regression models (unlagged) is made to check the robustness of the findings reported in the previous sections.

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A. Board Independence and Firm Performance

To check the robustness of the results of the test of hypothesis one, Model 1 is re-estimated using a lagged structure model. Table 7.17 shows the results of the regression analysis for the relationship between board independence and lagged firm performance.

Table 7.17: Regression analysis of board independence and lagged firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.091</td>
<td>-0.150</td>
<td>2.127**</td>
<td>3.074**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.98)</td>
<td>(-1.09)</td>
<td>(2.05)</td>
<td>(1.99)</td>
<td></td>
</tr>
<tr>
<td>BIND</td>
<td>-0.041*</td>
<td>-0.068**</td>
<td>0.099</td>
<td>0.102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.79)</td>
<td>(-1.95)</td>
<td>(1.23)</td>
<td>(1.12)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.004</td>
<td>0.007</td>
<td>-0.006</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.94)</td>
<td>(1.12)</td>
<td>(-0.19)</td>
<td>(0.03)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.003</td>
<td>-0.015</td>
<td>-0.632**</td>
<td>-1.021**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.48)</td>
<td>(-1.41)</td>
<td>(-2.18)</td>
<td>(-2.17)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.022***</td>
<td>0.035***</td>
<td>0.004</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.73)</td>
<td>(2.72)</td>
<td>(0.24)</td>
<td>(0.18)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.011</td>
<td>-0.023</td>
<td>0.145**</td>
<td>0.205**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.33)</td>
<td>(-0.46)</td>
<td>(2.26)</td>
<td>(2.33)</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.071***</td>
<td>-0.045</td>
<td>-0.025</td>
<td>0.1447</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.49)</td>
<td>(-1.03)</td>
<td>(-0.31)</td>
<td>(1.25)</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.080</td>
<td>0.082</td>
<td>0.848</td>
<td>0.816</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.406***</td>
<td>2.473***</td>
<td>24.659***</td>
<td>19.786***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, BIND is board independence, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As shown in Table 7.17, the results obtained from the lagged model suggest that there is a negative relationship between board independence and firm performance measured by ROA and ROE at the 10% and 5% levels of significance, respectively. However, there is no relationship between board independence and either Tobin’s Q or MTB. These
findings are similar to the results obtained from the main regression model (unlagged). This similarity between the findings of both models confirms the robustness of the results and supports the findings reported in Section 7.2. In addition, the results related to the control variables are relatively similar across the two models (lagged and unlagged) except those related to the relationship between firm size and both ROA and ROE, between firm age and both ROA and ROE, and between leverage and ROE which turn insignificant in the lagged structure model.

**B. Board Size and Firm Performance**

To check the robustness of the results of the test of hypothesis two, Model 2 is re-estimated using a lagged structure model. Table 7.18 shows the results of the regression analysis for the relationship between board size and lagged firm performance.

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.107</td>
<td>-0.179</td>
<td>2.225*</td>
<td>3.151*</td>
<td></td>
</tr>
<tr>
<td>(1.17)</td>
<td>(-1.30)</td>
<td>(1.79)</td>
<td>(1.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSZ</td>
<td>0.004</td>
<td>0.018*</td>
<td>-0.014</td>
<td>-0.013</td>
<td></td>
</tr>
<tr>
<td>(1.39)</td>
<td>(1.72)</td>
<td>(-0.81)</td>
<td>(-0.66)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.005</td>
<td>0.009</td>
<td>-0.009</td>
<td>-0.001</td>
<td></td>
</tr>
<tr>
<td>(1.20)</td>
<td>(1.39)</td>
<td>(-0.20)</td>
<td>(-0.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.003</td>
<td>-0.015</td>
<td>-0.638***</td>
<td>-1.028***</td>
<td></td>
</tr>
<tr>
<td>(-0.48)</td>
<td>(-1.41)</td>
<td>(-5.07)</td>
<td>(-6.22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.022***</td>
<td>0.034***</td>
<td>0.005</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>(2.69)</td>
<td>(2.69)</td>
<td>(0.23)</td>
<td>(0.17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.010</td>
<td>-0.021</td>
<td>0.143**</td>
<td>0.203**</td>
<td></td>
</tr>
<tr>
<td>(-0.30)</td>
<td>(-0.43)</td>
<td>(2.03)</td>
<td>(2.11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.072***</td>
<td>-0.047</td>
<td>-0.024</td>
<td>0.146</td>
<td></td>
</tr>
<tr>
<td>(-2.53)</td>
<td>(-1.08)</td>
<td>(-0.22)</td>
<td>(0.93)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.077</td>
<td>0.080</td>
<td>0.848</td>
<td>0.816</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.312***</td>
<td>2.389***</td>
<td>24.647***</td>
<td>19.758***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is
Similar to the results based on estimating the main regression model (unlagged), the relationship between board size and ROE is positive and significant in the lagged model, but the level of significance decreases from 5% to 10%. In addition, board size and the other measures including ROA, Tobin’s Q and MTB are not related in both models. The consistency in the findings of the two models supports the results reported in Section 7.3.

Regarding the control variables, both models yield relatively similar results. While there is a positive relationship between firm growth and both ROA and ROE, and between capital expenditure and both Tobin’s Q and MTB, there is a negative relationship between leverage and ROA, and between firm age and both Tobin’s Q and MTB.

### C. CEO Duality and Firm Performance

To check the robustness of the results of the test of hypothesis three, Model 3 is re-estimated using a lagged structure model. Table 7.19 shows the results of the regression analysis for the relationship between CEO duality and lagged firm performance.

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.117</td>
<td>-0.192</td>
<td>2.033*</td>
<td>2.996*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.26)</td>
<td>(-1.39)</td>
<td>(1.77)</td>
<td>(1.81)</td>
<td></td>
</tr>
<tr>
<td>CEO D</td>
<td>0.025**</td>
<td>0.040**</td>
<td>-0.028</td>
<td>-0.042</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.19)</td>
<td>(2.26)</td>
<td>(-0.63)</td>
<td>(-0.91)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.007*</td>
<td>0.012**</td>
<td>-0.011</td>
<td>-0.005</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.67)</td>
<td>(1.93)</td>
<td>(-0.26)</td>
<td>(-0.07)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.003</td>
<td>-0.014</td>
<td>-0.584***</td>
<td>-0.980***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.40)</td>
<td>(-1.32)</td>
<td>(-5.94)</td>
<td>(-7.17)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.021***</td>
<td>0.032***</td>
<td>0.009</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.52)</td>
<td>(2.49)</td>
<td>(0.45)</td>
<td>(0.35)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.008</td>
<td>-0.019</td>
<td>0.140**</td>
<td>0.199**</td>
<td></td>
</tr>
</tbody>
</table>

---

Tobin’s Q, MTB is market to book, IVs are independent variables, BSZ is board size, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
The results obtained from the lagged model suggest that there is a significant positive correlation between CEO duality and firm performance measured by ROA and ROE at the 5% level of significance. However, there is no relationship between CEO duality and either Tobin’s Q or MTB. These results show that there is a fair similarity in relation to the significance and magnitude of the coefficients in both lagged and unlagged models. In addition, the results related to the control variables are similar across the two models. The only differences found are in the relationship between firm age and both ROA and ROE, and between leverage and ROE which turn out to be insignificant in the lagged model. This similarity in the findings of both models confirms the robustness of the results and supports the findings reported in Section 7.4.

**D. CEO Tenure and Firm Performance**

To check the robustness of the results of the test of hypothesis four, Model 4 is re-estimated using a lagged structure model. The regression results of the relationship between CEO tenure and lagged firm performance are presented in Table 7.20.

**Table 7.20: Regression analysis of CEO tenure and lagged firm performance**

<table>
<thead>
<tr>
<th>IVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.076***</td>
<td>-0.054</td>
<td>-0.021</td>
<td>0.153</td>
</tr>
<tr>
<td></td>
<td>(-2.67)</td>
<td>(-1.23)</td>
<td>(-0.19)</td>
<td>(0.96)</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>****</td>
<td>****</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.081</td>
<td>0.083</td>
<td>0.848</td>
<td>0.816</td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.446***</td>
<td>2.504***</td>
<td>24.515***</td>
<td>19.746***</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, CEOD is CEO duality, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
As can be observed in Table 7.20, the results obtained from the lagged model suggest that there is a significant positive relationship between CEO tenure and firm performance measured by ROE. However, CEO tenure has no impact on ROA, Tobin’s Q or MTB. These results are similar to the results obtained from the main regression model (unlagged) except the relationship between CEO tenure and ROA which is positive and significant in the unlagged model. This suggests that the majority of the results based on the unlagged model reported in Section 7.5 are robust. However, the inconsistency in the results of ROA may indicate the presence of endogeneity issues in the relationship between CEO tenure and ROA. This inconsistency can also be explained by the differences in sample size between the lagged and unlagged models.

In terms of the control variables, while the majority of these variables remain unchanged whether a lagged or an unlagged model is estimated, a limited number of variables show some changes in the level of significance. These include the relationship between firm

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T-statistic</th>
<th>Coefficient</th>
<th>T-statistic</th>
<th>Coefficient</th>
<th>T-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEOT</td>
<td>0.001</td>
<td>1.08</td>
<td>0.002*</td>
<td>1.81</td>
<td>-0.001</td>
<td>-0.42</td>
</tr>
<tr>
<td>FS</td>
<td>0.006</td>
<td>1.51</td>
<td>0.010*</td>
<td>1.72</td>
<td>-0.009</td>
<td>-0.04</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.004</td>
<td>-0.53</td>
<td>-0.016</td>
<td>-1.51</td>
<td>-0.589</td>
<td>-1.42</td>
</tr>
<tr>
<td>FG</td>
<td>0.021***</td>
<td>2.54</td>
<td>0.032***</td>
<td>2.49</td>
<td>0.008</td>
<td>0.46</td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.008</td>
<td>-0.26</td>
<td>-0.019</td>
<td>-0.38</td>
<td>0.142**</td>
<td>2.06</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.074***</td>
<td>-2.62</td>
<td>-0.051</td>
<td>-1.18</td>
<td>-0.027</td>
<td>-0.34</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, CEOT is CEO tenure, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
size and ROA, between firm age and both ROE and Tobin’s Q, and between leverage and ROE which turn insignificant under the lagged model.

E. Family CEO and Firm Performance

To check the robustness of the results of the test of hypothesis five, Model 5 is re-estimated using a lagged structure model. Table 7.21 shows the regression results of the relationship between family CEOs and lagged firm performance based on a sample comprised only of family firms (310 firms).

Table 7.21: Regression analysis of family CEO and lagged firm performance (family firms)

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA Random Effects</th>
<th>ROE Random Effects</th>
<th>Q Fixed Effects</th>
<th>MTB Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.009</td>
<td>-0.174</td>
<td>0.301</td>
<td>0.596</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.05)</td>
<td>(-0.60)</td>
<td>(0.13)</td>
<td>(0.17)</td>
<td></td>
</tr>
<tr>
<td>FCEO</td>
<td>0.038***</td>
<td>0.081***</td>
<td>0.031</td>
<td>0.073</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.11)</td>
<td>(3.55)</td>
<td>(0.39)</td>
<td>(0.64)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.003</td>
<td>0.011</td>
<td>0.055</td>
<td>0.085</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.36)</td>
<td>(0.86)</td>
<td>(0.62)</td>
<td>(0.64)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.006</td>
<td>-0.017</td>
<td>-0.494***</td>
<td>-0.837***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.80)</td>
<td>(-1.29)</td>
<td>(-2.85)</td>
<td>(-3.36)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.015*</td>
<td>0.026*</td>
<td>0.003</td>
<td>-0.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.75)</td>
<td>(1.58)</td>
<td>(0.10)</td>
<td>(-0.09)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.062**</td>
<td>-0.099*</td>
<td>0.121</td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.06)</td>
<td>(-1.68)</td>
<td>(1.22)</td>
<td>(1.37)</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.062**</td>
<td>-0.042</td>
<td>-0.116</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.97)</td>
<td>(-0.70)</td>
<td>(-0.70)</td>
<td>(0.03)</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.110</td>
<td>0.102</td>
<td>0.822</td>
<td>0.811</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>3.248***</td>
<td>3.059***</td>
<td>18.842***</td>
<td>17.596***</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 7.21, the results of family CEO and firm performance based on the lagged model are similar to those obtained from the unlagged model. Both models show a positive and significant relationship between family CEOs and both ROA and ROE, whereas the relationship between family CEOs and firm value measured by Tobin’s Q and MTB is positive but insignificant. The consistency in the findings of the two models supports the results reported in Section 7.6.

Regarding the control variables, while the results of Tobin’s Q and MTB are fairly similar across the two models (lagged and unlagged), there are some differences between these models under ROA and ROE. While the coefficient of capital expenditure turns from insignificant to significant under the lagged model, firm age, which was statistically significant under the unlagged model, is no longer statistically significant in the lagged model. In addition, the relationship between ROE and both firm size and leverage turns out to be insignificant in the lagged model. These results may indicate the existence of endogeneity issues in the relationships between the control variables and both ROA and ROE. The inconsistency in the results of both models may also be attributed to the sample size which includes only family firms (310 firm-year observations). However, the results related to the control variables are found to be similar across the two models when a sample comprised all firms is used. This is explained below.

Table 7.22 provides the results of the regression analysis for the relationship between family CEOs and lagged firm performance based on a sample comprised all firms (516 firms).
Table 7.22: Regression analysis of family CEO and lagged firm performance (all firms)

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA Random Effects</th>
<th>ROE Random Effects</th>
<th>Q Fixed Effects</th>
<th>MTB Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>-0.138</td>
<td>-0.243*</td>
<td>1.972*</td>
<td>2.873*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.52)</td>
<td>(-1.81)</td>
<td>(1.74)</td>
<td>(1.73)</td>
</tr>
<tr>
<td>FCEO</td>
<td>0.042***</td>
<td>0.084***</td>
<td>0.009</td>
<td>0.044</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.85)</td>
<td>(3.84)</td>
<td>(0.12)</td>
<td>(0.40)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.007*</td>
<td>0.013**</td>
<td>-0.009</td>
<td>-0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.80)</td>
<td>(2.17)</td>
<td>(-0.21)</td>
<td>(-0.01)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>0.001</td>
<td>-0.007</td>
<td>-0.579***</td>
<td>-0.971**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.11)</td>
<td>(-0.61)</td>
<td>(-6.04)</td>
<td>(-6.95)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.021***</td>
<td>0.033***</td>
<td>0.008</td>
<td>0.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.61)</td>
<td>(2.61)</td>
<td>(0.38)</td>
<td>(0.29)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.010</td>
<td>-0.023</td>
<td>0.141**</td>
<td>0.199**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.32)</td>
<td>(-0.46)</td>
<td>(2.01)</td>
<td>(2.10)</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.078***</td>
<td>-0.060</td>
<td>-0.030</td>
<td>0.136</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.77)</td>
<td>(-1.38)</td>
<td>(-0.27)</td>
<td>(0.85)</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.090</td>
<td>0.104</td>
<td>0.847</td>
<td>0.816</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.753***</td>
<td>3.214***</td>
<td>24.456***</td>
<td>19.692***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, FCEO is family CEO, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As Table 7.22 shows, the results obtained from the lagged model suggest that while there is a positive relationship between family CEOs and firm performance measured by ROA and ROE at the 1% level of significance, family CEOs and firm value measured by Tobin’s Q and MTB are not related. These findings show that there is a fair similarity in relation to the significance and magnitude of the coefficients in both lagged and unlagged models. In addition, the results related to the control variables are almost similar across the two models. The only difference found is that the relationship between leverage and ROE, which was statistically significant under the unlagged model, is no longer statistically significant in the lagged model. This similarity in the findings confirms the
robustness of the results of the main model and supports the findings reported in Section 7.6.

7.8 Summary

This chapter reports and discusses the results related to the first research question concerning the relationship between board of director characteristics and Saudi firms’ performance. The study employs ANOVA, t-tests and regression analysis to investigate the impact of board of director characteristics, namely board independence, board size, CEO duality, CEO tenure and family CEO, on firm performance.

The regression results indicate that while there is a negative relationship between board independence and firm performance measured by ROA and ROE, other board characteristics including CEO duality, CEO tenure and family CEO are positively associated with ROA and ROE. In addition, there is a positive relationship between board size and ROE. While these findings are in line with stewardship and resource dependency theories, they are contrary to agency theory. In terms of market-based measures, the results reveal that there is no significant relationship between board characteristics and firm value measured by Tobin’s Q and MTB. Based on these results, the first five hypotheses are supported under accounting-based measures (ROA and ROE), whereas these hypotheses are rejected based on market-based measures (Tobin’s Q and MTB). Table 7.23 summaries the findings related to each of these hypotheses.

Table 7.23: Summary of the research hypotheses and the findings related to board of director characteristics

<table>
<thead>
<tr>
<th>#</th>
<th>Hypothesis</th>
<th>ROA</th>
<th>ROE</th>
<th>Tobin’s Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>There is a negative relationship between board independence and firm performance.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H2</td>
<td>There is a positive relationship between board size and firm performance.</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H3</td>
<td>There is a positive relationship between CEO duality and firm performance.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>#</td>
<td>Hypothesis</td>
<td>ROA</td>
<td>ROE</td>
<td>Tobin’s Q</td>
<td>MTB</td>
</tr>
<tr>
<td>----</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>H4</td>
<td>There is a positive relationship between CEO tenure and firm performance.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H5</td>
<td>Firms with high family ownership that are run by a family CEO perform better than firms run by a non-family CEO.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

The chapter also discusses the results obtained from the lagged structure models to deal with endogeneity problems. The results related to the board of director characteristics based on the lagged models are similar to the findings of the main regression models, which indicate the robustness of the results obtained from the main regression models. Regarding the control variables, while the majority of these variables remain unchanged whether a lagged or an unlagged structure is estimated, a limited number of variables in some models show some changes in the level of significance.

The next chapter presents the results of the analysis regarding the relationship between ownership structure and firm performance, along with a discussion of these results in light of the existing literature.
Chapter Eight: Results and Discussion

Ownership Structure and Firm Performance

8.1 Introduction

This chapter presents and discusses the results related to the second research question concerning the relationship between ownership structure and Saudi firms’ performance. In order to answer the second research question, five hypotheses are developed regarding the impact of different types of ownership on firm performance. These hypotheses are related to ownership concentration, government, family, institutional and managerial ownership. To examine these hypotheses, two statistical tests are used: ANOVA and regression analysis. The results of both tests for these hypotheses are reported along with a discussion of the findings in light of the relevant literature in Sections 8.2, 8.3, 8.4, 8.5, and 8.6. The results of robustness tests carried out to deal with endogeneity problems are presented in Section 8.7. A summary of the main findings is provided at the end of this chapter.

8.2 Ownership Concentration and Firm Performance

This section provides the results of both ANOVA and regression analysis used to examine the sixth hypothesis which suggests a positive relationship between ownership concentration and firm performance.

The relationship between ownership concentration and firm performance is firstly examined using an ANOVA test to compare firm performance among various levels of ownership concentration. Based on the criterion used in this study, the sample is divided into three levels of ownership concentration:

- High level: including firms with a proportion of ownership concentration more

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26 Because the results obtained from ANOVA may be driven by other omitted variables that can directly influence firm performance such as firm size, growth and leverage, regression analysis is used as the main analytical method of this study to control for these variables.

27 The criterion used in this study is mean ± 0.50 standard deviation. The average ownership concentration in the sample was 37% and the standard deviation was 24%.
than 49% (the mean + 0.50 standard deviation).

- Medium level: including firms with a proportion of ownership concentration between 25% and 49% (the mean ± 0.50 standard deviation).
- Low level: including firms with a proportion of ownership concentration less than 25% (the mean − 0.50 standard deviation).

Table 8.1 provides the means of the four firm performance measures for each level of ownership concentration.

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 49%)</td>
<td>231</td>
<td>0.100</td>
<td>0.146</td>
<td>2.000</td>
<td>2.681</td>
</tr>
<tr>
<td>Medium (25% to 49%)</td>
<td>176</td>
<td>0.084</td>
<td>0.117</td>
<td>1.623</td>
<td>2.030</td>
</tr>
<tr>
<td>Low (less than 25%)</td>
<td>239</td>
<td>0.055</td>
<td>0.064</td>
<td>1.974</td>
<td>2.388</td>
</tr>
</tbody>
</table>

As Table 8.1 shows, 36% of Saudi firms are characterised by a high level of ownership concentration (more than 49%). Under all performance measures, firms with a high level of ownership concentration achieved higher performance than other firms with a medium or low level. In addition, while firms with a medium level of ownership concentration outperformed those with a low level in terms of ROA and ROE, firms with a low level of ownership concentration achieved better Tobin’s Q and MTB compared to their peers with a medium level. The differences in the means of firm performance among the three levels of ownership concentration can be observed in figure 8.1.

Figure 8.1: Firm performance among the three levels of ownership concentration
In order to examine whether the differences among the three levels of ownership concentration are statistically significant, a one-way ANOVA test is used. In addition, a t-test is employed to find out whether a significant difference between each pair of levels exists. Table 8.2 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three levels of ownership concentration.

### Table 8.2: ANOVA and t-test results for the differences in the means of performance among the three levels of ownership concentration

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
<th>t-test</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>High &amp; Low</td>
<td>High &amp; Medium</td>
<td>Medium &amp; Low</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
<td>t</td>
<td>p-value</td>
</tr>
<tr>
<td>ROA</td>
<td>17.36</td>
<td>0.00</td>
<td>5.52</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>25.96</td>
<td>0.00</td>
<td>6.87</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>5.89</td>
<td>0.00</td>
<td>0.19</td>
<td>0.84</td>
</tr>
<tr>
<td>MTB</td>
<td>7.02</td>
<td>0.00</td>
<td>1.74</td>
<td>0.08</td>
</tr>
</tbody>
</table>

As can be observed in Table 8.2, the results of the ANOVA test indicate that there are significant differences in the means of the four measures (ROA, ROE, Tobin’s Q and MTB) across the three levels of ownership concentration. The results of the t-tests show that there are significant differences in means between the high and medium levels and between the medium and low levels of ownership concentration based on all measures (ROA, ROE, Tobin’s Q and MTB), with the only one exception being the insignificant difference in the mean of ROA between high and medium levels. In addition, while there

![Graph showing ANOVA and t-test results](image)
are significant differences in means between the high and low levels of ownership concentration when accounting-based measures (ROA and ROE) are applied, the differences in means between these two levels are not significant based on market-based measures (Tobin’s Q and MTB).

The study employs regression analysis as the main analytical method to test the sixth hypothesis. Table 8.3 shows the regression results for Model 6 which is used to examine the relationship between ownership concentration and firm performance.

Table 8.3: Regression analysis of ownership concentration and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>-0.209***</td>
<td>-0.340***</td>
<td>1.323</td>
<td>6.816***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.98)</td>
<td>(-3.14)</td>
<td>(1.10)</td>
<td>(3.74)</td>
</tr>
<tr>
<td>OWN</td>
<td>-0.054**</td>
<td>0.064**</td>
<td>0.082</td>
<td>0.117</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.74)</td>
<td>(2.04)</td>
<td>(0.67)</td>
<td>(0.75)</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 8.3, the regression coefficients suggest that there is a significant positive relationship between ownership concentration and both ROA and ROE at the 1% and 5% levels of significance, respectively. However, there is no relationship between ownership concentration and firm value measured by Tobin’s Q and MTB. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on these results, the sixth hypothesis which suggests a positive relationship between ownership concentration and firm performance is supported under ROA and ROE, whereas it is rejected under Tobin’s Q and MTB. The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the ANOVA test. However, after controlling for other factors that explain firm performance, the relationship between market-based measures of firm performance and ownership concentration is not robust.
The positive impact of ownership concentration on firm performance measured by ROA and ROE is in line with the perspectives of stewardship and resource dependency theories. According to stewardship theory, concentrated shareholders have a deep psychological attachment to their firms, a long-term orientation in strategic decisions making and a strong relationship with suppliers and employees (Anderson & Reeb, 2003; David & Laurie, 2008; Miller & Le Breton-Miller, 2006). As a result, they can effectively enhance firm performance. Resource dependency theory explains the ways in which ownership concentration can contribute to improving firm performance. This theory argues that concentrated ownership, especially in the form of state and family ownership, can deliver great advantages to their firms in terms of managerial and financial resources (Boubaker & Nguyen, 2014). From another perspective, this finding of the study is consistent with the perspective of agency theory in that ownership concentration can improve firm performance by reducing the agency problems between managers and shareholders, yet it is contrary to its perspective regarding the negative impact of ownership concentration on firm performance due to the agency problems that exist between majority and minority shareholders in firms with concentrated ownership (Shleifer & Vishny, 1997; Villalonga & Amit, 2006).

The positive impact of ownership concentration on Saudi firms’ performance can be attributed mainly to the domination of family and government ownership in Saudi listed firms as mentioned in Section 6.7.2.2. These types of ownership would bring significant benefits to the firms in terms of managerial and financial resources. With respect to family ownership, families have detailed inside knowledge of their business which helps make their firms more profitable and facilitates effective use of resources (Habbershon & Williams, 1999). In addition, government ownership can improve firm performance by facilitating access to critical resources such as finance and government contracts (Xin & Pearce, 1996). From another perspective, Islamic values such as justice, honesty and truthfulness play an important role in protecting minority shareholders’ rights from being exploited. These values require majority shareholders to deal fairly with minority shareholders, and not exploit or oppress them. As an Islamic country, Islamic values deeply influence Saudi society and thus limit the potential negative impact of ownership
concentration that arises because of the exploitation of minority shareholders by majority shareholders.

The finding of this study regarding the positive impact of ownership concentration on firm performance is consistent with a large number of studies undertaken in developing countries such as Nigeria (Ehikioya, 2009; Obiyo & Lenee, 2011), Malaysia (Haniffa & Hudaib, 2006) and Pakistan (Azam et al., 2011). Similarly, in an Arab context, Omran et al. (2008) report a positive relationship between ownership concentration and firm performance in Egypt, Jordan, Oman and Tunisia. On the other hand, this finding of the study is inconsistent with the findings of some studies conducted in developed countries. For example, Gedajlovic and Shapiro (1998) report a negative relationship between ownership concentration and firm performance in the US, the UK and Germany. The same relationship is also reported in a study conducted in Poland and Hungary (Filatotchev et al., 2007). This inconsistency in the results could be attributed to the differences in socio-cultural factors and ownership structure between these countries and Saudi Arabia. This supports the argument that the imposition of Western values regarding corporate governance is not necessarily optimal in the Saudi context.

The results presented in Table 8.3 also show that there is no relationship between ownership concentration and firm value (Tobin’s Q and MTB). A similar result is reported by Sánchez-Ballesta and García-Meca (2007) who undertook a meta-analysis based on 33 studies from 1988 to 2006 and found no significant relationship between ownership concentration and Tobin’s Q. On the other hand, this finding of the study is inconsistent with some studies that reveal a positive relationship between ownership concentration and firm value. For example, studies undertaken by Siala et al. (2009) in Canada, Kapopoulou and Lazaretou (2007) in Greece and Karaca and Ekşi (2012) in Turkey show a positive impact of ownership concentration on Tobin’s Q. This inconsistency in the results could be attributed to the inefficiency of the Saudi Stock Market, whereby market-based measures of performance do not accurately capture information regarding the company’s operations (Al Abdulhadi et al., 2015).
The results of the control variables are consistent with the results reported in Chapter 7. As shown in Table 8.3, firm size and firm growth have a positive impact on ROA and ROE, whereas capital expenditure is associated positively with Tobin’s Q and MTB. On the other hand, a negative relationship is found between firm age and ROE, Tobin’s Q and MTB, and between leverage and both ROA and ROE. These results are in line with the findings of previous studies. For example, studies conducted in Malaysia and Oman reveal a positive impact of firm size and firm growth on ROA and ROE, (Al-Matari et al., 2014; Nor et al., 2014). Similarly, Al Farooque et al. (2007) report a positive relationship between capital expenditure and MTB in Bangladeshi firms. On the other hand, studies undertaken in Taiwan and Spain reveal a negative impact of firm age on firm performance (Arosa et al., 2013; Chen et al., 2013). The finding of this study regarding the negative relationship between leverage and both ROA and ROE is consistent with a number of studies conducted in Oman, India and the UK (Al-Matari et al., 2014; Jackling & Johl, 2009; Weir et al., 2002).

8.3 Government Ownership and Firm Performance

In order to examine the seventh hypothesis which suggests a positive relationship between government ownership and firm performance, the study uses two statistical tests: ANOVA and regression analysis. The results of both tests are provided in this section.

As an initial step to examine the seventh hypothesis, an ANOVA test is used to compare firm performance among different levels of government ownership. Based on the criterion used in this study, the sample is divided into three levels of government ownership28.

- High level: including firms with a proportion of government ownership more than 18% (the mean + 0.50 standard deviation).
- Medium level: including firms with a proportion of government ownership between 5% and 18% (the mean ± 0.50 standard deviation).
- Low level: including firms with a proportion of government ownership less than

---

28 The criterion used in this study is mean ± 0.50 standard deviation. The average government ownership in the sample was 9% and the standard deviation was 18%. Because the mean - 0.50 standard deviation is less than 5%, 5% is used as an alternative percentage.
5% (the mean − 0.50 standard deviation).

Table 8.4 provides the means of the four firm performance measures for each level of government ownership.

Table 8.4: Firm performance among the three levels of government ownership

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 18%)</td>
<td>97</td>
<td>0.09</td>
<td>0.115</td>
<td>1.824</td>
<td>2.190</td>
</tr>
<tr>
<td>Medium (5% to 18%)</td>
<td>114</td>
<td>0.096</td>
<td>0.133</td>
<td>1.671</td>
<td>2.052</td>
</tr>
<tr>
<td>Low (less than 5%)</td>
<td>435</td>
<td>0.071</td>
<td>0.099</td>
<td>1.964</td>
<td>2.541</td>
</tr>
</tbody>
</table>

Table 8.4 illustrates that only 33% of the Saudi firms have government ownership of 5% or more. It can be seen that firms with a high level of government ownership and those with a medium level achieved relatively similar performance under all measures of performance. In addition, while firms with a low level of government ownership had lower performance in terms of accounting-based measures than other firms, they achieved higher Tobin’s Q and MTB compared with firms with a high or medium level.

The differences in the means of firm performance among the three levels of government ownership can be observed in Figure 8.2.
In order to examine whether the differences among the three levels of government ownership are statistically significant, a one-way ANOVA test and t-tests are used. Table 8.5 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three levels of government ownership.

Table 8.5: ANOVA and t-test results for the differences in the means of performance among the three levels of government ownership

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>t</td>
</tr>
<tr>
<td>ROA</td>
<td>4.87</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>3.11</td>
<td>0.04</td>
</tr>
<tr>
<td>Q</td>
<td>2.96</td>
<td>0.05</td>
</tr>
<tr>
<td>MTB</td>
<td>4.49</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>t</td>
</tr>
<tr>
<td>ROA</td>
<td>0.00</td>
<td>2.06</td>
</tr>
<tr>
<td>ROE</td>
<td>0.04</td>
<td>1.06</td>
</tr>
<tr>
<td>Q</td>
<td>0.05</td>
<td>-1.02</td>
</tr>
<tr>
<td>MTB</td>
<td>0.01</td>
<td>-1.73</td>
</tr>
</tbody>
</table>

As Table 8.5 shows, the results of the ANOVA test indicate that there are significant differences in the means of all performance measures (ROA, ROE, Tobin’s Q and MTB) among the three levels of government ownership. The results of the t-tests show that the differences in means between the high and low levels of government ownership are only significant under ROA. In addition, while there are no significant differences in means between the high and medium levels of government ownership under all performance measures, the differences in means between the medium and low levels are significant based on all performance measures.

In order to formally investigate the seventh hypothesis, regression Model 7 is used. Table 8.6 shows the regression results from the estimation of this model.

Table 8.6: Regression analysis of government ownership and firm performance

<table>
<thead>
<tr>
<th>DVs</th>
<th>IVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.170***</td>
<td>-0.307***</td>
<td>1.302</td>
<td>6.806***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.21)</td>
<td>(-2.60)</td>
<td>(1.08)</td>
<td>(3.74)</td>
<td></td>
</tr>
<tr>
<td>IVs</td>
<td>ROA</td>
<td>ROE</td>
<td>Q</td>
<td>MTB</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>----------------</td>
<td>---------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td></td>
</tr>
<tr>
<td>GOV</td>
<td>0.002</td>
<td>0.001</td>
<td>-0.005</td>
<td>-0.006</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.32)</td>
<td>(0.70)</td>
<td>(-1.32)</td>
<td>(-1.17)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.012***</td>
<td>0.021***</td>
<td>0.013</td>
<td>0.038</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.73)</td>
<td>(4.12)</td>
<td>(0.28)</td>
<td>(0.56)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.014**</td>
<td>-0.028***</td>
<td>-0.524***</td>
<td>-2.821***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.00)</td>
<td>(-2.67)</td>
<td>(-5.05)</td>
<td>(-17.69)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.055***</td>
<td>0.075***</td>
<td>-0.014</td>
<td>-0.016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.62)</td>
<td>(6.49)</td>
<td>(-0.72)</td>
<td>(-0.63)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.015</td>
<td>-0.003</td>
<td>0.192**</td>
<td>0.260**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.54)</td>
<td>(-0.06)</td>
<td>(2.11)</td>
<td>(2.06)</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.158***</td>
<td>-0.173***</td>
<td>-0.088</td>
<td>0.146</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-6.61)</td>
<td>(-4.56)</td>
<td>(-0.90)</td>
<td>(1.01)</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.148</td>
<td>0.116</td>
<td>0.829</td>
<td>0.795</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.096***</td>
<td>5.616***</td>
<td>24.912***</td>
<td>20.225***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, GOV is government ownership, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As shown in Table 8.6, the results of the regression analysis indicate that there is no significant relationship between government ownership and firm performance under all performance measures (ROA, ROE, Tobin’s Q and MTB). Based on these results, the seventh hypothesis which suggests a positive relationship between government ownership and firm performance is rejected. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. While the results of the regression analysis indicate an insignificant relationship between government ownership and firm performance, the results obtained from the ANOVA and the t-tests show significant differences between the levels of government ownership. The significant differences observed in the ANOVA and the t-tests can be explained by the differences in the control variables.
The evidence that there is no relationship between government ownership and firm performance is consistent with some previous studies. In Saudi Arabia, Eljelly (2009) investigates a small sample of Saudi firms between 2000 and 2003 and reports that government ownership has no impact on firm performance measured by ROE. A similar result is found in studies conducted in Korea and the UAE (Choi, Park, & Hong, 2012; Qasim, 2014). On the other hand, this finding of the study is contrary to some studies that reveal a positive relationship between government ownership and firm performance in developing countries such as Malaysia (Ghazali, 2010), Bangladesh (Mollah & Talukdar, 2007) and China (Trien & Chizema, 2011; Yu, 2013). The positive relationship is also reported by Bortolotti and Faccio (2006) using a sample from OECD countries. This inconsistency in the results could be explained by reference to the claim that government ownership may target some objectives related to social benefits rather than profit maximization (Shleifer & Vishny, 1997; Yu, 2013). In the Saudi context, two main sectors have a high level of government ownership. The first sector is the agriculture sector. This sector receives considerable support from the Saudi government, yet the sector faces significant challenges especially with regard to water and land, which negatively influence the overall profitability of this sector. Therefore, the imposition of government ownership in this sector can be viewed as providing social rather than economic benefits. The second sector that has a high level of government ownership is the petrochemicals sector. The majority of firms in this sector are new firms established in the last eight years. An eight-year period may be considered as too short of a timeframe for a firm working in the petrochemicals industry to reach full production capacity. Even though government ownership is hypothesised to have a positive impact on firm performance, the issues surrounding the agriculture and petrochemicals sectors in Saudi Arabia may account for the insignificant positive impact of government ownership, given that government ownership is concentrated mainly in these two sectors.

The results presented in Table 8.6 regarding the control variables are relatively similar to the results obtained from Model 6. Specifically, the results indicate a positive impact of

---

29 Although the results of this study show that firm age negatively affects firm performance, such a negative impact may not be reflected in all firms. For example, firms in certain sectors such as the petrochemicals sector need a relatively long time horizon to achieve full production capacity.
firm size and firm growth on firm performance (ROA and ROE). In addition, there is a positive relationship between capital expenditure and firm value (Tobin’s Q and MTB). On the other hand, firm age has a negative association with all performance measures (ROA, ROE, Tobin’s Q and MTB). A negative relationship is also found between leverage and both ROA and ROE. These results are discussed in Section 8.2.

8.4 Family Ownership and Firm Performance

This section presents the results of both ANOVA and regression analysis employed to test the eighth hypothesis which suggests a positive relationship between family ownership and firm performance.

The relationship between family ownership and firm performance is firstly examined using an ANOVA test to compare firm performance among various levels of family ownership. Based on the criterion used in this study, the sample is divided into three levels of family ownership:\n
- High level: including firms with a proportion of family ownership more than 31% (the mean + 0.50 standard deviation).
- Medium level: including firms with a proportion of family ownership between 9% and 31% (the mean ± 0.50 standard deviation).
- Low level: including firms with a proportion of family ownership less than 9% (the mean − 0.50 standard deviation).

Table 8.7 provides the means of the four firm performance measures for each level of family ownership.

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 31%)</td>
<td>162</td>
<td>0.100</td>
<td>0.164</td>
<td>1.894</td>
<td>2.702</td>
</tr>
<tr>
<td>Medium (9% to 31%)</td>
<td>206</td>
<td>0.068</td>
<td>0.080</td>
<td>1.701</td>
<td>2.080</td>
</tr>
<tr>
<td>Low (less than 9%)</td>
<td>278</td>
<td>0.073</td>
<td>0.094</td>
<td>2.029</td>
<td>2.460</td>
</tr>
</tbody>
</table>

The criterion used in this study is mean ± 0.50 standard deviation. The average family ownership in the sample was 20% and the standard deviation was 22%.
As Table 8.7 shows, firms with a high level of family ownership achieved higher performance in terms of ROA, ROE and MTB than other firms with a medium or low level. In addition, while the performance of firms with a medium level of family ownership and those with a low level were relatively similar under accounting-based measures, firms with a low level of family ownership outperformed their peers with a medium level based on market-based measures. The differences in the means of firm performance among the three levels of family ownership can be observed in Figure 8.3.

In order to examine whether the differences among the three levels of family ownership are statistically significant, a one-way ANOVA test and t-tests are used. Table 8.8 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three levels of family ownership.

Figure 8.3: Firm performance among the three levels of family ownership

![Figure 8.3: Firm performance among the three levels of family ownership](image)

Table 8.8: ANOVA and t-test results for the differences in the means of performance among the three levels of family ownership

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
<th>t-test</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
<td>High &amp; Low</td>
<td>High &amp; Medium</td>
</tr>
<tr>
<td>ROA</td>
<td>7.21</td>
<td>0.00</td>
<td>3.33</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>22.50</td>
<td>0.00</td>
<td>5.37</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>4.54</td>
<td>0.01</td>
<td>-1.16</td>
<td>0.24</td>
</tr>
<tr>
<td>MTB</td>
<td>6.24</td>
<td>0.00</td>
<td>1.30</td>
<td>0.10</td>
</tr>
</tbody>
</table>
As shown in Table 8.8, the results of the ANOVA test indicate that there are significant differences in the means of all performance measures (ROA, ROE, Tobin’s Q and MTB) among the three levels of family ownership. The results of the t-tests show that there are significant differences in means between the high and medium levels of family ownership based on all performance measures. In addition, while the differences in means between the high and low levels of family ownership are significant only under accounting-based measures (ROA and ROE), the differences in means between the medium and low levels are significant only under market-based measures (Tobin’s Q and MTB).

The study uses regression analysis as the main analytical method to test the eighth hypothesis. Table 8.9 shows the regression results for Model 8 which is used to investigate the relationship between family ownership and firm performance.

<table>
<thead>
<tr>
<th>Table 8.9: Regression analysis of family ownership and firm performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IVs</strong></td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>FAM</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>FS</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>AGE</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>FG</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LEV</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>IND</td>
</tr>
<tr>
<td>Adj. R²</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, FAM is family ownership.
As shown in Table 8.9, the regression results of the test of association between family ownership and firm performance indicate that there is a positive but insignificant relationship between family ownership and all performance measures (ROA, ROE, Tobin’s Q and MTB). For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Although the eighth hypothesis suggests a positive relationship between family ownership and firm performance, the results of the regression analysis do not support this hypothesis as the relationship between these variables is statistically insignificant. The results of the regression analysis are inconsistent with the results obtained from the ANOVA test. The insignificant positive relationship between family ownership and firm performance could be attributed to the fact that some family owners in Saudi firms do not participate in the firm’s board of directors. The absence of family members from the board of directors may restrict the benefits of family ownership which are centred on the ability of those families to provide firms with valuable advice and support, given that they have relative knowledge, experiences and a better understanding of their firms which can significantly influence firm performance. Previous studies in other settings have reported that family owners can only affect firm performance when they are actively involved in the management of the firm (Isakov & Weisskopf, 2009; Zattoni, Gnan, & Huse, 2015). Therefore, the study takes a further step investigating the impact of family ownership involvement in management by selecting only family shareholders who are involved in the board of directors. In this case, family ownership involvement in management is measured by the percentage of firm shares held by family shareholders with at least 5% of the firm’s total shares and who have a family member on the firm’s board of directors. Therefore, family owners who do not have a family member in the firm’s board of directors are excluded. The average family ownership involvement in management was 18%, which is lower by 2% than the average family ownership (20%). Table 8.10 shows the regression results of the relationship between family ownership involvement in
management and firm performance.

Table 8.10: Regression analysis of family ownership involvement in management and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.216***</td>
<td>-0.356***</td>
<td>1.356</td>
<td>6.873***</td>
</tr>
<tr>
<td></td>
<td>(-2.99)</td>
<td>(-3.26)</td>
<td>(1.13)</td>
<td>(3.81)</td>
</tr>
<tr>
<td>FAM</td>
<td>0.041*</td>
<td>0.087***</td>
<td>0.061</td>
<td>0.075</td>
</tr>
<tr>
<td></td>
<td>(1.80)</td>
<td>(2.44)</td>
<td>(0.52)</td>
<td>(0.53)</td>
</tr>
<tr>
<td>FS</td>
<td>0.012***</td>
<td>0.020***</td>
<td>0.012</td>
<td>0.038</td>
</tr>
<tr>
<td></td>
<td>(3.80)</td>
<td>(4.05)</td>
<td>(0.27)</td>
<td>(0.56)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.008</td>
<td>-0.019*</td>
<td>-0.533***</td>
<td>-2.831***</td>
</tr>
<tr>
<td></td>
<td>(-1.21)</td>
<td>(-1.86)</td>
<td>(-5.13)</td>
<td>(-17.83)</td>
</tr>
<tr>
<td>FG</td>
<td>0.055***</td>
<td>0.076***</td>
<td>-0.013</td>
<td>-0.015</td>
</tr>
<tr>
<td></td>
<td>(7.67)</td>
<td>(6.57)</td>
<td>(-0.67)</td>
<td>(-0.58)</td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.019</td>
<td>-0.011</td>
<td>0.183**</td>
<td>0.249**</td>
</tr>
<tr>
<td></td>
<td>(-0.66)</td>
<td>(-0.23)</td>
<td>(2.01)</td>
<td>(1.96)</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.162***</td>
<td>-0.181***</td>
<td>-0.086</td>
<td>0.149</td>
</tr>
<tr>
<td></td>
<td>(-6.78)</td>
<td>(-4.77)</td>
<td>(-0.88)</td>
<td>(1.03)</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.150</td>
<td>0.125</td>
<td>0.828</td>
<td>0.795</td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.218***</td>
<td>6.017***</td>
<td>24.853***</td>
<td>20.182***</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, FAM is family ownership involvement in management, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. *** and * indicate significance at 1%, 5% and 10% levels, respectively.

As can be observed in Table 8.10, the results of the regression analysis indicate a positive and significant relationship between family ownership involvement in management and firm performance measured by ROA and ROE at the 10% and 1% levels of significance, respectively. However, family ownership involvement in management has no impact on Tobin’s Q or MTB. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable.
The results reported in Table 8.10 indicate that when family owners are involved in the board of directors, they have a positive impact on firm performance. However, their impact becomes insignificant if they do not engage in the firm’s management. In other words, the results imply that family ownership in which families are only investors does not add any value to firm performance. Only family owners who are effectively engaged in the management of the firm can positively influence firm performance. The positive impact of family ownership involvement in management can be attributed to the ability of family shareholders to provide valuable knowledge that helps make the board more effective. This value-creating knowledge is lost when family shareholders solely hold a financial stake in the firm without an effective involvement in its management. This result supports the result reached in this study regarding the positive impact of family CEOs on Saudi firms’ performance. That is, the existence of family members on the board of directors positively influences firm performance. This finding is discussed previously in Chapter Seven, Section 7.6.

The positive impact of family ownership involvement in management on firm performance is in line with stewardship theory and resource dependency theory. Stewardship theory argues that family shareholders have both the ability and motivation to improve firm performance (Davis et al., 1977; T. Clarke & Branson, 2012). Due to their close interactions and better understanding of their firms, families have the ability to support board of directors to make superior decisions. However, these benefits of family owners are not likely to be gained unless they actively participate in the board of directors. Merely having family owners does not significantly affect firm performance, but where they are effectively involved in the firm’s management, they have the capacity to contribute as effective stewards and hence they can improve firm performance. In addition, families are more concerned with the success of their firms because they consider the firm as an asset to bequeath to the family (Arregle et al., 2007; Lee, 2006). From another perspective, resource dependency theory assumes that family can provide firms with a unique combination of resources and competencies that can significantly enhance firm performance (Habbershon et al., 2003). Different types of capital such as financial, human and social capital can be offered by family owners (Arregle et al., 2007; Dyer, 2006; Sirmon & Hitt, 2003). On the other hand, while this finding of the study is
consistent with one view of agency theory regarding family ownership, it is contrary to the other view of the theory. Agency theory holds two competing views about the impact of family ownership on firm performance. While family ownership can positively influence firm performance by mitigating agency conflicts between owners and managers, it may harm firm performance since family owners can use their power and controlling positions to expropriate private benefits at the expense of minority shareholders (Fama & Jensen, 1983b; Fan & Wong, 2002; Jensen & Meckling, 1976; Villalonga & Amit, 2006).

Family ownership is the largest ownership type in Saudi firms. The main reason behind the positive impact of family ownership involvement in management on firm performance is that many of the listed firms in Saudi Arabia were previously family firms that were converted to joint stock companies and the original family owners maintained a significant portion of the firms’ shares. Even after floating on the stock exchange, these firms continue to operate like family firms and many of them still maintain their family name, such as the Halwani Company, Fitaihi-Group, and Othaim Company (Alsanosi, 2010). In Saudi society, family name, reputation and fortune are at stake, and thus family owners have a significant vested interest in both short-term and long-term performance of their firms. In addition, many family members participate in the board of directors and occupy the key position of CEO or chairman or both (Ghabayen, 2012). Involving family members in firm management has a strong positive impact on firm performance because they have relative knowledge, experiences and a better understanding of the business. The benefits of family ownership in Saudi firms can also include providing capital or facilitating the lending process between their firms and banks by providing personal guarantees for their firm’s bank loans (Barakat & Rao, 2004). Such a benefit is very important due to the limited access to the external financial markets in Saudi Arabia (Piesse et al., 2012).

The finding of this study regarding the positive relationship between family ownership involvement in management and firm performance measured by ROA and ROE is empirically consistent with a large number of previous studies such as those undertaken in Lebanon (Charbel, Elie, & Georges, 2013), Hong Kong (Carney & Gedajlovic, 2002)
and China (Martinez et al., 2007). The positive relationship is also reported in some developed countries such as the US and European countries (Anderson & Reeb, 2003; Barontini & Caprio, 2006; Martikainen et al., 2009; Maury, 2006). Recently, Zattoni et al. (2015) investigated Norwegian firms and report that family involvement in the business positively influences firm performance. They conclude that the presence of family members on the board of directors increases the effectiveness of the board due to their superior knowledge on how to run their firms. Similarly, Isakov and Weisskopf (2009) investigate the impact of family ownership on the performance of Swiss firms and report that firm performance is likely to be enhanced only if family members are involved in the management of the firm.

In terms of market-based measures, the results indicate that there is no significant relationship between family ownership and firm value measured by Tobin’s Q and MTB. This finding is consistent with previous studies conducted in developing countries. For example, Chang and Shin (2007) and Abdullah et al. (2011) report that there is no significant association between family ownership and Tobin’s Q or MTB in Korean and Pakistani firms. On the other hand, this finding of the study is contrary to some studies that reveal a positive impact of family ownership on firm value in developed countries, such as studies undertaken by Saito (2008) in Japan and Villalonga and Amit (2006) in the US.

The results of the control variables show that while firm size and firm growth have a significant positive relationship with ROA and ROE, capital expenditure is positively related to Tobin’s Q and MTB. In contrast, there is a negative relationship between firm age and firm performance under all performance measures except ROA. A negative relationship is also observed between leverage and both ROA and ROE. These results are consistent with the findings of Models 6 and 7 which are discussed in Section 8.2.

**8.5 Institutional Ownership and Firm Performance**

This section provides the results of both ANOVA and regression analysis used to investigate the ninth hypothesis which suggests a positive relationship between institutional ownership and firm performance.
As an initial step to examine the ninth hypothesis, an ANOVA test is used to compare firm performance among different levels of institutional ownership. Based on the criterion used in this study, the sample is divided into three levels of institutional ownership:

- High level: including firms with a proportion of institutional ownership more than 15% (the mean + 0.50 standard deviation).
- Medium level: including firms with a proportion of institutional ownership between 5% and 15% (the mean ± 0.50 standard deviation).
- Low level: including firms with a proportion of institutional ownership less than 5% (the mean − 0.50 standard deviation).

A comparison of the means of the four firm performance measures for the three levels of institutional ownership is presented in Table 8.11.

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 15%)</td>
<td>101</td>
<td>0.085</td>
<td>0.109</td>
<td>1.960</td>
<td>2.535</td>
</tr>
<tr>
<td>Medium (5% to 15%)</td>
<td>46</td>
<td>0.094</td>
<td>0.156</td>
<td>1.743</td>
<td>2.320</td>
</tr>
<tr>
<td>Low (less than 5%)</td>
<td>499</td>
<td>0.076</td>
<td>0.104</td>
<td>1.889</td>
<td>2.381</td>
</tr>
</tbody>
</table>

Table 8.11 illustrates that while the three levels of institutional ownership achieved relatively similar ROA, Tobin’s Q and MTB, the performance of firms with a medium level of institutional ownership was considerably higher under ROE than other firms with a high or low level. The differences in the means of firm performance among the three levels of institutional ownership can be seen in Figure 8.4.

Figure 8.4: Firm performance among the three levels of institutional ownership

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31 The criterion used in this study is mean ± 0.50 standard deviation. The average institutional ownership in the sample was 7% and the standard deviation was 15%. Because the mean - 0.50 standard deviation is less than 5%, 5% is used as an alternative percentage.
In order to examine whether the differences among the three levels of institutional ownership are statistically significant, a one-way ANOVA test and t-tests are used. Table 8.12 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three levels of institutional ownership.

Table 8.12: ANOVA and t-test results for the differences in the means of performance among the three levels of institutional ownership

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
<td>High &amp; Low</td>
</tr>
<tr>
<td>ROA</td>
<td>1.07</td>
<td>0.34</td>
<td>0.74</td>
</tr>
<tr>
<td>ROE</td>
<td>3.03</td>
<td>0.05</td>
<td>0.34</td>
</tr>
<tr>
<td>Q</td>
<td>0.49</td>
<td>0.61</td>
<td>0.55</td>
</tr>
<tr>
<td>MTB</td>
<td>0.38</td>
<td>0.68</td>
<td>0.81</td>
</tr>
</tbody>
</table>

As can be observed in Table 8.12, the results of the ANOVA test show that the differences in the means among the three levels of institutional ownership are significant only under ROE. Regarding the t-tests, the results indicate that the significant differences in means are found only between the medium and low levels of institutional ownership under ROA and ROE, and between the high and medium levels of institutional ownership based on ROE. Taken as a whole, the results reported in Table 8.12 do not support the proposition that institutional ownership is related to Saudi firms’ performance.
In order to formally examine the relationship between institutional ownership and firm performance, regression Model 9 is employed. Table 8.13 shows the regression results from the estimation of this model.

Table 8.13: Regression analysis of institutional ownership and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fixed Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.201</td>
<td>-0.351***</td>
<td>1.473</td>
<td>6.997***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.45)</td>
<td>(-3.16)</td>
<td>(1.19)</td>
<td>(3.73)</td>
<td></td>
</tr>
<tr>
<td>INST</td>
<td>-0.062</td>
<td>0.095</td>
<td>-0.276</td>
<td>-0.251</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.73)</td>
<td>(1.23)</td>
<td>(-0.78)</td>
<td>(-0.47)</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.024</td>
<td>0.021***</td>
<td>0.009</td>
<td>0.034</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.34)</td>
<td>(4.28)</td>
<td>(0.20)</td>
<td>(0.49)</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.075**</td>
<td>-0.022**</td>
<td>-0.541***</td>
<td>-2.840***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.95)</td>
<td>(-2.17)</td>
<td>(-5.11)</td>
<td>(-17.27)</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.055***</td>
<td>0.075***</td>
<td>-0.013</td>
<td>-0.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5.36)</td>
<td>(6.44)</td>
<td>(-0.65)</td>
<td>(-0.57)</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.019</td>
<td>-0.003</td>
<td>0.189**</td>
<td>0.257**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.72)</td>
<td>(-0.07)</td>
<td>(2.07)</td>
<td>(2.02)</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.164***</td>
<td>-0.174***</td>
<td>-0.078</td>
<td>0.158</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-3.14)</td>
<td>(-4.56)</td>
<td>(-0.80)</td>
<td>(1.10)</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>----</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.808</td>
<td>0.117</td>
<td>0.829</td>
<td>0.795</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>21.803***</td>
<td>5.682***</td>
<td>24.912***</td>
<td>20.188***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, INST is institutional ownership, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As shown in Table 8.13, the regression coefficients suggest that there is no relationship between institutional ownership and firm performance under all performance measures (ROA, ROE, Tobin’s Q and MTB). For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on the regression results, the ninth hypothesis which suggests a positive relationship between institutional
ownership and firm performance is rejected. In general, the results of the regression analysis are consistent with the results obtained from the ANOVA test.

The finding of this study regarding the insignificant impact of institutional ownership is inconsistent with agency theory and resource dependency theory. Both theories assume a positive impact of institutional ownership on firm performance. While agency theory focuses on the ability of institutional investors to control managers’ actions and thus reduce agency problems as well as agency costs (Jensen & Meckling, 1976; McKnight & Weir, 2009), resource dependency theory attributes the positive impact of institutional investors to the substantial managerial and financial resources that institutional investors can provide (Alves, 2012; Arouri et al., 2014).

The insignificant relationship between institutional ownership and Saudi firms’ performance, observed in this study, could be attributed to the small proportion of institutional ownership, which represents only 7% of Saudi firms’ shares and is found only in 24 firms. This finding of the study is in line with previous studies undertaken in Arabic countries. For example, Aljifri and Moustafa (2007) and Arouri, Hossain, and Muttakin (2011) report that institutional ownership has no impact on ROA and Tobin’s Q in the UAE and the GCC countries. The same result is also revealed in studies conducted in Japan, German and the UK (Faccio & Lasfer, 2000; Seifert et al., 2005). On the other hand, this finding of the study is contrary to some studies that show either a positive or a negative relationship between institutional ownership and firm performance. For example, while studies undertaken in Malaysia, Ghana and the US reveal a positive association between institutional ownership and firm performance (Fung & Tsai, 2012; Kyereboah-Coleman, 2008; Leng, 2004), other studies conducted in Bangladesh, Iran and France show a negative relationship (Al Farooque et al., 2007; Lanouar & Elmarzougui, 2011; Mashayekhi & Bazaz, 2008).

The regression results related to the control variables are relatively similar to the results obtained from Models 6, 7, and 8. The results show that there is a positive relationship between firm growth and both ROA and ROE, between firm size and ROE, and between capital expenditure and both Tobin’s Q and MTB. On the other hand, a negative
relationship is found between firm age and firm performance under all performance measures, and between leverage and accounting-based measures. These results are discussed in Section 8.2.

8.6 Managerial Ownership and Firm Performance

In order to examine the tenth hypothesis which states that there is a positive relationship between managerial ownership and firm performance, ANOVA and regression analysis are used. The results of both tests are provided in this section.

The relationship between managerial ownership and firm performance is firstly examined using an ANOVA test to compare firm performance among various levels of managerial ownership. Based on the criterion used in this study, the sample is divided into three levels of managerial ownership:

- High level: including firms with a proportion of managerial ownership more than 30% (the mean + 0.50 standard deviation).
- Medium level: including firms with a proportion of managerial ownership between 8% and 30% (the mean ± 0.50 standard deviation).
- Low level: including firms with a proportion of managerial ownership less than 8% (the mean − 0.50 standard deviation).

Table 8.14 provides the means of the four firm performance measures for each level of managerial ownership.

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firms</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 30%)</td>
<td>159</td>
<td>0.103</td>
<td>0.172</td>
<td>1.896</td>
<td>2.729</td>
</tr>
<tr>
<td>Medium (8% to 30%)</td>
<td>196</td>
<td>0.074</td>
<td>0.090</td>
<td>1.604</td>
<td>1.970</td>
</tr>
<tr>
<td>Low (less than 8%)</td>
<td>291</td>
<td>0.068</td>
<td>0.084</td>
<td>2.090</td>
<td>2.521</td>
</tr>
</tbody>
</table>

As Table 8.14 shows, firms with a high level of managerial ownership achieved higher

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32 The criterion used in this study is mean ± 0.50 standard deviation. The average managerial ownership in the sample was 19% and the standard deviation was 22%.
performance in terms of ROA, ROE and MTB than other firms with a medium or low level. In addition, while firms with a medium level of managerial ownership and those with a low level had relatively similar performance under accounting-based measures, firms with a low level of managerial ownership achieved higher Tobin’s Q and MTB than those with a medium level. The differences in the means of firm performance among the three levels of managerial ownership can be seen in Figure 8.5.

Figure 8.5: Firm performance among the three levels of managerial ownership

In order to investigate whether the differences among the three levels of managerial ownership are statistically significant, a one-way ANOVA test and t-tests are used. Table 8.15 presents the results of the ANOVA and the t-tests for the differences in the means of performance among the three levels of managerial ownership.
As Table 8.15 shows, the results of the ANOVA test indicate that there are significant differences in the means of all performance measures (ROA, ROE, Tobin’s Q and MTB) across the three levels of managerial ownership. The results of the t-tests show that there are significant differences in means between the high and medium levels of managerial ownership based on all measures (ROA, ROE, Tobin’s Q and MTB). In addition, while the differences in means between the high and low levels of managerial ownership are found to be significant only under accounting-based measures (ROA and ROE), the differences in means between the medium and low levels of managerial ownership are significant only under market-based measures (Tobin’s Q and MTB).

The study uses regression analysis as the main analytical method to test the tenth hypothesis. Table 8.16 shows the regression results of Model 10 which is used to investigate the relationship between Institutional ownership and firm performance.
As can be observed in Table 8.16, the regression results regarding the association between managerial ownership and firm performance indicate that there is a positive relationship between managerial ownership and firm performance measured by ROA and ROE at the 5% and 1% levels of significance, respectively. On the other hand, there is no relationship between managerial ownership and firm value measured by Tobin’s Q and MTB. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on these results, the tenth hypothesis which suggests a positive relationship between managerial ownership and firm performance is supported under accounting-based measures (ROA and ROE), whereas it is rejected under market-based measures (Tobin’s Q and MTB). The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the ANOVA test. However, after controlling for other factors that explain firm performance, the relationship between market-based measures of firm performance and managerial ownership is not robust.

The positive impact of managerial ownership on firm performance measured by ROA and ROE is in line with a stewardship theory perspective. This theory assumes that
managers are good stewards of firms and their interests are aligned with organizational goals (Davis et al., 1997; Donaldson & Davis, 1994). Due to the alignment of the interests of managers with those of shareholders, managerial ownership can positively influence firm performance by increasing managers’ loyalty and creating a close relationship between managers and their firms (Himmelberg et al., 1999; Mueller & Spitz-Oener, 2006). In addition, managers with high levels of ownership can benefit their firms by exploiting market opportunities, promoting the internationalisation of management and providing more effective oversight of decision-making processes (Prasnikar & Gregoric, 2002). On the other hand, while this finding of the study is consistent with agency theory regarding the positive role of managerial ownership in mitigating the inherent conflict of interest between managers and shareholders, it is inconsistent with the perspective of agency theory in terms of the negative effect of managerial ownership, as this theory views managers as self-interested who tend to pursue their own private interests at the expense of shareholders. When managers have a large stake in a firm, they can engage in non-value-maximizing activities and expropriate the firm’s resources for their own benefits (Himmelberg et al., 1999).

In the Saudi context, the positive effect of managerial ownership on firm performance can be explained by the fact that managers in Saudi firms are seen as good stewards who work diligently to achieve a high level of corporate profit and shareholder returns. This could be attributed to religious, social and cultural factors. Islamic teachings require Muslims to stay away from unfair behaviour such as deception, stealing, explicitly cheating and bribery. Consequently, all employees in a firm, including managers, executives and directors, are liable to act in accordance to Islamic values including justice, secretariat and truthfulness. In addition, personal integrity, reputation and trust are essential in the Saudi business environment, and relevant knowledge and experience are highly desirable. Therefore, Saudi managers are not expected to extract private benefits or engage in value-destructive activities. Furthermore, the high level of family ownership in Saudi firms can be considered as another reason that leads to the positive impact of managerial ownership on Saudi firms’ performance. That is, the majority of managerial ownership in Saudi firms is controlled by family owners who have a wide business background and experience that they can draw on to enhance firm performance. This
finding supports the argument built in this study regarding the positive impact of family owners who participate in the management of the firm, as discussed in Section 8.4.

The positive relationship between managerial ownership and firm performance observed in this study is in line with some previous studies. For example, Uwuigbe & Olusanmi (2012) and Chung et al. (2008) report a positive effect of managerial ownership on firm performance in Nigeria and Korea, respectively. On the other hand, this finding of the study is inconsistent with some studies undertaken in developed countries, such as Germany, Canada and Turkey, that show either a negative or an insignificant relationship between managerial ownership and firm performance (Irina & Nadezhda, 2009; Juras & Hinson, 2008; Mandacı & Gumus, 2010; Siala et al., 2009). The inconsistency in the results could be attributed to the differences between these countries and Saudi Arabia in terms of culture, religion and ownership structure. In terms of market-based measures, the results indicate that there is no significant relationship between managerial ownership and Tobin’s Q or MTB. The same relationship is revealed in studies undertaken by Imam and Malik (2007) in Bangladesh and Nuryanah and Islam (2011) in Indonesia. On the other hand, this finding of the study is contrary to some studies that show a positive impact of managerial ownership on firm value (Florackis, 2005; Kapopoulos & Lazaretou, 2007; Sánchez-Ballesta & García-Meca, 2007; Sing & Sirmans, 2008).

The regression results related to the control variables are similar to the results obtained from previous Models (6, 7 and 8). Table 8.16 shows that while ROA and ROE are positively associated with firm size and firm growth, they have a negative relationship with leverage. In addition, there is a negative relationship between firm age and ROE, Tobin’s Q and MTB. However, capital expenditure is positively associated with Tobin’s Q and MTB. These results are discussed in Section 8.2.

8.7 Robustness Test

To address the potential endogeneity problems, the study re-estimates the main models with a one-year lag between the dependent variables (firm performance) and the independent variables (ownership and control variables). The results obtained from the lagged structure models are presented and discussed in this section. In addition, a
comparison between these results and the results obtained from the main regression models is made to check the robustness of the results reported in the previous sections.

A. Ownership Concentration and Firm Performance

To check the robustness of the results of the test of hypothesis six, Model 6 is re-estimated using a lagged structure model. Table 8.17 shows the results of the regression analysis for the relationship between ownership concentration and lagged firm performance.

<table>
<thead>
<tr>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.106</td>
<td>-0.173</td>
<td>2.036**</td>
<td>2.969*</td>
</tr>
<tr>
<td></td>
<td>(-1.20)</td>
<td>(-1.28)</td>
<td>(1.83)</td>
<td>(1.83)</td>
</tr>
<tr>
<td>OWN</td>
<td>0.046**</td>
<td>0.048</td>
<td>-0.058</td>
<td>-0.046</td>
</tr>
<tr>
<td></td>
<td>(2.04)</td>
<td>(1.40)</td>
<td>(-0.61)</td>
<td>(-0.36)</td>
</tr>
<tr>
<td>FS</td>
<td>0.005</td>
<td>0.010*</td>
<td>-0.011</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(1.37)</td>
<td>(1.66)</td>
<td>(-0.26)</td>
<td>(-0.06)</td>
</tr>
<tr>
<td>AGE</td>
<td>0.001</td>
<td>-0.011</td>
<td>-0.580***</td>
<td>-0.974***</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(-1.03)</td>
<td>(-6.10)</td>
<td>(-7.37)</td>
</tr>
<tr>
<td>FG</td>
<td>0.022***</td>
<td>0.033***</td>
<td>0.008</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(2.64)</td>
<td>(2.60)</td>
<td>(0.37)</td>
<td>(0.28)</td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.014</td>
<td>-0.025</td>
<td>0.147**</td>
<td>0.206**</td>
</tr>
<tr>
<td></td>
<td>(-0.43)</td>
<td>(-0.50)</td>
<td>(2.09)</td>
<td>(2.12)</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.079***</td>
<td>-0.053</td>
<td>-0.023</td>
<td>0.146</td>
</tr>
<tr>
<td></td>
<td>(-2.81)</td>
<td>(-1.22)</td>
<td>(-0.21)</td>
<td>(0.93)</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.086</td>
<td>0.081</td>
<td>0.848</td>
<td>0.816</td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.591***</td>
<td>2.416***</td>
<td>24.496***</td>
<td>19.690***</td>
</tr>
</tbody>
</table>
As shown in Table 8.17, the results obtained from the lagged model suggest that there is a positive relationship between ownership concentration and firm performance measured by ROA at the 5% level of significance. However, ownership concentration has no impact on ROE, Tobin’s Q or MTB. These results are similar to the results obtained from the main regression model except the relationship between ownership concentration and ROE which is positive and significant in the unlagged model, whereas it is positive but insignificant in the lagged model. This suggests that the majority of the results based on the main regression model reported in Section 8.2 are robust. However, the inconsistency in the results of ROE may indicate the presence of endogeneity issues in the relationship between ownership concentration and ROE. This inconsistency can also be explained by the differences in the number of firm-year observations between the lagged and unlagged models.

The results related to the control variables are almost similar across the two models (lagged and unlagged) except those related to the relationship between ROE and both firm age and leverage, and between ROA and firm size which turn insignificant in the lagged model. This similarity in the overall findings of both models confirms the robustness of the results and supports the findings reported in Section 8.2.

B. Government Ownership and Firm Performance

To check the robustness of the results of the test of hypothesis seven, Model 7 is re-estimated using a lagged structure model. Table 8.18 shows the results of the regression analysis for the relationship between government ownership and lagged firm performance.
As shown in Table 8.18, the results of the lagged model regarding the impact of government ownership on firm performance are similar to the results obtained from the unlagged model. The results of both models show that there is no significant relationship between government ownership and firm performance under all performance measures. In addition, the results related to the control variables are relatively similar across both models (lagged and unlagged) except those related to the relationship between ROE and both firm age and leverage, and between ROA and firm age which turn insignificant in the lagged model. The consistency in the findings of the two models supports the results reported in Section 8.3.
C. Family Ownership and Firm Performance

To check the robustness of the results of the test of hypothesis eight, Model 8 is re-estimated using a lagged structure model. Table 8.19 presents the results of the regression analysis for the relationship between family ownership and lagged firm performance.

Table 8.19: Regression analysis of family ownership and lagged firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA Random Effects</th>
<th>ROA Fixed Effects</th>
<th>ROE Random Effects</th>
<th>ROE Fixed Effects</th>
<th>Q Random Effects</th>
<th>Q Fixed Effects</th>
<th>MTB Random Effects</th>
<th>MTB Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.106</td>
<td>-0.177</td>
<td>1.939*</td>
<td>2.856*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAM</td>
<td>0.006</td>
<td>0.015</td>
<td>0.076</td>
<td>0.119</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.006</td>
<td>0.011*</td>
<td>-0.009</td>
<td>-0.001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.003</td>
<td>-0.014</td>
<td>-0.576***</td>
<td>-0.968***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.021***</td>
<td>0.033***</td>
<td>0.008</td>
<td>0.008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.009</td>
<td>-0.021</td>
<td>0.135*</td>
<td>0.191**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.073***</td>
<td>-0.049</td>
<td>-0.034</td>
<td>0.134</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.075</td>
<td>0.076</td>
<td>0.848</td>
<td>0.816</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.225***</td>
<td>2.265***</td>
<td>24.499***</td>
<td>19.730***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, FAM is family ownership, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

The results obtained from the lagged model show an insignificant relationship between family ownership and firm performance under all performance measures. These results are similar to the results obtained from the main regression model (unlagged). In addition, the results related to the control variables are almost similar across both models except those related to the relationship between ROE and both firm age and leverage, and
between ROA and firm size which turn out to be insignificant in the lagged model. This similarity in the findings of both models confirms the robustness of the results and supports the findings reported in Section 8.4.

To investigate the robustness of the results related to family ownership involvement in management, Model 8 is re-estimated using a lagged structure model. Table 8.20 shows the results of the regression analysis for the relationship between family ownership involvement in management and lagged firm performance.

Table 8.20: Regression analysis of family ownership involvement in management and lagged firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA Random Effects</th>
<th>ROA Random Effects</th>
<th>ROE Random Effects</th>
<th>ROE Random Effects</th>
<th>Q Fixed Effects</th>
<th>Q Fixed Effects</th>
<th>MTB Fixed Effects</th>
<th>MTB Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>-0.107 (-1.18)</td>
<td>-0.180 (-1.32)</td>
<td>2.000* (1.80)</td>
<td>2.930* (1.81)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAM</td>
<td></td>
<td>0.016 (0.60)</td>
<td>0.032 (0.80)</td>
<td>-0.024 (-0.22)</td>
<td>-0.005 (-0.04)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td></td>
<td>0.006 (1.55)</td>
<td>0.011* (1.79)</td>
<td>-0.010 (-0.24)</td>
<td>-0.002 (-0.04)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td></td>
<td>-0.002 (-0.31)</td>
<td>-0.013 (-1.16)</td>
<td>-0.580*** (-6.06)</td>
<td>-0.974*** (-7.28)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td></td>
<td>0.021*** (2.61)</td>
<td>0.033*** (2.60)</td>
<td>0.008 (0.37)</td>
<td>0.008 (0.28)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td></td>
<td>-0.010 (-0.32)</td>
<td>-0.023 (-0.46)</td>
<td>0.144** (2.03)</td>
<td>0.202** (2.09)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td></td>
<td>-0.074*** (-2.61)</td>
<td>-0.051 (-1.18)</td>
<td>-0.027 (-0.25)</td>
<td>0.142 (0.91)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td></td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.076</td>
<td>0.078</td>
<td>0.848</td>
<td>0.816</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.264***</td>
<td>2.321***</td>
<td>24.460***</td>
<td>19.675***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, FAM is family ownership involvement in management, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure, LEV is leverage ratio and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
As shown in Table 8.20, the results obtained from the lagged model show that there is no significant relationship between family ownership involvement in management and firm performance under all performance measures. While the results of Tobin’s Q and MTB are similar across both models (lagged and unlagged), the results of ROA and ROE are inconsistent. While the relationship between family ownership involvement in management and both ROA and ROE is positive and significant in the main regression model (unlagged), it is positive but insignificant in the lagged model. The inconsistency in the results of ROA and ROE may indicate the presence of endogeneity issues in the relationship between family ownership involvement in management and both ROA and ROE. This inconsistency could also be attributed to the differences in the number of firm-year observations between the lagged and unlagged models.

Regarding the control variables, while the majority of these variables remain unchanged whether a lagged or an unlagged model is estimated, a limited number of variables show some changes in the level of significance. These include the relationship between ROA and firm size, and between ROE and both firm age and leverage which turn insignificant under the lagged model.

**D. Institutional Ownership and Firm Performance**

To check the robustness of the results of the test of hypothesis nine, Model 9 is re-estimated using a lagged structure model. Table 8.21 shows the results of the regression analysis for the relationship between institutional ownership and lagged firm performance.

<table>
<thead>
<tr>
<th>IVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.390*</td>
<td>-0.192</td>
<td>2.027*</td>
<td>2.977*</td>
</tr>
<tr>
<td></td>
<td>(1.70)</td>
<td>(-1.38)</td>
<td>(1.76)</td>
<td>(1.77)</td>
</tr>
<tr>
<td>INST</td>
<td>-0.061</td>
<td>0.132</td>
<td>-0.421</td>
<td>-0.493</td>
</tr>
<tr>
<td></td>
<td>(-1.04)</td>
<td>(1.63)</td>
<td>(-1.30)</td>
<td>(-1.01)</td>
</tr>
<tr>
<td>FS</td>
<td>-0.050</td>
<td>0.011*</td>
<td>-0.010</td>
<td>-0.003</td>
</tr>
<tr>
<td></td>
<td>(-1.50)</td>
<td>(1.87)</td>
<td>(-0.23)</td>
<td>(-0.04)</td>
</tr>
</tbody>
</table>
Similar to the results based on estimating the unlagged model, the results of the lagged model show an insignificant relationship between institutional ownership and firm performance under all performance measures. In addition, the results related to the control variables are relatively similar across both models (lagged and unlagged) except those related to the relationship between firm age and ROE, and between leverage and both ROA and ROE which turn insignificant in the lagged model. The consistency in the findings of the two models supports the results reported in Section 8.5.

### E. Managerial Ownership and Firm Performance

To check the robustness of the results of the test of hypothesis ten, Model 10 is re-estimated using a lagged structure model. Table 8.22 shows the results of the regression analysis for the relationship between managerial ownership and lagged firm performance.
As shown in Table 8.22, the results of the lagged model suggest that there is no significant relationship between managerial ownership and firm performance under all performance measures. The results of Tobin’s Q and MTB are consistent with the results obtained from the main regression model (unlagged), which supports the results reported in Section 8.6. However, the results of ROA and ROE are not similar to the results obtained from the unlagged model. While the relationship between managerial ownership and both ROA and ROE is positive and significant based on the unlagged model, it is not significant under the lagged model. The insignificant relationship between these variables in the lagged model can be attributed to the differences in the number of firm-year observations.
between the lagged and unlagged models. It could also be an endogeneity problem in the relationship between managerial ownership and both ROA and ROE.

Regarding the control variables, while the results of Tobin’s Q and MTB are similar across both the lagged and unlagged models, there are some differences between the two models under ROA and ROE. Specifically, the relationship between ROE and both firm age and leverage, and between ROA and both firm size and leverage turn insignificant under the lagged model. On the other hand, the relationship between ROA and firm age turns significant under the lagged model.

8.8 Summary

This chapter reports and discusses the results related to the second research question concerning the relationship between ownership structure and Saudi firms’ performance. ANOVA, t-tests and regression analysis are used to investigate the influence of different types of ownership, namely ownership concentration, government, family, institutional and managerial ownership, on firm performance.

The regression results show that while there is a significant positive relationship between ownership concentration and firm performance measured by ROA and ROE, ownership concentration has no impact on firm value measured by Tobin’s Q and MTB. Regarding the types of ownership, the regression results indicate that only family ownership and managerial ownership have a positive impact on firm performance as measured by ROA and ROE. Interestingly, family ownership is found to have a positive impact on firm performance only when family owners are on the board of directors. However, their impact becomes insignificant if they do not play a formal role in the firm’s management. These findings are consistent with stewardship and resource dependency theories, which argue that ownership concentration especially in the form of family and managerial ownership has a strong positive impact on firm performance. The results of the regression analysis also show that there is no significant relationship between any type of ownership and firm value as measured by Tobin’s Q and MTB.
Based on these results, hypotheses six, eight and ten, which are related to ownership concentration, family ownership and managerial ownership, are supported under accounting-based measures (ROA and ROE), whereas these hypotheses are rejected based on market-based measures (Tobin’s Q and MTB). In addition, hypotheses seven and nine, which concern government and institutional ownership, are rejected under all performance measures. Table 8.23 summarizes the findings related to each of these hypotheses.

Table 8.23: Summary of the research hypotheses and the findings related to ownership structure

<table>
<thead>
<tr>
<th>#</th>
<th>Hypothesis</th>
<th>ROA</th>
<th>ROE</th>
<th>Tobin’s Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6</td>
<td>There is a positive relationship between ownership concentration and firm performance.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H7</td>
<td>There is a positive relationship between government ownership and firm performance.</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H8</td>
<td>There is a positive relationship between family ownership and firm performance.</td>
<td>Supported*</td>
<td>Supported*</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H9</td>
<td>There is a positive relationship between institutional ownership and firm performance.</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H10</td>
<td>There is a positive relationship between managerial ownership and firm performance.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

* Only for family owners who are on the board of directors.

The chapter also discusses the results obtained from lagged structure models. The lagged models were used to address potential endogeneity problems. While the results related to ownership concentration, government and institutional ownership are similar across both models (lagged and unlagged), the impact of family and managerial ownership on ROA and ROE turns insignificant under the lagged model. In terms of market-based measures, the results of both models remain unchanged whether a lagged or an unlagged model is estimated. In addition, the results of the control variables are substantively similar across
both models. These similarities in the overall findings imply the robustness of the results obtained from the main regression models.

The next chapter presents and discusses the results of the analysis regarding the relationship between capital structure and firm performance along with a discussion of these results in light of the relevant literature.
Chapter Nine: Results and Discussion

Capital Structure and Firm Performance

9.1 Introduction

This chapter presents and discusses the results of the analysis conducted to answer the third research question concerning the relationship between capital structure and Saudi firms’ performance. It presents the results of both univariate and multivariate analysis (ANOVA and regression analysis)\(^{33}\). As discussed in Chapter Five, two hypotheses are developed under the third research question, which are related to the impact of capital structure and Islamic financing on firm performance. The results of the analysis undertaken to test each of these hypotheses are reported along with a discussion of the findings in light of the relevant literature in Sections 9.2 and 9.3. The results of robustness tests carried out to deal with potential endogeneity problems are presented and discussed in Section 9.4. The chapter ends with a summary of the main findings.

9.2 Capital Structure and Firm Performance

This section provides the results of both ANOVA and regression analysis used to examine the eleventh hypothesis which suggests a negative relationship between capital structure (debt ratio) and firm performance.

The study uses an ANOVA test, as an initial step, to compare firm performance among various levels of capital structure measured by the debt ratio. Based on the criterion used in this study, the sample is divided into three levels of the total debt ratio\(^{34}\):

- High level: including firms with a total debt ratio more than 29% (the mean + 0.50 standard deviation).

\(^{33}\) Because the results obtained from ANOVA may be driven by other omitted variables that can directly influence firm performance such as firm size, growth and leverage, regression analysis is used as the main analytical method of this study to control for these variables.

\(^{34}\) The criterion used in this study is mean ± 0.50 standard deviation. The average total debt ratio in the sample was 20% and the standard deviation was 18%.
• Medium level: including firms with a total debt ratio between 11% and 29% (the mean ± 0.50 standard deviation).
• Low level: including firms with a total debt ratio less than 11% (the mean – 0.50 standard deviation).

Table 9.1 provides the means of the four firm performance measures for each level of total debt ratio.

<table>
<thead>
<tr>
<th>Level</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (more than 29%)</td>
<td>222</td>
<td>0.054</td>
<td>0.091</td>
<td>1.396</td>
<td>1.982</td>
</tr>
<tr>
<td>Medium (11% to 29%)</td>
<td>151</td>
<td>0.088</td>
<td>0.128</td>
<td>1.855</td>
<td>2.427</td>
</tr>
<tr>
<td>Low (less than 11%)</td>
<td>273</td>
<td>0.093</td>
<td>0.110</td>
<td>2.298</td>
<td>2.717</td>
</tr>
</tbody>
</table>

As Table 9.1 shows, the performance of firms with a high debt ratio was considerably lower than other firms under all performance measures (ROA, ROE, Tobin’s Q and MTB). In addition, while firms with a medium level of debt ratio and those with a low level of debt ratio had relatively similar performance under accounting-based measures, firms with a low level of debt ratio achieved higher Tobin’s Q and MTB compared with other firms with a medium level of debt ratio.

The differences in the means of firm performance among the three levels of total debt ratio can be observed in Figure 9.1.
In order to examine whether the differences across the three levels of total debt ratio are statistically significant, a one-way ANOVA test is employed. In addition, a t-test is used to find out whether a significant difference between each pair of levels exists. Table 9.2 presents the results of the ANOVA and the t-tests for the differences in the means of performance across the three levels of total debt ratio.

Table 9.2: ANOVA and t-test results for the differences in the means of performance among the three levels of total debt ratio

<table>
<thead>
<tr>
<th>Measure</th>
<th>ANOVA</th>
<th>t-test</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p-value</td>
<td>t</td>
<td>p-value</td>
<td>t</td>
<td>p-value</td>
</tr>
<tr>
<td>ROA</td>
<td>13.59</td>
<td>0.00</td>
<td>-4.85</td>
<td>0.00</td>
<td>-5.03</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>3.66</td>
<td>0.02</td>
<td>-1.62</td>
<td>0.10</td>
<td>-2.86</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>39.84</td>
<td>0.00</td>
<td>-8.62</td>
<td>0.00</td>
<td>-5.95</td>
<td>0.00</td>
</tr>
<tr>
<td>MTB</td>
<td>11.35</td>
<td>0.00</td>
<td>-4.74</td>
<td>0.00</td>
<td>-3.11</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As can be observed in Table 9.2, the results of the ANOVA test indicate that there are significant differences in the means of all performance measures among the three levels of total debt ratio. The results of the t-tests show that there are significant differences in means between the high and low levels and between the high and medium levels of debt ratio based on all measures (ROA, ROE, Tobin’s Q and MTB), with the only one exception being the insignificant difference in the mean of ROE between the high and
low levels of debt ratio. On the other hand, the differences in means between the medium and low levels of debt ratio are only significant under Tobin’s Q.

In order to formally examine the relationship between debt ratio and firm performance, regression Model 11 is employed. Table 9.3 shows the regression results from the estimation of this model.

Table 9.3: Regression analysis of total debt ratio and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVs</td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.206***</td>
<td>-0.337***</td>
<td>1.408</td>
<td>6.937***</td>
<td></td>
</tr>
<tr>
<td>TD</td>
<td>-0.159***</td>
<td>-0.174***</td>
<td>-0.078</td>
<td>0.158</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.013***</td>
<td>0.021***</td>
<td>0.011</td>
<td>0.036</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.011*</td>
<td>-0.026***</td>
<td>-0.535***</td>
<td>-2.834***</td>
<td></td>
</tr>
<tr>
<td>FG</td>
<td>0.055***</td>
<td>0.075***</td>
<td>-0.014</td>
<td>-0.015</td>
<td></td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.015</td>
<td>-0.002</td>
<td>0.189**</td>
<td>0.256**</td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.146</td>
<td>0.116</td>
<td>0.828</td>
<td>0.795</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.383***</td>
<td>5.891***</td>
<td>25.048***</td>
<td>20.343***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, TD is total debt ratio, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As shown in Table 9.3, the regression coefficients suggest that there is a significant negative relationship between total debt ratio and firm performance measured by ROA and ROE at the 1% level of significance. However, total debt ratio has no impact on firm value measured by Tobin’s Q and MTB. Based on the regression results, the eleventh hypothesis which suggests a negative relationship between capital structure (total debt ratio) and firm performance is supported under ROA and ROE, whereas it is rejected.
under Tobin’s Q and MTB. The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the ANOVA test. However, after controlling for other factors that explain firm performance, the relationship between market-based measures of firm performance and the total debt ratio is not robust. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable.

As a further analysis, the study examines the impact of the maturity structure of debt on firm performance. The total debt ratio is decomposed into two components: long-term debt ratio and short-term debt ratio. Regression Model 12 is used to test the relationship between the two types of debt (long-term debt and short-term debt) and firm performance. Table 9.4 shows the regression results from the estimation of this model.

Table 9.4: Regression analysis of the two types of debt (long-term and short-term) and firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.174</td>
<td>-0.110</td>
<td>1.475</td>
<td>7.026***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.39)</td>
<td>(-0.15)</td>
<td>(1.22)</td>
<td>(3.92)</td>
<td></td>
</tr>
<tr>
<td>LD</td>
<td>-0.129***</td>
<td>-0.140*</td>
<td>-0.021</td>
<td>0.233</td>
<td></td>
</tr>
</tbody>
</table>
As can be observed in Table 9.4, the results of the regression analysis show a significant negative relationship between long-term debt and firm performance measured by ROA and ROE at the 1% and 10% levels of significance, respectively. Similarly, short-term debt has a significant negative relationship with firm performance under accounting-based measures (ROA and ROE) at the 1% level of significance. On the other hand, both types of debt (long-term and short-term) have no impact on firm value measured by Tobin’s Q and MTB. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on these results, the maturity of debt does not affect the relationship between capital structure and firm performance, given long-term debt and short-term debt are both significantly negatively related to the accounting measures of performance.

The result of this study regarding the negative relationship between capital structure and firm performance measured by ROA and ROE is in line with the proposition of pecking
order theory. This theory suggests that firms prefer internal financing through retained earnings, followed by debt and then external equity (Donaldson, 1961). According to the pecking order theory, highly profitable firms are likely to have more retained earnings and therefore depend upon internal funds to finance their investments (Myers, 1984). On the other hand, this finding is inconsistent with the trade-off theory which argues that firms prefer debt financing to benefit from the tax shield (Kraus & Litzenberger, 1973).

In the Saudi context, the negative relationship between capital structure and firm performance can be attributed mainly to the absence of income tax. Although Saudi firms are required to pay Zakat instead of tax, the Zakat system is totally different in terms of the calculation method and the rate, given that Zakat is a flat-rate fixed percentage (2.5%) of net wealth deducted annually (Al-Sakran, 2001). The minimal rate of Zakat reduces the tax advantage of debt, and thus the cost of raising debt exceeds the tax benefits. Consequently, an increase in the debt ratio negatively affects Saudi firms’ performance.

From theoretical perspectives of corporate governance, the negative impact of debt on firm performance measured by accounting-based measures is contrary to agency theory which considers debt as an external governance mechanism that can help govern agency conflicts between management and shareholders, given the additional monitoring imposed on managers by debt holders which can positively influence firm performance (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; Williamson, 1988). On the other hand, this finding of the study is consistent with stewardship theory, which argues that the alignment between the interests of managers and shareholders reduces the need for monitoring over management, and thus the level of debt is not expected to enhance firm performance (Davis et al., 1997). As discussed in Section 3.2.3.1, in the Saudi corporate context, managers are considered good stewards and trustworthy. Consequently, using debt as a control mechanism is not expected to benefit Saudi firms since there is no conflict of interest between owners and managers, and hence there might be an expected preference for internal over external financing.

The finding of this study regarding the negative impact of capital structure on firm performance (ROA and ROE) is empirically consistent with previous studies. In Saudi Arabia, Al-Sakran (2001) investigates the impact of capital structure using 35 Saudi firms
between 1993 and 1997 and reports a negative relationship between total debt and ROA. The same relationship is also observed in Arabic countries such as the UAE and Jordan (Fernandez, 2012; Zeitun & Tian, 2007a). Contrary to this finding of the study, a positive relationship between capital structure and firm performance is revealed in studies undertaken in Ghana, South Africa and Malaysia (Abor, 2005; Fosu, 2013; San & Heng, 2011). The same positive relationship is also reported by Margaritis and Psillaki (2010) in France and Berger and Bonoaccorsi di Patti (2006) in the US. This inconsistency in the findings could be attributed to the differences between these countries and Saudi Arabia in terms of the tax system, which affect the tax benefits that can be gained from debt capital. In Saudi Arabia, there is no tax advantage of debt, and thus issuing debt negatively influences Saudi firms’ performance.

The results presented in Tables 9.3 and 9.4 also show that there is no correlation between capital structure and firm value measured by Tobin’s Q and MTB. A similar result is revealed in studies conducted in India and Bangladesh (Chadha & Sharma, 2015; Hasan et al., 2014). On the other hand, this finding of the study is inconsistent with the findings of some studies that show either a positive or a negative relationship between capital structure and firm value. For example, while a positive relationship is observed in studies undertaken in Iran, Malaysia and the US (Aliakbar et al., 2013; McConnell & Servaes, 1995; San & Heng, 2011), a negative relationship is reported by Gleason et al. (2000) and Aggarwal et al. (2011) who investigate a large number of firms from different countries.

The results of the control variables are similar to the results reported in previous chapters (Eight and Nine). As shown in Tables 9.3 and 9.4, firm size and firm growth have a positive relationship with ROA and ROE, whereas capital expenditure is positively related to Tobin’s Q and MTB. These findings are in line with the findings of a study conducted in Saudi Arabia by Al-Dubai et al. (2014a) which reveals a positive relationship between firm performance and both firm size and firm growth. In addition, Nor et al. (2014) and Al-Matarı et al. (2014) report the same positive relationship among Malaysian and Omani firms, respectively. Capital expenditure is also found to have a positive impact on MTB in Bangladeshi firms (Al Farooque et al., 2007). Furthermore, the results indicate a negative relationship between firm age and firm performance under
all performance measures. This result is consistent with the findings of previous studies conducted in Taiwan and Spain (Arosa et al., 2013; Chen et al., 2013).

9.3 Islamic financing and Firm Performance

This section provides the results of both t-tests and regression analysis employed to examine the twelfth hypothesis which states that firms that are wholly financed by Islamic debt perform better than those financed by non-Islamic debt, either partially or wholly.

As an initial step to examine the twelfth hypothesis, a t-test is used to compare firm performance of the two groups of firms based on the type of financing:

- Islamic financing: including firms that are wholly financed by Islamic debt.
- Non-Islamic financing: including firms that are financed by non-Islamic debt, either partially or wholly.

Table 9.5 provides the means of the four performance measures for the two groups of firms based on the type of financing (Islamic and non-Islamic).

<table>
<thead>
<tr>
<th>Type of financing</th>
<th>No. of firm-years</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Islamic financing</td>
<td>237</td>
<td>0.089</td>
<td>0.140</td>
<td>1.836</td>
<td>2.458</td>
</tr>
<tr>
<td>Non-Islamic financing</td>
<td>189</td>
<td>0.058</td>
<td>0.083</td>
<td>1.485</td>
<td>2.056</td>
</tr>
</tbody>
</table>

As Table 9.5 shows, the performance of firms that use Islamic debt was higher than the performance of firms which use non-Islamic debt under all performance measures. Specifically, firms using Islamic financing outperformed those which use non-Islamic financing by 3.1%, 5.7%, 0.351 and 0.40 for ROA, ROE, Tobin’s Q and MTB, respectively.

The differences in the means of performance between the two groups of firms based on the type of financing (Islamic and non-Islamic) can be seen in Figure 9.2.

---

35 Because the sample is divided into two groups, a t-test is used instead of an ANOVA test which is used if there are three or more groups in the sample.
In order to examine whether the differences in the performance of firms that use Islamic financing and those which use non-Islamic financing are statistically significant, a t-test is employed. Table 9.6 presents the results of the t-tests for the differences in the means of performance between the two groups of firms based on the types of financing.

Table 9.6: T-test results for the differences in the means of performance between the two groups of firms based on the type of financing

<table>
<thead>
<tr>
<th>Measure</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>4.48</td>
<td>0.00</td>
</tr>
<tr>
<td>ROE</td>
<td>4.49</td>
<td>0.00</td>
</tr>
<tr>
<td>Q</td>
<td>4.08</td>
<td>0.00</td>
</tr>
<tr>
<td>MTB</td>
<td>2.65</td>
<td>0.01</td>
</tr>
</tbody>
</table>

As shown in Table 9.6, the t-test results indicate that there are significant differences in the means of all performance measures (ROA, ROE, Tobin’s Q and MTB) between firms that use Islamic financing and those which use non-Islamic financing.

The study uses regression analysis as the main analytical method to test the twelfth hypothesis. Table 9.7 shows the regression results of Model 13 which is used to examine the relationship between Islamic debt and firm performance.
As shown in Table 9.7, the regression results indicate that there is a negative relationship between the debt ratio and firm performance measured by ROA and ROE at the 1% level of significance. On the other hand, the coefficient of the Islamic debt interaction term is positive and statistically significant at the level of 1%. This result indicates that the relationship between the debt ratio and firm performance is less negative for firms that are wholly financed by Islamic debt. Thus, using Islamic debt as a source of finance has a positive impact on firm performance in terms of ROA and ROE compared with non-Islamic sources of finance. In terms of market-based measures, both the debt ratio and the Islamic debt interaction term have no significant impact on firm value measured by Tobin’s Q and MTB. For all the regression models, the F-statistic is statistically
significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable. Based on these results, the twelfth hypothesis which states that firms that are wholly financed by Islamic debt perform better than those financed by non-Islamic debt, either partially or wholly, is supported under accounting-based measures (ROA and ROE), whereas it is rejected based on market-based measures (Tobin’s Q and MTB). The results of the regression analysis where accounting-based measures of firm performance are applied are consistent with the results obtained from the t-tests. However, after controlling for other factors that explain firm performance, the relationship between market-based measures of firm performance and Islamic debt is not robust.

In order to examine the impact of the maturity structure of Islamic debt, total Islamic debt is decomposed into two components: long-term debt and short-term debt. Regression Model 14 is used to test the relationship between the two types of Islamic debt (long-term debt and short-term debt) and firm performance. Table 9.8 shows the regression results from the estimation of this model.

Table 9.8: Regression analysis of the two types of Islamic debt (long-term and short-term) and firm performance

<table>
<thead>
<tr>
<th>DVs</th>
<th>ROA Random Effects</th>
<th>ROE Random Effects</th>
<th>Q Fixed Effects</th>
<th>MTB Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.115$^*$ (-1.58)</td>
<td>-0.241$^*$ (-1.84)</td>
<td>-0.032 (-0.03)</td>
<td>5.220$^{***}$ (2.57)</td>
</tr>
<tr>
<td>LD</td>
<td>-0.204$^{***}$ (-7.54)</td>
<td>-0.242$^{***}$ (-4.30)</td>
<td>0.004 (0.43)</td>
<td>0.145 (0.40)</td>
</tr>
<tr>
<td>IS*LD</td>
<td>0.101$^{***}$ (2.61)</td>
<td>0.333$^{***}$ (4.10)</td>
<td>0.100 (0.43)</td>
<td>0.131 (0.40)</td>
</tr>
<tr>
<td>SD</td>
<td>-0.289$^{***}$ (-7.68)</td>
<td>-0.511$^{***}$ (-6.51)</td>
<td>-0.252 (0.04)</td>
<td>-0.069 (2.02)</td>
</tr>
<tr>
<td>IS*SD</td>
<td>0.053$^*$ (2.05)</td>
<td>0.084$^*$ (1.52)</td>
<td>-0.080 (-0.52)</td>
<td>-0.283 (-1.09)</td>
</tr>
<tr>
<td>FS</td>
<td>0.010$^{***}$ (3.05)</td>
<td>0.018$^{***}$ (3.08)</td>
<td>0.064 (1.33)</td>
<td>0.086 (1.11)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.012$^*$ (-1.58)</td>
<td>-0.027$^*$ (-1.84)</td>
<td>-0.471$^{***}$ (-2.57)</td>
<td>-2.783$^{***}$</td>
</tr>
</tbody>
</table>

282
<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA Random Effects</th>
<th>ROE Random Effects</th>
<th>Q Fixed Effects</th>
<th>MTB Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(-1.73)</td>
<td>(-2.18)</td>
<td>(-3.97)</td>
<td>(-15.70)</td>
</tr>
<tr>
<td>FG</td>
<td></td>
<td>0.034***</td>
<td>0.061***</td>
<td>0.037*</td>
<td>0.060*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4.83)</td>
<td>(3.94)</td>
<td>(1.61)</td>
<td>(1.76)</td>
</tr>
<tr>
<td>CAPEX</td>
<td></td>
<td>-0.011</td>
<td>0.010</td>
<td>0.077</td>
<td>0.133</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.47)</td>
<td>(0.20)</td>
<td>(0.76)</td>
<td>(0.91)</td>
</tr>
<tr>
<td>IND</td>
<td></td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.220</td>
<td>0.159</td>
<td>0.825</td>
<td>0.794</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.013***</td>
<td>5.021***</td>
<td>19.778***</td>
<td>16.354***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, LD is long-term debt ratio, IS*LD is the interaction term between long-term Islamic debt and long-term debt ratio, SD is short-term debt ratio, IS*SD is the interaction term between short-term Islamic debt and short-term debt ratio, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As can be observed in Table 9.8, the results of the regression analysis show that there is a negative relationship between the two types of debt (short-term and long-term) and firm performance measured by ROA and ROE. On the other hand, the coefficients of both long-term and short-term Islamic debt interaction terms are positive and statistically significant. These results imply that using Islamic debt, either short-term or long-term, has a positive influence on firm performance in terms of ROA and ROE compared with the use of non-Islamic debt either short-term or long-term. On the other hand, both long-term and short-term Islamic debt interaction terms have no impact on firm value measured by Tobin’s Q and MTB. The impact of both short-term and long-term Islamic debt on firm performance is similar to the impact of total Islamic debt. For all the regression models, the F-statistic is statistically significant and the Adjusted R-squared indicates that all four models explain a reasonably large amount of variation in the dependent variable.

The results of regression analysis indicate a better financial performance for firms that are wholly financed by Islamic debt compared with those financed by non-Islamic debt, either partially or wholly. The benefits of using Islamic financing over non-Islamic financing are centred on the features of Islamic contracts that are based on the concept of profit and loss sharing and the prohibition of compound interest on past due payments.
(Ismail & Ahmad, 2006; Salem, 2013; Zeitun et al., 2007). Under Islamic contracts such as *Musharakah* (partnership) and *Mudarabah* (finance by way of trust), Islamic banks are required to participate in the profits and losses of the businesses that they finance and to make a contribution to the business either in the form of a contribution to the capital or management of the firm. Such an arrangement encourages Islamic banks to be more concerned with the productivity of the firms in which they share profits and losses, given the return on capital in Islamic banks depends on productivity and operational efficiency rather than a fixed rate of return (Aggrawal & Yousef, 2000; Ismail & Ahmad, 2006). As a result, firms can gain benefits from the experience of banks in assessing the viability and profitability of the investment projects, which in turn is reflected in the superior performance of those firms that rely on Islamic financing to fund their investments.

The positive impact of Islamic financing on Saudi firms’ performance supports stewardship theory in that the interests of managers are aligned with those of other stakeholders. The participation between Islamic banks and the firms that they finance is based on mutual trust and the absence of any conflict of interest. This can be seen in Islamic finance contracts such as *Mudarabah* (finance by way of trust) in which the Islamic bank provides funds while the firm is responsible for the management of the project, and they share the profits and losses. This type of contract is a trust-based contract in which managers are viewed by Islamic banks as good stewards.

This finding of the study is consistent with the findings of a study undertaken by Zeitun et al. (2007) who report that Islamic debt positively affects the performance of listed firms in Jordan between 1989 and 2003. The researchers attribute this positive effect of Islamic financing to its unique features as Islamic financing is based on profit and loss sharing and the prohibition of compound interest. In terms of market-based measures, the results indicate that there is no significant difference in firm value between firms that use Islamic debt and those which use non-Islamic debt. The same result is reported in a study analysing listed firms in Jordan (Zeitun et al., 2007). The regression results related to the control variables are relatively similar to the results reported in Section 9.2. While firm size and firm growth are positively related to firm performance measured by accounting-
based measures, firm age has a negative impact on firm performance under all measures of performance.

9.4 Robustness Test

To address the potential endogeneity problems, the study re-estimates the main models with a one-year lag between the dependent variables (firm performance) and the independent variables (capital structure and control variables). This section presents and discusses the results obtained from the lagged structure models. A comparison between the results of lagged models and the main regression models (unlagged) is made to check of the robustness of the results reported in the previous sections.

A. Capital structure and Firm Performance

To check the robustness of the results of the test of hypothesis eleven, Model 11 is re-estimated using a lagged structure model. Table 9.9 shows the results of the regression analysis for the relationship between capital structure (total debt ratio) and lagged firm performance.

| Table 9.9: Regression analysis of total debt ratio and lagged firm performance |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| IVs                             | DVs             | ROA Random Effects | ROE Random Effects | Q Fixed Effects | MTB Fixed Effects |
| Constant                        |                 |                   |                   |                 |
| TD                              |                 |                   |                   |                 |
| FS                              |                 |                   |                   |                 |
| AGE                             |                 |                   |                   |                 |
| FG                              |                 |                   |                   |                 |
| CAPEX                           |                 |                   |                   |                 |
| IND                             |                 |                   |                   |                 |

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As shown in Table 9.9, the results of the lagged model regarding the impact of capital structure (total debt ratio) on firm performance are similar to the results obtained from the unlagged model. The results of both models show that there is a significant negative relationship between the total debt ratio and firm performance measured by ROA and ROE. However, there is no relationship between the total debt ratio and either Tobin’s Q or MTB. In addition, the results related to the control variables are relatively similar across both models (lagged and unlagged) except the relationship between firm age and both ROA and ROE which turns insignificant in the lagged model. This similarity in the findings of both models helps confirm the robustness of the findings reported in Section 9.2.

The results of the lagged model concerning the relationship between the two types of debt (long-term and short-term) and lagged firm performance are presented in Table 9.10.

<table>
<thead>
<tr>
<th>IVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>1.389*</td>
<td>2.466**</td>
<td>2.026*</td>
<td>2.992*</td>
</tr>
<tr>
<td></td>
<td>(1.70)</td>
<td>(1.92)</td>
<td>(1.82)</td>
<td>(1.84)</td>
</tr>
<tr>
<td>LD</td>
<td>0.047</td>
<td>0.140</td>
<td>0.047</td>
<td>0.258</td>
</tr>
<tr>
<td></td>
<td>(0.83)</td>
<td>(1.28)</td>
<td>(0.40)</td>
<td>(1.51)</td>
</tr>
<tr>
<td>SD</td>
<td>0.012</td>
<td>0.051</td>
<td>-0.140</td>
<td>-0.182</td>
</tr>
<tr>
<td></td>
<td>(0.17)</td>
<td>(0.42)</td>
<td>(-0.80)</td>
<td>(-0.98)</td>
</tr>
<tr>
<td>FS</td>
<td>0.049</td>
<td>0.079</td>
<td>-0.005</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(1.49)</td>
<td>(1.54)</td>
<td>(-0.12)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.099**</td>
<td>-0.257**</td>
<td>-0.630***</td>
<td>-1.051***</td>
</tr>
<tr>
<td></td>
<td>(-1.98)</td>
<td>(-3.03)</td>
<td>(-6.72)</td>
<td>(-7.77)</td>
</tr>
<tr>
<td>FG</td>
<td>0.019*</td>
<td>0.030*</td>
<td>0.008</td>
<td>0.008</td>
</tr>
</tbody>
</table>
As can be observed in Table 9.10, the results obtained from the lagged model suggest that both types of debt (long-term and short-term) have no impact on all performance measures. While the results of Tobin’s Q and MTB are similar across both models, there is an inconsistency in the results of ROA and ROE which may indicate the presence of endogeneity issues. The results of the control variables are similar across both models (lagged and unlagged). The only difference found is in the relationship between firm size and ROE which turns insignificant in the lagged model.

**B. Islamic financing and Firm Performance**

To check the robustness of the results of the test of hypothesis twelve, Model 13 is re-estimated using a lagged structure model. Table 9.11 shows the results of the regression analysis for the relationship between Islamic debt and lagged firm performance.

<table>
<thead>
<tr>
<th></th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVs</td>
<td></td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.71)</td>
<td>(1.65)</td>
<td>(0.40)</td>
<td>(0.30)</td>
</tr>
<tr>
<td>CAPEX</td>
<td></td>
<td>-0.009</td>
<td>-0.021</td>
<td>0.133**</td>
<td>0.188**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.21)</td>
<td>(-0.33)</td>
<td>(1.90)</td>
<td>(2.00)</td>
</tr>
<tr>
<td>Adj. R²</td>
<td></td>
<td>0.801</td>
<td>0.784</td>
<td>0.850</td>
<td>0.819</td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td>18.004***</td>
<td>16.299***</td>
<td>24.835***</td>
<td>20.125***</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, LD is long-term debt ratio, SD is short-term debt ratio, FS is firm size, AGE is firm age, FG is firm growth and CAPEX is capital expenditure. The model provides t-statistics which are in parenthesis. *** and * indicate significance at 1%, 5% and 10% levels, respectively.

As can be observed in Table 9.10, the results obtained from the lagged model suggest that both types of debt (long-term and short-term) have no impact on all performance measures. While the results of Tobin’s Q and MTB are similar across both models, there is an inconsistency in the results of ROA and ROE which may indicate the presence of endogeneity issues. The results of the control variables are similar across both models (lagged and unlagged). The only difference found is in the relationship between firm size and ROE which turns insignificant in the lagged model.

**B. Islamic financing and Firm Performance**

To check the robustness of the results of the test of hypothesis twelve, Model 13 is re-estimated using a lagged structure model. Table 9.11 shows the results of the regression analysis for the relationship between Islamic debt and lagged firm performance.
As shown in Table 9.11, the results obtained from the lagged model are similar to the results obtained from the unlagged model. While there is a negative relationship between the debt ratio and firm performance measured by ROA and ROE, the coefficient of the Islamic debt interaction term is positive and statistically significant. In terms of market-based measures, both the debt ratio and the Islamic debt interaction term have no significant impact on firm value measured by Tobin’s Q and MTB. The consistency in the findings of the two models (lagged and unlagged) supports the results reported in Section 9.3. Regarding the control variables, while the results of Tobin’s Q and MTB are similar across both the lagged and unlagged models, there are some differences between these two models under ROA and ROE. The results related to firm size, age and growth which were statistically significant under the unlagged model, are no longer statistically significant in the lagged model.

The results of the lagged model regarding the relationship between the two types of Islamic debt (long-term and short-term) and lagged firm performance are presented in Table 9.12.

<table>
<thead>
<tr>
<th></th>
<th>(1.49)</th>
<th>(1.56)</th>
<th>(0.15)</th>
<th>(1.30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>-0.005</td>
<td>-0.007</td>
<td>-0.644***</td>
<td>-1.065***</td>
</tr>
<tr>
<td></td>
<td>(-0.52)</td>
<td>(-0.51)</td>
<td>(-5.85)</td>
<td>(-6.78)</td>
</tr>
<tr>
<td>FG</td>
<td>0.008</td>
<td>0.021</td>
<td>-0.019</td>
<td>-0.019</td>
</tr>
<tr>
<td></td>
<td>(1.02)</td>
<td>(1.23)</td>
<td>(-0.81)</td>
<td>(-0.50)</td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.029</td>
<td>-0.033</td>
<td>0.048</td>
<td>0.098</td>
</tr>
<tr>
<td></td>
<td>(-1.13)</td>
<td>(-0.62)</td>
<td>(0.52)</td>
<td>(0.74)</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>0.089</td>
<td>0.092</td>
<td>0.837</td>
<td>0.798</td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.667***</td>
<td>2.742***</td>
<td>8.821***</td>
<td>14.713***</td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, TD is total debt ratio, $IS^*TD$ is the interaction term between total Islamic debt and total debt ratio, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.
Table 9.12: Regression analysis of the two types of Islamic debt (long-term and short-term) and lagged firm performance

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>ROA</th>
<th>ROE</th>
<th>Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DVs</td>
<td>Random Effects</td>
<td>Random Effects</td>
<td>Fixed Effects</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.111</td>
<td>-0.187</td>
<td>1.366</td>
<td>2.555*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.11)</td>
<td>(-1.10)</td>
<td>(1.45)</td>
<td>(1.75)</td>
</tr>
<tr>
<td>LD</td>
<td>-0.072***</td>
<td>-0.060</td>
<td>0.147</td>
<td>0.185</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.16)</td>
<td>(-0.90)</td>
<td>(0.77)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>IS*LD</td>
<td>0.035</td>
<td>0.166**</td>
<td>0.134</td>
<td>0.118</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.73)</td>
<td>(1.73)</td>
<td>(0.77)</td>
<td>(0.43)</td>
</tr>
<tr>
<td>SD</td>
<td>-0.065</td>
<td>-0.147*</td>
<td>-0.150</td>
<td>-0.155</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.41)</td>
<td>(-1.62)</td>
<td>(1.24)</td>
<td>(2.48)</td>
</tr>
<tr>
<td>IS*SD</td>
<td>0.033</td>
<td>0.068</td>
<td>-0.132</td>
<td>-0.285</td>
<td></td>
</tr>
<tr>
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<td>(1.11)</td>
<td>(1.11)</td>
<td>(-1.33)</td>
<td>(-1.65)</td>
</tr>
<tr>
<td>FS</td>
<td>0.006</td>
<td>0.011</td>
<td>0.023</td>
<td>0.021</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.45)</td>
<td>(1.51)</td>
<td>(0.68)</td>
<td>(0.41)</td>
</tr>
<tr>
<td>AGE</td>
<td>0.005</td>
<td>-0.006</td>
<td>-0.668***</td>
<td>-1.108***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.52)</td>
<td>(-0.43)</td>
<td>(-2.65)</td>
<td>(-2.45)</td>
</tr>
<tr>
<td>FG</td>
<td>0.008</td>
<td>0.021</td>
<td>-0.016</td>
<td>-0.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.00)</td>
<td>(1.26)</td>
<td>(-0.77)</td>
<td>(-0.44)</td>
</tr>
<tr>
<td>CAPEX</td>
<td>-0.029</td>
<td>-0.038</td>
<td>0.036</td>
<td>0.080</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.12)</td>
<td>(-0.72)</td>
<td>(0.47)</td>
<td>(0.71)</td>
</tr>
<tr>
<td>IND</td>
<td>Included</td>
<td>Included</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.088</td>
<td>0.093</td>
<td>0.839</td>
<td>0.802</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td><strong>2.644</strong>*</td>
<td><strong>2.779</strong>*</td>
<td><strong>18.822</strong>*</td>
<td><strong>14.851</strong>*</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DVs are dependent variables, ROA is return on assets, ROE is return on equity, Q is Tobin’s Q, MTB is market to book, IVs are independent variables, LD is long-term debt ratio, IS*LD is the interaction term between long-term Islamic debt and long-term debt ratio, SD is short-term debt ratio, IS*SD is the interaction term between short-term Islamic debt and short-term debt ratio, FS is firm size, AGE is firm age, FG is firm growth, CAPEX is capital expenditure and IND is industry. The model provides t-statistics which are in parenthesis. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As can be observed in Table 9.12, the results obtained from the lagged model show a negative relationship between long-term debt and ROA, and between short-term debt and ROE. On the other hand, the coefficient of long-term Islamic debt interaction term is positive and statistically significant only under ROE. In addition, the results of the control variables indicate that the only significant negative relationship is found between firm
age and both Tobin’s Q and MTB. While the results of Tobin’s Q and MTB are similar across both models (lagged and unlagged), there is an inconsistency in the results of ROA and ROE which may indicate the presence of endogeneity.

9.5 Summary

This chapter presents and discusses the results related to the third research question concerning the relationship between capital structure and Saudi firms’ performance. The study employs ANOVA, t-tests and regression analysis to examine the impact of capital structure and Islamic financing on Saudi firms’ performance.

The regression results show a negative relationship between capital structure and firm performance measured by ROA and ROE. The same relationship is also observed for both short-term and long-term debt. These findings are consistent with the proposition of pecking order theory, which suggests that more profitable firms are less leveraged and prefer internal financing, followed by debt and then external equity. From theoretical perspectives of corporate governance, these findings are contrary to agency theory, which assumes a positive impact of debt in mitigating agency conflicts which enhances firm performance. On the other hand, these findings are consistent with stewardship theory, which argues that there is no conflict of interest between managers and owners, thereby the use of debt as a controlling mechanism is not expected to improve firm performance. Regarding the impact of Islamic financing, the results of the regression analysis reveal that the use of Islamic debt as a source of finance has a positive impact on firm performance in terms of ROA and ROE, compared with non-Islamic sources of debt. This positive impact of Islamic financing can be attributed to its unique features as it is based on profit and loss sharing and the prohibition of compound interest. In terms of market-based measures, both the debt ratio and the Islamic debt have no significant impact on firm value measured by Tobin’s Q and MTB.

Based on these results, hypotheses eleven and twelve concerning the impact of capital structure (debt ratio) and Islamic financing are supported under accounting-based measures (ROA and ROE), whereas these hypotheses are rejected based on market-based
measures (Tobin’s Q and MTB). Table 9.13 provides a summary of the findings related to each of these hypotheses.

Table 9.13: Summary of the research hypotheses and the findings related to capital structure

<table>
<thead>
<tr>
<th>#</th>
<th>Hypothesis</th>
<th>ROA</th>
<th>ROE</th>
<th>Tobin’s Q</th>
<th>MTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>H11</td>
<td>There is a negative relationship between capital structure and firm performance.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H12</td>
<td>Firms that are wholly financed by Islamic debt perform better than those financed by non-Islamic debt, either partially or wholly.</td>
<td>Supported</td>
<td>Supported</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

The chapter also discusses the results obtained from the lagged structure models to deal with endogeneity problems. The results of both the total debt ratio and the Islamic debt interaction term based on the lagged model are similar to the findings of the main model, which indicates the robustness of the results of the main regression model.

The next chapter presents the main conclusions of this study. It also provides a summary of the main findings and discusses the implications and limitations of the study.
Chapter Ten: Summary and Conclusion

10.1 Introduction

This chapter presents an overview of the thesis. It provides a summary of the main research findings and general conclusions that can be drawn from the study. The chapter also discusses the implications and limitations of the study. Suggestions for future research are also provided.

The chapter is organized as follows. Section 10.2 provides an overview of the purpose and design of the study. Section 10.3 summarizes the main findings of the study in relation to the research questions. The implications of the findings are discussed in Section 10.4. In Sections 10.5 and 10.6, the limitations of the study and suggestions for future research are presented.

10.2 Overview of the Purpose and Design of the Study

This study provides an insight into corporate governance practices in Saudi firms. The unique features of Saudi Arabia in terms of religion, culture, corporate ownership and capital market characteristics have a direct impact on corporate governance practices in Saudi firms. Saudi Arabia as an Islamic country is committed to preserving Islamic principles. All aspects of society are affected by these principles, not only people’s lives, but also the regulations and policies of the country that regulate the business environment, including accounting standards and corporate governance practices. Saudi culture is a unique blend of Islamic traditions and Arabic tribal customs which shape the behaviour of Saudi society. With respect to ownership structure, unlike developed countries, the Saudi market is characterised by concentrated ownership which is dominated by the state and families. In addition, the unique dual financial system in Saudi Arabia distinguishes the Saudi capital market from other countries and significantly affects Saudi firms’ capital structure. These differences in the religion, culture, ownership structure and capital structure between Saudi Arabia and both developed and developing countries distinguish the Saudi corporate context, and are expected to have significant implications in the Saudi context for both corporate governance practices and firm performance.
Although there are vast differences in the business environment between Saudi Arabia and other countries, the majority of previous studies that investigate corporate governance in the Saudi Arabian context do not account for these differences. In addition, a number of corporate governance factors that are very important in the Saudi corporate context have not been investigated, especially factors related to some board characteristics such as CEO duality, CEO tenure and family CEO, ownership types such as family, institutional and managerial ownership, and the types of financing that are employed (Islamic and non-Islamic). Moreover, previous studies conducted in the Saudi context have serious limitations in terms of their sample sizes and research methods.

Given the uniqueness of the Saudi corporate environment and the limitations of previous studies, this study aims to fill some key gaps in the corporate governance literature from the Saudi context. This study seeks to investigate the impact of various corporate governance mechanisms on Saudi firms’ performance. Firstly, it examines the relationship between board of director characteristics, namely board independence, board size, CEO duality, CEO tenure and family CEO, and firm performance. Secondly, the study investigates ownership structure to determine its impacts on firm performance. Different types of ownership are examined including ownership concentration, government, family, institutional and managerial ownership. Thirdly, it examines the impact of capital structure and Islamic debt on firm performance.

Despite the widespread adoption of agency theory in the extant studies of corporate governance, this theoretical approach to studying corporate governance is not appropriate to the Saudi Arabian context. The unique features of the Saudi business environment make stewardship theory more applicable to the Saudi context. Since corporate governance relates to a number of factors such as culture, economics, politics and organizational behaviour, the study adopts multiple theoretical frameworks to account for these different factors. The theoretical frameworks utilised for the current study are stewardship, stakeholder, resource dependency and institutional theories.

To meet the objectives of this study, a deductive approach is adopted. On the basis of this approach, a number of hypotheses are developed based on the research questions and
related theories. The study is based on secondary data obtained from annual reports and the Tadawul website. The population of this study is made up of all non-financial firms listed on the Saudi Stock Exchange (Tadawul) for the period from 2009 to 2014. The study uses four different measures of firm performance including accounting-based measures and market-based measures. In addition, a number of firm characteristics such as firm size, age, growth, capital expenditure, leverage and industry are used as control variables. The study utilises quantitative analysis techniques including both descriptive and inferential statistics such as ANOVA, t-tests and regression analysis. The study also adopts a lagged structure method to address the problems of endogeneity.

10.3 Summary of the Main Findings

This section summarizes the key findings of the study in relation to the research questions and research hypotheses. Section 10.3.1 summarizes the main findings related to the first research question regarding the impact of board of director characteristics on firm performance. Section 10.3.2 presents the key results of the analysis undertaken to answer the second research question concerning the relationship between ownership structure and firm performance. In Section 10.3.3, the main findings related to the third research question regarding the impact of capital structure on firm performance are summarised.

10.3.1 Board of Director Characteristics and Firm Performance

The results related to the board of director characteristics indicate that while there is a negative relationship between board independence and firm performance, measured by ROA and ROE, other board characteristics including CEO duality, CEO tenure and family CEO are positively associated with ROA and ROE. In addition, the findings show a positive relationship between board size and ROE.

The negative impact of board independence on Saudi firms’ performance can be attributed to the relative short history of independent directors in the Saudi corporate context. There is a lack of transparency and clarity regarding the process of appointing independent directors as well as the qualifications and experience requirements that need to be met by candidates for membership of the board of directors in Saudi firms. In
addition, Saudi culture such as informal social relations as well as political connections significantly affects the appointment of independent directors in Saudi firms, given that membership of a board of directors is considered in Saudi society as a notable achievement. As a result, most independent directors in Saudi firms lack appropriate skills and experience.

Given the extensive influence of Islamic values such as justice, secretariat and truthfulness on Saudi society along with the importance of personal reputation and trust within the Saudi business environment, inside directors and CEOs in Saudi firms are considered good stewards. The shadow of Islamic religion covers all aspects of Saudi life and business, and plays a vital role in mitigating any conflict of interest between managers and shareholders. Due to the alignment of managers’ interests with those of shareholders, combining the roles of CEO and chairman in Saudi firms promotes a strong and unified leadership which leads to better firm performance. In addition, because many listed firms in Saudi Arabia were originally family firms converted to joint stock companies, inside directors and family CEOs possess superior knowledge about the nature of their firms compared with independent directors and non-family CEOs. Furthermore, in Saudi society where family reputation is extremely important, family CEOs have higher non-financial rewards associated with firms’ success than other CEOs. These characteristics of the Saudi corporate context also enhance the positive impact of CEO tenure on Saudi firms’ performance. A longer CEO tenure develops a stronger sense of belonging to the firm and builds valuable firm-specific and industry-specific knowledge which help manage the firm’s resources in more efficient and superior ways.

The positive impact of a large board size on firm performance revealed in this study can be explained by the social and business culture in Saudi Arabia. The Saudi business environment is influenced largely by interpersonal relationships. In Saudi society, personal relationships are very important in arranging business contracts and enhancing the link between a firm and its environment. Critical resources such as finance and business contracts can be more easily secured by larger boards, which in turn increase a firm’s opportunities to improve its profitability. In addition, larger boards potentially attract more qualified directors who can effectively contribute to improving firm
The findings of this study regarding the positive impact of board characteristics, including inside directors, large board size, CEO duality, long-tenured CEO and family CEO, on firm performance are consistent with the perspective of stewardship theory which argues that managers are good stewards of the corporations and exercise diligence in the best interests of all shareholders. This theory assumes that the interests of managers are aligned with those of shareholders. According to stewardship theory, firm performance is expected to be enhanced when inside directors represent a high proportion of the board due to their relevant knowledge and experiences about the firm, compared with independent directors who might lack such knowledge and skills. To strengthen a firm’s leadership and enhance managerial skills and experiences, stewardship theory highlights the importance of board characteristics such as CEO duality, family CEO, long-tenured CEO and large board size. The benefits of these characteristics are also highlighted by resource dependency theory. In contrast, these findings of the study are contrary to agency theory which assumes that board characteristics such as inside directors, CEO duality, family CEO and long-tenured CEO have a negative effect on firm performance. This theory views managers as self-interested and argues that independent directors are required to control and monitor management. Due to the existence of agency problems between managers and shareholders, agency theory claims that board characteristics such as CEO duality, longer CEO tenure and family CEO lead to an increase in the CEO’s power which can be used to obtain more private benefits at the expense of shareholders’ interests.

In terms of market-based measures, the study found that there is no significant relationship between the board of director characteristics and firm value measured by Tobin’s Q and MTB.

### 10.3.2 Ownership Structure and Firm Performance

The results related to ownership structure indicate that there is a significant positive relationship between ownership concentration and firm performance measured by ROA and ROE. Regarding the types of ownership, while government and institutional
ownership have no significant impact on firm performance, family and managerial ownership are positively related to firm performance measured by ROA and ROE. Interestingly, family ownership is found to have a positive impact on firm performance only when family owners play a formal role in the firm’s management. However, their impact becomes insignificant if they solely hold a financial stake in the firm without an effective involvement in its management.

The positive impact of ownership concentration on Saudi firms’ performance measured by accounting-based measures (ROA and ROE) can be attributed mainly to the domination of government and family ownership in Saudi listed firms. Although government ownership in Saudi firms plays a key role in facilitating access to critical resources such as finance and government contracts, its existence in some sectors targeting objectives related to social benefits rather than profit maximization can help explain the insignificant effect of government ownership on Saudi firms’ performance. With respect to family ownership, the positive impact of this type of ownership can be attributed mainly to the fact that family owners who converted their family firms to joint stock companies maintain their representation on the board of directors and participate effectively in the management of the firm. Those families are concerned with the success of their firms even after floating on the stock exchange because these firms still keep their family name and they consider the firm as an asset to bequeath to the family. Due to their detailed knowledge and experience of the nature of their business, families have the ability to support board of directors to make superior decisions, and thus improve firm performance. This is confirmed by the finding of this study regarding the insignificant impact of family owners when they act as investors only. In addition, the positive impact of family owners who participate in the firm’s management supports the results reached in this study regarding the positive impact of family CEOs on Saudi firms’ performance.

Given that the majority of managerial ownership in Saudi firms is controlled by family owners, this could explain the positive impact of managerial ownership on Saudi firms’ performance. As mentioned above, the engagement of family owners in the management enhances firm performance due to their business background and relevant experience. In addition, due to the importance of personal integrity, reputation and trust in the Saudi
business environment as well as the influence of Islamic teachings which require Muslims to stay away from unfair behaviour such as deception, stealing, and cheating, managers in Saudi firms are not expected to extract private benefits or engage in value-destructive activities. The findings of this study also indicate that institutional ownership has no impact on firm performance which could be caused by the small proportion of institutional ownership in the Saudi market, given that it represents only 7% of Saudi firms’ shares and is found only in 24 firms.

The overall findings of this study regarding the impact of ownership structure are consistent with stewardship theory, which argues that ownership concentration especially in the form of family and managerial ownership has a positive impact on firm performance. This theory emphasizes that the benefits of family owners are centred on their ability and motivation to improve their firms’ performance. Due to their close interactions and better understanding of their firms, families can support the board of directors to make superior decisions. According to stewardship theory, the alignment of the interests of managers with those of shareholders leads to a positive impact of managerial ownership on firm performance by increasing managers’ loyalty and creating a close relationship between managers and their firms. The results of this study are also consistent with resource dependency theory which assumes that family ownership can provide firms with different types of capital including financial, human and social capital that can effectively enhance firm performance. On the other hand, while the results of this study support agency theory in that ownership concentration can improve firm performance by reducing agency problems between managers and shareholders, the results are contrary to the assumption of agency theory regarding the existence of agency problems between majority and minority shareholders in firms with concentrated ownership which negatively influence firm performance.

The findings of this study based on market-based measures suggest that there is no significant relationship between ownership structure and firm value measured by Tobin’s Q and MTB.
10.3.3 Capital Structure and Firm Performance

The results of this study reveal that there is a negative relationship between capital structure (debt ratio) and firm performance measured by ROA and ROE. The same relationship is also observed for both short-term and long-term debt. While this finding is in line with the pecking order theory which suggests that more profitable firms are less leveraged and prefer internal over external financing, it is inconsistent with the trade-off theory which argues that firms prefer debt financing to benefit from the tax shield. Given the absence of income tax in the Saudi corporate context, the cost of raising debt is expected to exceed the tax benefits. Therefore, the level of debt has a negative effect on firm performance. From theoretical perspectives of corporate governance, the negative impact of debt on firm performance is contrary to agency theory, given this theory considers debt as a tool to govern agency conflicts between management and shareholders, which in turn improves firm performance. However, the alignment of managers' interests with those of shareholders in Saudi firms reduces the need for monitoring over management, and hence there might be an expected preference for internal over external financing. This finding supports stewardship theory which argues that using debt as a control mechanism is not expected to enhance firm performance since there is no conflict of interest between managers and shareholders.

Regarding the impact of Islamic financing, the findings of this study indicate that the performance of firms that are wholly financed by Islamic debt is better than the performance of those financed by non-Islamic debt, either partially or wholly. The use of Islamic debt, either short-term or long-term, as a source of finance has a positive impact on firm performance in terms of ROA and ROE compared with non-Islamic sources of debt. This positive impact of Islamic financing could be attributed to the nature of the Islamic financing system which is based on profit and loss sharing and the prohibition of compound interest. Under Islamic contracts, Islamic banks are required to participate in the profits and losses of the businesses that they finance and to make a contribution to the business either in the form of a contribution to the capital or management of the firm. This participation is based on mutual trust and the absence of any conflict of interest. Firms which rely on Islamic financing to fund their investments can gain benefits from
the experience of banks in assessing the profitability of the investment projects, which in turn is reflected in their superior performance compared with those which rely on non-Islamic financing. This positive impact of Islamic financing, which is based on trust, indicates the existence of trust-based relationships between managers and stakeholders in the Saudi corporate context which is consistent with the perspective of stewardship theory.

Similar to the findings of the board of director characteristics and ownership structure based on market-based measures of firm performance, there is no impact of capital structure and Islamic financing on firm value measured by Tobin’s Q and MTB. Divergence in results between accounting-based and market-based measures are attributed to the fact that market-based measures are based on share prices rather than accounting data. The similarity in the overall findings of this study based on market measures, which show insignificant coefficients of all the independent variables, could be indicative of the inefficiency of the Saudi Stock Market. Such a result confirms the argument that the Saudi market, like many emerging markets, is subject to inherent market anomalies such as price fixing and insider trading, which restrict the ability of market-based measures such as Tobin’s Q and MTB to reflect the fair market value of the firm (Al Abdulhadi et al., 2015; Asiri & Alzeera, 2013).

10.4 Implications of the Study

The results of this study have several theoretical and practical implications. At a theoretical level, the findings of this study provide evidence of the interaction between corporate governance and national culture. This study confirms that corporate governance practices are strongly influenced by a number of factors such as religion, culture and ownership structure which vary significantly across countries. This provides evidence that “one size does not fit all” in corporate governance practice and policy. Related to this point, a theoretical explanation of corporate governance in certain national business environments may not necessarily apply in other national business environments. Due to the significant impact of Islamic values, Saudi culture and ownership structure on the Saudi business environment, the findings of this study challenge the widespread adoption
of agency theory in all national contexts. The empirical evidence of this study is that stewardship theory is the most appropriate lens for the examination of corporate governance practices in the Saudi corporate context.

The findings of this study highlight the importance of considering all the factors that influence corporate governance. In this regard, this study supports the claim that there is no single theory that can fully integrate all the aspects of corporate governance practices. The study indicates that adopting multiple theoretical frameworks can provide a deeper understanding for corporate governance practices as distinct from relying on a single theoretical framework. The use of multiple theoretical frameworks in this study including stewardship, stakeholder, resource dependency and institutional theories helps provide a comprehensive understanding of corporate governance practices in the Saudi context. Accordingly, investigating corporate governance in a specific context should be based on theoretical frameworks that consider all factors affecting the business environment in that context rather than assuming one theoretical framework provides a full explanation.

At a practical level, the findings of this study provide valuable input to regulators, firms and investors in Saudi Arabia. This study provides strong evidence for the need for corporate governance reform in Saudi Arabia since the current code does not reflect the unique features of the Saudi business environment. The code is basically derived from OECD principles which are predicated on agency theory considerations. As asserted in this study, agency theory appears to have less relevance in the Saudi corporate context than several other theories including stewardship theory. The findings of the study have implications for the CMA in Saudi Arabia to make the necessary changes in some articles that significantly influence corporate governance practices in Saudi firms. In terms of board composition, the findings of this study show that inside directors are more valuable than independent directors who lack appropriate skills and experience. Therefore, there should not be a push for independent directors, just for the sake of having independent directors on the board. The appointment of directors should be based on the qualifications and experiences, and thus CMA should not exert more pressure on firms toward a specific proportion of independent directors on the board but rather clarify and define the
qualifications and experiences that need to be met by candidates for membership of the board, regardless of their independence status (independent or non-independent).

Another implication of this study is that although the corporate governance code in Saudi Arabia prohibits firms from conjoining the positions of the chairman and other executive positions such as CEO, the present study provides robust evidence that CEO duality leadership is beneficial for firm performance in Saudi Arabia. Therefore, this article needs to be reconsidered in light of the cultural and institutional features of the Saudi context.

In terms of board size, while the code defines a minimum board size of three members, the findings of this study suggest increasing board size to include a sufficient number of directors since large boards are found in this study to enhance Saudi firms’ performance.

The findings of this study are also useful for exploring the corporate governance practices that are most likely to improve Saudi firms’ performance. The overall findings of this study indicate that a stewardship structure is the most appropriate structure for Saudi firms to help drive superior firm performance. It is beneficial for Saudi firms to increase the number of inside directors on the board as the study found that independent directors have a negative impact on firm performance due to their lack of appropriate skills and experience. This further suggests that firms should select their board members based on their skill set and experience rather than their perceived or actual independence.

Another implication stemming from this study is that a dual leadership structure appears to be most appropriate for Saudi firms. In addition, Saudi firms need to carefully consider CEO tenure as the findings of this study provide evidence that lengthy CEO tenure enhances Saudi firms’ performance. Regarding the firms which were originally family firms, the study provides unequivocal evidence of the ability and incentive of family CEOs to run the firms in more profitable ways than non-family CEOs.

This study also gives an insight into the impact of ownership concentration and capital structure on Saudi firms’ performance. The practical implications of this study support the benefits of ownership concentration in the Saudi corporate context, especially in the form of family and managerial ownership. Most importantly, family owners should participate in the firm’s board of directors in order to effectively influence firm
performance. In terms of capital structure, the study confirms that it is desirable for Saudi firms to minimize their level of debt and depend more on internal financing such as retained earnings to finance their investments. In addition, the study provides evidence of the positive impact of Islamic financing on Saudi firms’ performance. Therefore, Saudi firms may consider relying more on this type of financing.

Finally, the findings of this study based on market measures imply the necessity of improving market efficiency in the Saudi Stock Market. A number of essential steps need to take place in order to enhance the efficiency of the Saudi Stock Market. Importantly, the Saudi Stock Market should be gradually opened up to foreign direct investments. In addition, the CMA needs to increase the awareness among individual investors about the advantages of investing through institutional investors rather than direct investment. These steps can help improve the efficiency of the Saudi Stock Market, which in turn makes market measures more accurately reflect the true market values of the firms.

This study contributes to the literature on corporate governance with a particular focus on the importance of board characteristics, ownership structure and capital structure. Although this study focuses on the Saudi Arabian context, the findings could be appropriate to similar business environments in other developing countries, especially in the GCC countries which share the same culture, religion and business characteristics.

10.5 Limitations of the Study

Like any study in the social sciences, this study is subject to potential limitations that should be noted. Firstly, the study focuses only on firms listed on the Saudi Stock Exchange. Although listed firms are important as they impact on a large number of shareholders, other firms such as private family firms also make a significant contribution to the Saudi economy. The exclusion of unlisted firms in this study was due to the unavailability of both financial and non-financial data for these firms. The results of this study might be more comprehensive if the data pertaining to unlisted firms were available and it was possible to extend the study sample to include these firms. This limitation may restrict the generalizability of the findings only to listed firms. In addition, since the
sample of this study includes only non-financial firms listed on the Saudi Stock Exchange, the findings of this study cannot be generalized to financial firms due to the differences between financial and non-financial firms in terms of capital structure and corporate governance practices.

Secondly, the study was based on secondary data due to its appropriateness to the study’s scope and questions. However, if secondary data were combined with primary data, this may give a richer insight into corporate governance practices in Saudi firms. Thirdly, although the study investigates five different characteristics of the board of directors, other board characteristics such as director compensation and the characteristics of the audit committee may have an impact on firm performance. The study selected these characteristics of the board of directors because they are most relevant to the Saudi corporate context and are expected to have a significant impact on the performance of Saudi firms. In addition, these variables are the prevailing board characteristics that are widely used in corporate governance studies (Koerniadi & Tourani-Rad, 2012; Miller & Le Breton-Miller, 2006; Monks & Minow, 2011; Solomon, 2013).

Fourthly, although the study provides a new insight into the impact of Islamic financing on Saudi firms’ performance, it would be equally insightful if it was possible to investigate the impact of each type of Islamic contract separately such as Musharaka, Mudaraba and Murabaha since they are different in their structures and applications. However, the lack of publicly available data at this level of detail has prevented in-depth analysis of the impact of each type of Islamic contract separately. Finally, the findings of this study cannot be generalised to countries dissimilar to Saudi Arabia, especially, non-Islamic ones due to differences in terms of cultural and religious factors.

10.6 Suggestions for Future Research

This study makes a considerable contribution to the research on corporate governance practices in Saudi firms in three main areas: board characteristics, ownership structure and capital structure. The findings of this study point the way forward for future research. Future studies can investigate corporate governance practices in the Saudi Arabian
financial sector which plays a vital role in the economic growth of Saudi Arabia. Such studies are important to give a better understanding of corporate governance practices in financial firms, given that there are vast differences between financial firms and non-financial firms in terms of corporate governance practices and operations.

Since this study focused only on listed firms in Saudi Arabia, it could be useful to conduct similar studies targeting unlisted firms in Saudi Arabia such as family firms. Examining corporate governance practices in unlisted firms may be particularly fertile in the Saudi context, given the little attention drawn to these firms despite their significance in the Saudi economy. Future researchers may be able to make a comparison between listed and unlisted firms to determine whether the corporate governance practices are similar among these firms.

Future research can use primary data such as interviews which can help deepen understanding of corporate governance practices in Saudi firms regarding the selection process of board members, the actual roles of the board, board responsibilities and board evaluations. Further studies could also be conducted to examine the impact of other board characteristics such as board committees, board remuneration, board meetings, CEO compensation and gender and diversification of boards. In addition, it would be of great value for future research to expand this study to investigate the impact of each type of Islamic contract on firm performance. This can help provide an even deeper understanding of the impact of Islamic financing on firm performance.

Finally, future research can be extended to examine corporate governance practices in other Arab countries with similar characteristics to Saudi Arabia. This could provide a thorough insight into corporate governance practices across countries and help determine whether the principles of stewardship theory relate to the corporate governance practices of all Islamic countries or whether they are specific to the cultural and business context of Saudi Arabia.
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