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تأثير تركيب مجلس الإدارة والاستقلال على أداء سوق الأسهم المالي في المؤسسات المالية داخل المملكة العربية السعودية

Impact of Board Composition and Independence on Financial and Stock Market Performance within Saudi Arabian Financial Institutions

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الملخص:

الهدف الرئيسي من هذه الرسالة هو تقدير آثار الحوكمة للشركات المالية وأداء السوق في الشركات المالية السعودية. يتم تعيين الأهداف لدراسة العلاقة بين الأداء وحجم المجلس، استقلالية المجلس، الرئيس التنفيذي الازدواجي والحيازة والملكية الإدارية، وتركيز الملكية. وبلوغ الأهداف باستخدام انحدار المربعات الصغرى العادية المجمعة، انحدار جدول التأثيرات الثابتة ، وانحدار التأثيرات العشوائية. تم العثور على النموذج الأكثر كفاءة لتكون واحدة من الآثار العشوائية. يتم تطبيق آثار الانحدار عشوائي لعينة من ١٢ بنك سعودي للفترة من عام ٢٠١٠ إلى عام ٢٠١٤. وفي سياق هذه الدراسة، تبين أن في السياق من الشركات المالية في المملكة العربية السعودية، وخصائص مجلس الإدارة والمتغيرات ملكية ليست ذات صلة إلى الربحية أو أداء السوق. يتم تحديد الربحية عن طريق العائد على الموجودات ويتم تحديد أداء السوق من قبل نسبة السوق إلى القيمة الدفترية. وهو المؤشر الوحيد الذي يعتد به من أداء وكشف في هذه الأطروحة هو حيازة الرئيس التنفيذي. هذا المتغير له تأثير إيجابي على نسبة السوق الى القيمة الدفترية ، ولكن ليس على الربحية. النتائج، ومع ذلك، تقتصر من قبل عينة صغيرة نسبيا من البحوث، والتردد المنخفض من البيانات، وعدم وجود أدلة على ميزات حوكمة الشركات في الفترات القديمة. وتقدم توصيات في هذه الأطروحة لمعالجة هذه القيود، ويقدم دراسة الآثار العملية للمستثمرين والمنظمين. يمكن في الدراسات المستقبلية توسيع النتائج إلى الصناعات الأخرى وغيرها من البلدان التي تستخدم التمويل الإسلامي. نظرا للتركيز الضيق في هذه الأطروحة، فإن النتائج لا تؤكد معظم الأدلة من الدراسات السابقة التي تم استعراضها. هذا البحث مهم، كما أنها تساهم في دراسات سابقة من خلال الكشف عن آثار حوكمة الشركات في القطاع المالي في المملكة العربية السعودية، التي نادرا ما بحثت عنها.

الكلمات المفتاحية:

حوكمة الشركات، الربحية، مجلس الإدارة، أداء السوق.

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Abstract:

The major purpose of this dissertation is to estimate how corporate governance impacts financial and market performance in Saudi financial companies. The objectives are set to examine the relationship between performance and board size, board independence, Chief Executive Officer (CEO) duality and tenure, managerial ownership, and ownership concentration. The objectives are attained using pooled ordinary least-squares regression, fixed-effects panel regression, and random-effects panel regression. The most efficient model is found to be the one with random effects. The random effects regression is applied to a sample of 12 Saudi banks for the period from 2010 to 2014. In the course of the study, it is revealed that in the context of Saudi Arabian financial companies, board characteristics and ownership variables are irrelevant to profitability or market performance. Profitability is determined by return on assets and market performance is determined by the Tobin Q market-to-book ratio. The only significant predictor of performance revealed in this dissertation is the CEO tenure. This variable has a positive effect on the Tobin Q ratio, but not on profitability. The results, however, are limited by the relatively small sample of the research, low frequency of data, and lack of evidence on corporate governance features in older periods. Recommendations in this dissertation are provided to address these limitations, and the study offers practical implications for investors and regulators. Future studies can expand the results to other industries and other countries that use Islamic finance. Due to the narrow focusof this dissertation, the results do not confirm most of the evidence from previous literature reviewed. This research is important, as it contributes to previous studies by revealing the effects of corporate governance in the financial sector of Saudi Arabia, which is scarcely researched.

Key words:

Corporate governance, profitability, board of directors, market performance.

Chapter 1: Introduction

This chapter describes a background of the study, motivation of research, aim and objectives, research questions, working operational hypotheses being tested, methods of analysis and the limitations of the study. This chapter uses theoretical and empirical evidence on impact of board composition and independence on financial and stock market performance to justify the place of this dissertation in the current research field and how this dissertation contributes to the available knowledge in this area.

1.1. Background

Regulation of the board composition and independence is an important tool of corporate governance through which control and monitoring functions can be performed. Many studies have explored how board composition and independence influenced performance (Adams and Mehran, 2012; Andres and Vallelado, 2008; Erkens et al., 2012; Fahlenbrach and Stulz, 2011; Pathan and Faff, 2013) in financial companies. However, the majority of them researched developed countries, especially the US, while studies on this problem in emerging countries are confined (Mehran, 2004).

1.2. Motivation of Research

This study is concentrated on the sector of listed Saudi financial companies to research how corporate governance features have an influence on profitability and stock returns of the banks. It is noteworthy that financial sector and non-financial companies are separated from each other because of the special features of the banking business model, for example, their capital structure that presupposes high leverage and special regulatory rules. One of such regulations is the requirement for banks in Saudi Arabia to report using IFRS standards. Thus, their accounts cannot be compared to non-financial companies. The main motivation for choosing Saudi Arabia as the main focus of the dissertation is that this country is the largest and the most authoritative member of the Gulf Cooperation Council (GCC) countries with the highest level of disclosure of corporate governance issues compared to other countries of the region.

1.3. Aims and objectives

The major aim of this study is to estimate how corporate governance influences financial and market performance in Saudi financial organisations. Individual variables that represent the efficiency of corporate governance structure are the size of the board of directors, composition of the board, CEO tenure and duality, shareholder concentration and managerial ownership. Thus, to achieve the research aim four objectives are pursued. These objectives are as follows:

1. To assess the impact of the number of directors on the board on the profitability and market performance of banks in Saudi Arabia.

2. To examine the effect of the proportion of independent directors on the board on profitability and market performance of banks in Saudi Arabia.

3. To study the influence of ownership composition on the profitability and market performance of banks in Saudi Arabia..

1.4. Research Questions and Hypotheses

The research questions that are answered by this study are connected with the objectives presented above. In particular, the following questions are set to be answered in this study:

- Does the size of the board has an impact on profitability and stock returns of Saudi banks?
- Does the independence of the board contribute to better profitability and market performance in Saudi banks?
- To what extent do banks with more concentrated ownership demonstrate higher profitability and stock returns in Saudi Arabia?
- Does managerial ownership have a significant influence on profitability and stock returns of Saudi banks?
- Are CEO tenure and duality important characteristics that affect profitability and stock market performance of banks in Saudi Arabia?

1.5. Relevance of the Study

The concept of corporate governance often studied in the context of Anglo-Saxon countries is quite new for Sharia based countries such as Saudi Arabia. At the same time, the listed companies offer their stock shares to the investors that need reliable tools for estimating their profits and risks when buying stocks. Corporate governance factors are one of the characteristics that can help investors choose better investments in the stock market. If corporate governance helps reduce agency costs, investors can select well managed companies out of a pool of many listed firms to ensure higher risk-adjusted returns. By researching an influence of corporate governance and board composition on banks' performance in Saudi Arabia, this dissertation attempt to have practical implications for investors.

1.6. Structure of the Dissertation

The rest of study is organised as follows.

Chapter 2 provides an overview of theories that link corporate governance to firm value and performance. These include the agency theory, stakeholder theory, stewardship theory, and resource dependency theory. The chapter also reviews empirical evidence on the connection between board composition and independence and financial and stock market performance from developed and emerging countries for different time periods.

Chapter 3 describes how the research questions and hypotheses are tested in this study, explains how the research objectives are pursued, what methods are employed and what data is used for this purpose.

Chapter 4 is dedicated to the analysis of the data using a sample of listed Saudi banks for the period from 2010 to 2014. The analysis is conducted using the panel regression techniques.

Chapter 5 discusses the achieved results of the hypotheses testing and compares them to the previous empirical results mentioned in Chapter 2. The last chapter also concludes on the topic and discusses the research limitations providing directions for future studies.

Chapter 2: Literature Review

Board composition and independence are important instruments of corporate governance through which control and monitoring functions can be performed. The chapter provides an overview of theories that link corporate governance to firm value, including agency theory, stakeholder theory, stewardship theory, and resource dependence theory. This chapter analyses the impact of corporate governance practices on firm value. The review that follows is based on international evidence and discusses observations from different countries, including both emerging and developed economies. This section's review of empirical findings includes an analysis of literature on the topic of the link between corporate governance and firm value and performance from different periods, including evidence on the relations between corporate governance and firm performance in the international context during periods of global financial crisis, as well as more specifically in Saudi Arabia and other Arab countries.

2.1. Review of Theories

2.1.1. Agency Theory

Agency theory is one of various corporate governance theories that serve to explain the impact of board composition and independence on company performance. Agency theory is related to issues of corporate governance as perceived by managers, who act as agents of control on behalf of firm owners. Agency theory holds that control function is separate from ownership, and that this separation raises conflicts of interest. Owners expect managers to maximise corporate value and profitability, whereas managers wish to maximise their own gains. The theory works to explain the complex relations between top managers and boards of directors. Boards are viewed as one of the most important mechanisms of corporate governance for monitoring the behaviours of managers (Al-Hussain, 2009). Control of this mechanism can be achieved by introducing additional independent directors. Given such actions, agency theory predicts that board independence will have a positive effect on firm performance.

2.2.2. Stakeholder Theory

Stakeholder theory takes a broader view of corporate governance than agency theory by focusing on the interests of not only owners but all stakeholders in a company. The theory assumes that there are specific individuals and groups within the environment of a company that the company as a whole must encourage to interact in order to operate effectively. At the same time, these individuals and groups have investments or stakes in the company which means that any firm needs to efficiently cooperate with various categories of partners. In this regard, such stakeholders are like owners or equity-holders of an enterprise who are to be regarded as an integral part of the organisation (Carroll, 2000).

2.2.3. Stewardship Theory

Stewardship theory seeks to explain the relationships between corporate governance mechanisms such as board composition and independence. Stewardship theory revolves around the concept of trust and represents an alternative to agency theory. In contrast to the latter, stewardship theory does not take into consideration the possibility of managerial opportunism, and in relation, rejects the notion of a board’s necessity to fulfil controlling and monitoring functions. Instead, the theory assumes that managers in general should be considered as the good stewards of companies (Huse,

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2007). According to stewardship theory, managers can be motivated by non-financial incentives, including desires to achieve and gain satisfaction through responsibilities. The theory disregards the concept of a conflict of interest, with managers viewed as trustworthy and collectivistic rather than individualistic and opportunistic in nature (Huse, 2007).

2.2.4. Resource Dependence Theory

Whereas the above-mentioned theories focus on the interrelationships between different groups of stakeholders in corporations and their interests, resource dependence theory views boards of directors not as a control mechanism but as a company resource. Resource dependence theory explores how stakeholders in a business environment influence a company and how a company can respond to these stakeholders (Gunay, 2008). A resource is defined as anything that can be perceived as valuable by an actor, while dependence refers to the reliance of one actor on the actions of another. The theory holds that, even within efficient companies, management can fail if it is unable to gain access to scarce resources that are critical to survival. Companies need to maintain good relations with powerful external stakeholders in order to maintain access to resources. Thus, corporate governance is conceived of as extending beyond contractual stakeholders to include the choices of non-contractual stakeholders.

2.3. Review of Empirical Studies

The relationship between corporate governance and firm performance and value has been studied from various perspectives, as different corporate governance variables can affect the value of a firm. These variables include board composition, board size, experience of board members, independence of the board, remuneration of the board and managerial ownership.

2.3.1. Incentives Mechanisms and Ownership Structure

Previous studies on the effect of incentives mechanisms of corporate governance on performance mostly focused on managerial ownership and CEO and board compensation. For example, Li et al. (2007) found that offering a part of ownership in the company to managers was an effective instrument of corporate governance to improve performance. This incentives measure was found to be effective even though in the sample of firm studied by Li et al. (2007) most of the companies

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reported declining return on assets. Yet, in the companies with greater managerial ownership, the fall in profitability was less significant compared to the firms with no managerial ownership. In contrast to this, Chen and Yu (2012) argue that there is a non-linear relationship between performance and managerial ownership. Furthermore, the effect is exhibited through a transmission channel namely corporate diversification. Thus, the results on this incentives mechanisms of corporate governance and its impact on performance are rather mixed.

2.3.2. Control Mechanisms and Firm Performance

International evidence on the effects of board composition and independence on financial performance and firm value has been provided by Ammann et al. (2011). The latter's study, based on over 60 individual governance attributes, included 22 developed countries. The relations between the study's constructed corporate governance indices and performance measures were found to be positive. The authors showed that the value relevance of the corporate governance attributes did not depend on the methods of calculation and estimation techniques that were applied in the study (Ammann et al., 2011).

2.4. Board Composition and Performance in Arab Countries

This subsection explores the literature on the impact of board characteristics on firm value and performance in Saudi Arabia. Studies covering this specific research area are quite scarce. Therefore, the section also includes an analysis of other corporate governance mechanisms than purely board characteristics, as well as gives a review of observations on the topic of corporate governance and firm performance from additional Arab countries.

2.4.1. Incentives Mechanisms and Ownership Structure

Expanding on prior studies that have focused on performance within companies in Saudi Arabia over a single year (Aljabr, 2010; Ghabayen, 2012; Al-Matari et al., 2012), Al-Ghamdi and Rhodes (2015) tested a sample of over 790 firms listed on the Saudi Stock Exchange over the period 2006–2013. Firm performance is measured in terms of ROA and Tobin's Q to examine how ownership, board size, CEO duality, CEO family membership affect the study's dependent variables. The study also includes a range of control variables. The findings demonstrate that ownership concentration

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insignificantly affected ROA but had a significant influence on Tobin's Q. As opposed to non-family firms, managerial ownership significantly affected both ROA and Tobin's Q in family firms. In addition, CEO duality and board size are significantly and positively correlated with performance in family firms. Thus, the paper concludes that agency costs were important for firms in Saudi Arabia, with differing effects between family and non-family firms.

Chapter 3: Methodology

3.1. Introduction

The aim of this chapter is to describe the research questions and hypothesis tested in this study, explain how the research objectives are pursued, what methods are employed and what data is used for this purpose. The chapter begins with the statement of the research questions and hypothesis. Then, population and sample of the research is explained and variables for testing are identified. The research design is represented by the deductive approach and a quantitative study of banks using the methods of regression analysis and cross-sectional models.

3.2. Research Questions and Hypotheses

The main research questions pursued in this dissertation are:

1. How does the number of directors on the board affect the profitability and market performance of bank in Saudi Arabia?
2. How does the proportion of independent directors affect the profitability and market performance of banks in Saudi Arabia?
3. How does the ownership composition affect the profitability and market performance of banks in Saudi Arabia?
4. How does the CEO duality and tenure affect the profitability and market performance of banks in Saudi Arabia?

The hypotheses for testing are as follows:

H_0: The number of directors on the board does not have a significant impact on return on assets of banks in Saudi Arabia.

H_a: The number of directors on the board has a significant impact on return on assets of banks in Saudi Arabia.

H_0: The number of directors on the board does not have a significant impact on the Tobin Q ratio of banks in Saudi Arabia.

H_a: The number of directors on the board has a significant impact on the Tobin Q ratio of banks in Saudi Arabia.

H_0: The proportion of independent directors does not have a significant impact on return on assets of banks in Saudi Arabia.

H_a: The proportion of independent directors has a significant impact on return on assets of banks in Saudi Arabia.

H_0: The proportion of independent directors does not have a significant impact on the Tobin Q ratio of banks in Saudi Arabia.

H_a: The proportion of independent directors has a significant impact on the Tobin Q ratio of banks in Saudi Arabia.

3.3. Population, Sampling Frame and Variables

The population of the study is represented by all financial institutions in Saudi Arabia that include both local and foreign banks. From this population, the sampling frame is represented by all publicly traded financial institutions in Saudi Arabia. The list of all financial institutions with listings on the Tadawul exchange is provided in the following table.

Table 1 List of Publicly Traded Financial Companies in Saudi Arabia

SYMBOL	COMPANY NAME	SHORT NAME	ISIN CODE
1120	Al Rajhi Bank	Al Rajhi	SA0007879113
1150	Alinma Bank	Alinma	SA122050HV19
1080	Arab National Bank	ARNB	SA0007879105
1140	Bank Albilad	ALBILAD	SA000A0D9HK3
1020	Bank Aljazira	BJAZ	SA0007879055
1050	Banque Saudi Fransi	BSFR	SA0007879782

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1180	National Commercial Bank	NCB	SA13L050IE10
1010	Riyad Bank	RIBL	SA0007879048
1090	Samba Financial Group	samba	SA0007879097
1060	Saudi British Bank	SABB	SA0007879089
1040	Saudi Hollandi Bank	SHB	SA0007879071
1030	Saudi Investment Bank	saib	SA0007879063

Source: Tadawul (2015)

Since the sampling frame is very small and consists of only 12 listed financial companies in Saudi Arabia, the final sample constitutes the whole sampling frame.

For this sample, corporate governance variables, accounting performance variables and market performance variables are retrieved. The corporate governance variables are represented by the board size, the independence of the board, CEO duality, CEO tenure, managerial ownership and ownership concentration. These variables were estimated as follows:

$$Board\ Size = Executive + NonExecutive\ Directors$$

$$Board\ Independence = \frac{NonExecutive\ Directors}{Board\ Size}$$

$$CEO\ Duality = \{1\ if\ CEO = Chairman; 0\ if\ CEO \neq Chairman\}$$

$$CEO\ Tenure = Number\ of\ Years\ Served\ in\ the\ Position\ in\ the\ Company$$

$$Managerial\ Ownership = \frac{Shares\ Owned\ by\ Board\ Members}{Total\ Number\ of\ Shares\ Outstanding}$$

$$Ownership\ Concentration = \frac{Shares\ Owned\ by\ the\ Largest\ Shareholder}{Total\ Number\ of\ Shares\ Outstanding}$$

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The accounting performance variable is represented by return on assets or ROA. This variable is estimated as follows:

$$ROA = \frac{Operating\ Profit}{Total\ Assets}$$

The values of operating profit are retrieved from the income statement of Saudi financial companies and total assets are obtained from the balance sheet of the annual audited financial statements published by the Saudi companies. The annual reports are available at Tadawul (2015) and on corporate websites of the banks as listed companies are legally required to make their financial statements publicly available. This is the main reason why the sample is limited only by the listed companies. The choice of ROA as an accounting performance measure is preferred because it does not take into account the financial leverage of banks but only operating performance. The company can use too much leverage and net income margin or return on equity would be inflated as a result. ROA cannot be manipulated by an increase in financial leverage. Therefore, this measured was selected as a more stable indicator of accounting performance of Saudi financial companies.

The market performance variable is measured by the Tobin Q ratio, which is calculated as follows:

$$Tobin\ Q = \frac{Market\ Capitalisation + Total\ Liabilities}{Book\ Value\ of\ Equity + Total\ Liabilities}$$

While the book value of equity and total liabilities are retrieved from the annual balance sheets of the Saudi financial companies, market capitalisation is collected from Tadawul. Market capitalisation is taken on the date of the balance sheet to be consistent with the book values. Market capitalisation is estimated as follows:

$$Market\ Capitalisation = Share\ Price * Number\ of\ Shares\ Outstanding$$

The Tobin Q ratio is selected as the market performance variable in the study because it shows not only the share performance of the Saudi financial companies but also their relative valuation based on the market to book values. The banks with very high Tobin Q ratios could be overvalued by the market whereas the companies with low Q ratios could be undervalued. ROA and Tobin Q ratios are dependent variables in the study whereas the corporate governance variables are independent variables. The sample includes observations for the chosen twelve banks for the period from 2010 to 2014. Thus, there are five longitudinal observations and 12 cross-sectional observations. The total number of observations for each variable is 60.

3.4. Research Design

The design of this research is marked by a quantitative investigation that requires the use of numerical secondary data and deductive approach. The reason why the research aims and objectives are best achieved using the quantitative research design is because it helps to compare performance of financial companies in Saudi Arabia and their governance structure. Qualitative analysis would not allow for comparison. Another reason for the use of the quantitative research design is that it helps to alleviate the problem of the research bias that often exists when qualitative data is collected from primary sources. Primary data can be interpreted in a way different than viewed and provided by the original source. With quantitative and secondary data such a problem is minimal.

3.5. Research Methods and Models

For the described research design and data, a panel regression analysis is the most optimal method. The panel regression method is adopted because there is a limited number of cross-sectional observations determined by the size of the Saudi market and the size of the financial industry in the country. Furthermore, the number of longitudinal observations is also limited by the low frequency of data published mainly on an annual basis. Thus, cross-sectional regressions and multiple linear regressions that involve time-series would be weaker than a panel regression method.

The panel regression method employed in this research is based on the following empirical model:

$$ROA_{ij} = \beta_0 + \beta_1 BS_{ij} + \beta_2 BC_{ij} + \beta_3 MO_{ij} + \beta_4 OC_{ij} + \beta_5 Duality_{ij} + \beta_6 Tenure_{ij} + \varepsilon_{ij} \qquad (1),$$

Where ROA is return on assets; β_0 is the constant term indicating the long-term average ROA after excluding the effects of independent variables; $\beta_1 \dots \beta_6$ are slope coefficients that show the degree to which corporate governance variables are linearly associated with performance variables; BS is the board size variable; BC is the board composition variable that indicates independence of the board; MO is the managerial ownership variable; OC is the ownership concentration variable; Duality is the CEO duality variable; Tenure is the CEO tenure variable; ε is the residuals term indicating the

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deviations of the actual observations of historical ROA from the modelled line based on the panel regression.

Since the research intends to measure the effect of corporate governance variables on the accounting and market performance, the empirical model is also applied to the Tobin Q ratio. The second regression is specified as follows:

$$Q_{ij} = \beta_0 + \beta_1 BS_{ij} + \beta_2 BC_{ij} + \beta_3 MO_{ij} + \beta_4 OC_{ij} + \beta_5 Duality_{ij} + \beta_6 Tenure_{ij} + \varepsilon_{ij} \qquad (2),$$

Where Q is the Tobin Q ratio indicating the market to book value of the Saudi financial companies.

3.7. Summary

In summary, this chapter described the research questions and hypothesis, explained the design of the study and how the research objectives were pursued, what methods were employed and what data was collected and modelled. The study is focused on accounting and corporate governance data for the top largest banks in Saudi Arabia for the year 2014. The research uses deductive approach to test hypotheses using a non-probability sample. The empirical model is estimated with cross-sectional regressions, which produce the coefficients that show the linear relationships between board characteristics and performance measures.

Chapter 4: Analysis of Findings

This chapter provides a panel regression analysis of the data to estimate the impact of board composition, board structure and corporate governance factors such as CEO characteristics and ownership composition on the performance of listed banks in Saudi Arabia. The performance is represented ROA and Tobin Q. The analysis includes the descriptive statistics of the data, a test on multicollinearity of the independent variables and an analysis of three models of panel regressions that include a pooled OLS regression, a regression with random effects and a regression with fixed effects. The regressions are followed by the Hausman test to choose which model fits the research best.

4.1. Descriptive Summary Statistics

The analysis starts with the descriptive statistics that are shown in table 1.

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Bs	60	17.50	7.30	9	32
Bc	60	0.33	0.30	0	0.82
Duality	60	0.08	0.28	0	1
Tenure	60	2.98	2.64	0	10
Mo	60	0.00	0.00	0	0
Oc	60	0.29	0.12	0.07	0.44

The average board size (bs) of Saudi banks is represented by 18 directors and ranges from 9 to 32 directors. The largest number of directors, both managing and non-executive, is 32. This board size is reported by Banque Saudi Fransi. The least number of directors is 9 found at Alinma bank.
Board composition (bc) which indicates the percent of non-executive directors varies from 0 to 0.82. Riyad Bank and Samba Financial Group have no independent directors at all, and Bank Aljazira and Saudi Investment Bank have the boards dominated by managing or executive directors. On the other hand, Arab National Bank and Saudi British Bank have 82% (9 of 11) and 73% (8 of 11) of independent directors, respectively. The highest percentage of board independence reaches 0.82, and the average indicator across twelve banks in Saudi Arabia is 0.33 with a standard deviation of 0.3. Thus, Saudi financial companies have predominantly executive teams of top management on the boards with independent directors constituting a minority.

CEO duality is present only in Samba Investment Group whereas all other banks do not combine the positions of the CEO and the Head of the Board. Therefore, the average CEO duality is only 0.08, which implies that only 8% of the total sample have CEO duality.

CEOs in Saudi banks are also distinguished by their tenure measure by the number of years served in the top position. An average tenure of the CEO is almost 3 years with the maximum tenure 10 years found in Arab National Bank and less than a year found in Saudi British Bank.

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As for the ownership structure, the Government of Saudi Arabia has shares from 10% to 44% in almost all listed banks of the country. It has the least volume of shares in Bank Aljazira (5.83%), Saudi British Bank (9.74%), Al Rajhi Banking and Investment Corp (10.19%) and Saudi Hollandi Bank (10.5%) and the largest volume in Saudi Investment Bank (41.7%). The only bank which has no Government ownership is Bank Albilad. The mean ownership concentration is approximately 29% which means that, on average, the share of the largest owner is 29% in Saudi Banks. The highest concentration is observed in National Commercial Bank (44.29%) while the lowest ownership concentration is found in Bank Aljazira (6.59%). Interestingly, the board members do not have significant shareholding in any of the twelve banks. Thus, the variable of managerial ownership is represented by zeros for all observations and is omitted from the models.

4.2. Correlations Analysis

Correlations analysis is conducted for two reasons. The first reason is to show the linear association between dependent and independent variables without considering the impact of other factors. The second reason is to test whether a potential problem of multicollinearity is present in the research. Multicollinearity implies a condition when the right side variables, namely independent variables, are correlated. This problem can significantly affect the estimated coefficients and final conclusions. The results of the test for correlation between the variables is shown in table 2.

Table 3 Correlations Matrix

	bs	**Bc**	**duality**	**tenure**	**Oc**
Bs	1.00				
Bc	-0.70	1.00			
Duality	-0.23	-0.34	1.00		
Tenure	-0.26	0.32	0.00	1.00	
Oc	0.11	0.17	-0.05	0.10	1.00

The table reports that most predictors have a weak correlation between each other except for the relationship between board size and board composition. The correlation between board composition and CEO duality is more than |0.3| but cannot be called significant as only 1 bank has a CEO duality

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and this statistical result is obtained because of a common small number of observations. The link between board composition and CEO tenure is significant although the coefficient of correlation is just above 0.3. The correlation is positive and that means that tenure to some extent grows with the number of independent directors on the board. The only correlation that can be considered strong is between board size and board composition (-0.7). This value can explained by the fact that the large percent of non-executive directors is observed in banks with a small board and that is why these two variables are reversely connected. Larger financial institutions with larger boards tend to be less independent compared to smaller banks.

4.3. Panel Regression Analysis

The impact of board characteristics, CEO features and ownership composition on profitability and market performance of Saudi banks is explored using panel regressions. The simplest form of panel regressions is pooled ordinary least squares (OLS) regression which estimates identical intercept and slope coefficients for all firms treating the data as if all financial companies were identical in their business model, size and management. The results of the pooled OLS regression are reported in the following table.

Table 4 Pooled OLS Regression with ROA

Roa	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf. Interval]**	
Bs	0.0001	0.0003	0.4200	0.6780	-0.0004	0.0007
Bc	0.0090	0.0074	1.2200	0.2280	-0.0058	0.0237
Duality	0.0069	0.0053	1.3100	0.1960	-0.0037	0.0175
Tenure	0.0003	0.0004	0.6900	0.4940	-0.0005	0.0010
Mo	0.0000	(omitted)				
Oc	0.0020	0.0086	0.2300	0.8190	-0.0153	0.0193
_cons	0.0104	0.0067	1.5500	0.1260	-0.0030	0.0238

R-squared: 0.1124

F-stat: 1.37

p-value of F-stat: 0.2508

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The model reports a rather low coefficient of determination that demonstrates the fit of the regression line based on the fitted values compared to actual values. The fit is only 11.24% implying that the corporate governance variables explain only approximately 11% of variability in ROA of Saudi banks. However, the F-test with a joint hypothesis that all slope parameters are zero demonstrates a high p-value that does not allow for rejection of the null hypothesis. This provides evidence that the corporate governance variables used in the model have no significant impact on profitability. This result is confirmed by the estimated t-statistics for individual variables. The managerial ownership parameter is omitted from the regression as managers of Saudi banks were not found to have substantial shareholding. Their reporting equity compensation was found to be zero. At the same time, the rest of the variables also report t-statistics with high p-values indicating that the estimated parameters are not different from zero.

The same model was estimated with the Tobin Q ratio as the dependent variable to examine the effect of corporate governance on market performance of Saudi banks. The output is reported in the next table.

Table 5 Pooled OLS Regression with Tobin Q

tobin q	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf. Interval]**	
Bs	0.0016	0.0029	0.5500	0.5820	-0.0042	0.0075
Bc	-0.0465	0.0767	-0.6100	0.5470	-0.2002	0.1072
Duality	-0.0074	0.0550	-0.1400	0.8930	-0.1176	0.1028
Tenure	0.0016	0.0038	0.4300	0.6720	-0.0060	0.0093
Mo	0.0000	(omitted)				
Oc	0.1877	0.0899	2.0900	0.0420	0.0074	0.3679
_cons	0.7724	0.0696	11.1000	0.0000	0.6329	0.9120

R-squared: 0.1714

F-stat: 2.23

p-value of F-stat: 0.0640

This regression shows a higher coefficient of determination which indicates that corporate governance factors predict approximately 17% of variability in the market to book ratio of companies. However, the assessment of individual coefficients shows that stock market investors react mostly to the ownership concentration and not to board composition variables. The ownership concentration is found to have a positive and statistically significant impact on the Tobin Q ratio, which means that investors prefer the companies in which a single shareholder has a large controlling portion of shares. This phenomenon can be explained by the investors' perception of such companies as more stable since the largest shareholder has substantial interests in the wellbeing of the company and has power to affect the board of directors. However, in the context of Saudi banks, the largest shareholder that accounts for ownership concentration is often the government. Thus, the banks with larger government ownership are viewed as more stable and receive higher valuation in the stock market.

These results can be improved by estimating panel regression models with fixed and random effects. The concepts "random" and "fixed" are often used in the econometric literature dedicated to panel regressions (Gujarati, 2003). The difference becomes more complicated as the terms are applied to refer to different circumstances.

As it was stated previously, the pooled OLS regression assumed that the sample of panel data was homogenous and it was possible to apply a traditional simple linear regression. However, if this assumption is relaxed, individual effects need to be introduced as banks are different in size and business structure. The difference between fixed and random effects lies in the treatment of the estimated intercept and coefficients. The fixed effects model assumes that individual intercepts should be estimated for each cross-sectional term, namely for each individual bank. This would help to account for the differences in profitability of various financial institutions. However, the random effects model assumes that these individual effects are not correlated with the independent variables, namely the corporate governance factors chosen in this study while the fixed effects models assume that such correlations exist. In case of random effects regressions, the individual intercepts are estimated as random variables drown from a large pool of normally distributed values that represent the whole group. That is, the values of random variables represent a random set of all probable values of that variable. Thus, the results attained with a random variable are expected to generalize to all other probable values of that random variable. The output of the random effects regression with ROA as the dependent variable is provided in the following table.

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Table 6 Random Effects Model with ROA

Roa	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Bs	0.0001	0.0006	0.1600	0.8710	-0.0011	0.0014
Bc	0.0073	0.0166	0.4400	0.6590	-0.0252	0.0398
Duality	0.0062	0.0120	0.5200	0.6050	-0.0173	0.0297
Tenure	0.0007	0.0004	1.5400	0.1240	-0.0002	0.0016
Mo	0.0000	(omitted)				
Oc	0.0017	0.0197	0.0900	0.9300	-0.0369	0.0404
_cons	0.0100	0.0152	0.6600	0.5110	-0.0198	0.0399

R-squared within: 0.0576

R-squared between: 0.1276

R-squared overall: 0.0979

Wild Chi-square test: 3.59

p-value of chi-square test: 0.6093

The first indicator to be checked is the probability of chi2 which is the test to check whether all the coefficient are not equal to zero. This condition holds if the value of chi2 is <0.05. As the value of chi2 is >0.05 it means that all the coefficients are insignificant and are not different from 0 at a 95% confidence level.

The results of the random effects regression are consistent with the estimations from the pooled OLS model. The model with random effects has a low overall fit of the regression line and no statistically significant determinants of profitability measured by ROA. The random effects regression was also applied to the model with the Tobin Q ratio as the dependent variable, and results are as follows.

Table 7 Random Effect Model with Tobin Q

Tobinq	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
Bs	0.001	0.007	0.190	0.849	-0.013	0.015
Bc	-0.078	0.186	-0.420	0.675	-0.442	0.287

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Duality	-0.021	0.135	-0.150	0.879	-0.285	0.243
Tenure	0.010	0.004	2.360	0.018	0.002	0.018
Mo	(omitted)					
Oc	0.183	0.221	0.830	0.408	-0.251	0.617
_cons	0.766	0.171	4.470	0.000	0.430	1.101

R-squared within: 0.1274

R-squared between: 0.1381

R-squared overall: 0.1284

Wild Chi-square test: 7.39

p-value of chi-square test: 0.1931

The random effects regression shows only tenure of the CEO to be a significant factor of the Tobin Q ratio. A t-test was applied to individual coefficients to test the hypothesis that each coefficient of the predictor variable was not equal to zero. To reject this hypothesis, the p-value has to be lower than 0.05 using a 95% confidence interval. If this is the case it means that the variable has a significant influence on the dependent variable which is the Tobin Q ratio. According to the results only tenure of the CEO has a significant and positive influence on the Tobin Q ratio of the listed Saudi banks. This implies that stock market investors value the companies with more experienced CEOs higher than the companies with the CEOs with short tenure.

Table 8 Fixed Effects Regression with ROA

roa	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf. Interval]**	
bs	0.0000	(omitted)				
bc	0.0000	(omitted)				
duality	0.0000	(omitted)				
tenure	0.0008	0.0005	1.6900	0.0970	-0.0002	0.0019
mo	0.0000	(omitted)				
oc	0.0000	(omitted)				
_cons	0.0148	0.0016	9.1700	0.0000	0.0116	0.0180

R-squared within: 0.0576

R-squared between: 0.0290

R-squared overall: 0.0352

F stat: 2.87

p-value of F-stat: 0.0968

The results of the fixed effects model show a low fit of the regression line indicated by the coefficient of determination. The overall R-squared is only 0.035. Furthermore, most of the corporate governance variables were omitted from the fixed effects model because there were no variations in time. The CEO tenure which was found to have a positive effect on market to book ratio in the random effects regression is found to be statistically significant determinant of profitability only at a 10% significance level. Another performance indicator that is potentially affected by the corporate governance variables is Tobin Q. The conditions of operating OLS regression are just the same as for ROA. A fixed effects regression is also applied to the model with the Tobin Q ratio as the dependent variable. The results are provided in the next table.

Table 9 Fixed Effects Regression with Tobin Q Ratio

tobin q	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf. Interval]**	
bs	0.0000	(omitted)				
bc	0.0000	(omitted)				
duality	0.0000	(omitted)				
tenure	0.0116	0.0044	2.6200	0.0120	0.0027	0.0205
mo	0.0000	(omitted)				
oc	0.0000	(omitted)				
_cons	0.8091	0.0143	56.7400	0.0000	0.7804	0.8378

R-squared within: 0.1274

R-squared between: 0.0168

R-squared overall: 0.0001

F stat: 6.86

p-value of F-stat: 0.0118

The variables of board composition, CEO duality, managerial ownership and ownership concentration were automatically omitted by Stata from the regression because of the multicollinearity problem. Collinearity is a case when a correlation between two independent variables in a multiple regression is significant. Multicollinearity is a case when an inter-correlation between more than two predictor variables is present. This situation means that one independent variable can be linearly forecasted from the other(s) with an appropriate degree of accuracy. Having stated this, the coefficient estimates in the multiple regression may significantly change in case of small changes in the data or the model. Multicollinearity does not worsen the forecasting power or reliability of the model in whole. However, it influences on calculations of individual independent variables. Thus, a regression model that contains inter-correlated predictors is able to reflect how well the whole set of independent variables predicts the outcome variable, but it may incorrectly reflect the impact of any particular predictor, or redundancy of some predictors in relation to the others. Yet, in the case of the corporate governance variables, the multicollinearity problem was observed because for the total sample, there were no variations in board sized, board composition, ownership concentration, CEO duality and managerial ownership across time in all twelve banks. This is due to the limitations of the data provided by Thomson One Banker (2015) where only the most recent indicators of corporate governance are reported.

In spite of the omitted variables, the fixed effects regression confirms the results of the random effects model with the Tobin Q ratio that the CEO tenure has a statistically significant positive impact on the market to book value of listed banks in Saudi Arabia. This finding means that the stocks of Saudi banks with more experienced CEOs tend to be higher valued compared to the banks in which CEOs were in their position for a short amount of time. However, to choose which regression model is more efficient in this case, further diagnostic testing is required.

4.4. Diagnostic Test

The Hausman test is often used to discriminate between the fixed and the random effects model. Two common assumptions can be made about the particular specific effect, namely the random effects assumption and the fixed effects assumption. First of them, the random effects assumption (that is present in a random effects model) is that the particular specific effects and the independent variables are not correlated with individual effects. The assumption of fixed effects is that the particular

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specific effect and the independent variables are correlated with individual effects. The common rule is that if the assumption of no correlation holds, the RE model is more efficient than the FE model. Meanwhile, if this assumption does not hold, the RE model is not consistent. The validity of the assumption is tested by the Hausman test with the null hypothesis that the random effects model is efficient. The results of the test for the models with ROA as the dependent variable are reported in the following table.

Table 10 Hausman Test Applied to ROA Models

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed_roa	random_roa	Difference	S.E.
tenure	0.0008	0.0007	0.0002	0.0002

Test: Ho: difference in coefficients not systematic

chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)=0.51

Prob>chi2 =   0.4768

In this test, the null hypothesis is that the model with random effects should be preferred against the alternative hypothesis that the model with fixed effects is better. The test estimates the consistency of an estimator in comparison to an alternative, less efficient, estimator which is already shown to be consistent. As the probability value of the test is higher than 0.05, the random effects regression is found to be more efficient than fixed effects regressions. The findings show that the null hypothesis of the Hausman test is accepted. The random effects regression earlier revealed that none of the corporate governance variables chosen for this study had a statistically significant effect on profitability of Saudi banks.

Another test was applied to the models with fixed and random effects in which the Tobin Q ratio was used as the dependent variable. The output of the new Hausman test is provided in the following table.

Table 11 Hausman TestApplied to Tobin Q Models

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	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed_tobinq	random_tob~q	Difference	S.E.
tenure	0.0116	0.0097	0.0019	0.0016

Test: Ho: difference in coefficients not systematic

chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)=1.32

Prob>chi2 = 0.2514

The null hypothesis of the Hausman test in this case is also accepted as the p-value of the chi-square test exceeds the 5% level. Therefore, the random effects model is also found to be more efficient compared to the fixed effects model in the context of the Tobin Q regressions. This finding is consistent with expectations since the fixed effects models reported many omitted variables.

Chapter 5: Discussion and Conclusions

5.1. Introduction

This chapter aims to summarise the main findings of the research referring to the original aims and objectives, compare the results to previous studies, state limitations of the research and provide directions for future studies. This chapter also contains implications for practice in the field of finance and corporate governance.

5.2. Discussion of Results

This research attempted to examine the impact of board characteristics, CEO characteristics and ownership features of Saudi banks on market performance and profitability. These were the main aims and objectives. These factors are collectively referred to as corporate governance variables in this study. The roots of the problem of the relationship between corporate governance and performance of financial companies lie in the principal-agent problem raised by the agency theory. It was shown in literature review that agency theory is one of the most widely spread theories to explain the impact of board composition and independence on company performance. The theory works to explain the complex relations between top managers and boards of directors. It states that managers act as agents of control on behalf of firm owners. On the other hand, they need to be

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controlled by the board to avoid incentives of self-interest decisions harming the company. The possibility of opportunistic behaviour on behalf of a principal can be reduced by introducing monitoring and incentive mechanisms (Al-Hussain, 2009). Board independence represented by the introduction of non-executive independent directors is an example of control mechanisms of corporate governance. However, the results of this dissertation could not confirm the relationships predicted by the agency theory in the context of Saudi Arabian financial sector. In particular, the study showed that control mechanisms of corporate governance did not impact the market performance and profitability of Saudi banks.

The agency theory that was not supported in this study was contrasted to the stakeholder theory, stewardship theory and resource dependency theory. Stakeholder theory focuses on the interests of not only owners but all stakeholders in a company stating that the environment of a company contains specific individuals and groups and that the company as a whole must encourage to interact in order to operate effectively with various categories of partners (Carroll, 2000).Stewardship theory does not consider the possibility of managerial opportunism, and thus rejects the statement of a board's necessity to operate controlling and monitoring functions. Instead, the theory suggests that managers in general should act as the good stewards of companies (Huse, 2007). Considering that this dissertation revealed a significant positive impact of the CEO tenure on market to book values of the listed banks in Saudi Arabia, the stewardship theory is supported by this research. The managers with more experience increase the value of the company and operate as good stewards.

While the above-mentioned theories concentrate on the interrelationships among different groups of stakeholders in companies and their own interests, resource dependence theory views boards of directors not as a control mechanism but as a company resource. Resource dependence theory explores how stakeholders in a business environment influence a company and how a company can respond to these stakeholders (Gunay, 2008). If CEOs are viewed as human resources of the company, then the findings of the dissertation also support the resource dependency theory as higher tenure is associated with higher market to book values of banks.

5.3. Summary and Conclusions

This study pursued an aim to estimate how the corporate governance efficiency influenced financial and market performance in Saudi financial companies using a sample of twelve banks for the period from 2010 to 2014. This aim has been attained successfully even though the results are different from original expectations. Four objectives were also attained along with the main aim of the research using the method of panel regression analysis.

The first objective was to measure the impact of the board size on profitability and market performance of Saudi financial companies. Even though larger boards can potentially increase agency costs, they can also increase the overall expertise of the top management team if the board is comprised of directors with diverse background and experience. However, the results of the dissertation showed that the number of directors on the boards of Saudi banks did not influence market performance and profitability significantly.

The second objective of the research implied testing the relationship between independence of the board of directors and market performance and profitability of banks in Saudi Arabia. Based on the agency theory, it was expected that higher independence of the board would be associated with better profitability and performance as a result of the improvement in the control mechanism of corporate governance. However, this expectation was not confirmed and the results reported statistically insignificant effects of the board independence on profitability and the Tobin Q ratio.

5.4. Limitations

The results in this study have been attained with some limitations. The major limitation of the research is the corporate governance variables that were not available for the years prior to 2014. Thomson One Banker (2015) provides data only on the board characteristics and ownership variables for the latest period whereas accounting information is reported for up to ten years. While some corporate governance variables such as CEO tenure could be manually calculated knowing the value for the most recent year, other variables were assumed to be static and were not changed. This limitation greatly and negatively affected the efficiency of the fixed effects regression models that aim to trace the differences across various companies. Since this limitation was present, the Hausman

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test also confirmed that fixed effects models were inefficient in this research. Therefore, the conclusions are made on the basis of random effects models.

Another limitation of this research is small sample of financial institutions listed in Saudi Arabia. There are only twelve banks with listing on the stock exchange in Saudi Arabia and all these banks were included in the final sample. This limitation was attempted to be addressed by employing a panel data approach instead of cross-sectional study taking five years of historical data for each bank. This resulted in 60 observations for each variable. This number was sufficient for running regression models.

The dissertation is also limited in terms of the frequency of data. Whereas market values of the companies could be assessed on a daily basis, accounting variables and corporate governance variables are available with annual frequency. In order to deal with this limitation, the Tobin Q ratio was estimated using the market values of equity available on the balance sheet date to make them consistent with book values. In reality, the Tobin Q ratio is very volatile because stock prices are volatile. Therefore, an alternative approach could imply using average values for the year.

The mentioned limitations do not allow the results to be generalised. It can be expected that different relationship between corporate governance variables and performance variables could exist in other non-financial industries and even in other countries. Being focused on a particular financial sector in Saudi Arabia prevented this research from making generalisable results but this can be addressed in future studies that can expand the focus.

5.5. Implications for Practice

The results have practical implications for investors and regulators. Investors are primarily interested in the market performance of companies as this determines the future wealth of investors. Accounting profitability is one of the channels through which market performance of companies is determined. Investors can choose targets for investment not only based on accounting information but also based on corporate governance features of particular companies. Investments in good management is one

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of the ways of fundamental analysis and value investing. However, the results of this dissertation suggest that this strategy may appear to be unprofitable as the main corporate governance features and management characteristics such as the size of the board, independence of the board, CEO tenure and CEO duality do not have a significant impact on the market performance of companies. Since this links is absent based on the evidence from twelve Saudi banks, investors can be recommended to base their investment decisions on financial and market data rather than corporate governance data.

The research also has recommendations for regulators. The corporate governance practices in Saudi Arabia only recently started being regulated more tightly whereas in developed countries such as the UK and US, listing rules put strict requirements on board independence of the companies. Since the research demonstrated no significant relationship between major corporate governance characteristics and profitability of financial institutions, it can be assumed that the current corporate governance practices are not improving financial performance and some actions may be required by regulators to prevent mismanagement of financial institutions. On the other hand, the lack of the relationship between corporate governance features and profitability and performance of banks in Saudi Arabia may be explained by different cultural and religious background of the country compared to most advanced economies. The financial sector in Saudi Arabia contains both traditional conventional banks and Islamic banks that follow the Sharia law. Since the sample is very limited it is difficult to tell whether different types of banks have different corporate governance features but following the agency theory it can be recommended that regulators impose a minimum threshold for board independence to increasing corporate control and monitoring.

5.6. Direction for Future Research and Recommendations

There are many opportunities to expand this research. As the limitations stated in this chapter showed, the study does not provide the results that can be generalised. Therefore, additional investigations into the corporate governance issues and their effect on market performance and profitability are required. One of the recommendations for future research is that the sample of companies needs to be increased. This can be achieved by broadening the focus of the study to include non-financial companies in Saudi Arabia. Alternatively, the expansion of the sample size can be achieved by

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staying focused on the financial industry but including the companies from the Gulf Cooperation Council countries that have similar corporate culture to Saudi firms. This would help to achieve generalisable results and more reliable findings.

This research was focused exclusively on the recent performance and corporate governance features in Saudi banks in 2010-2014. However, prior to this period there was an immense shock to the world economy, namely the global financial crisis. In light of this event, it can be recommended that future studies examine how the corporate governance factors changed after the crisis and how the relationship between corporate governance and performance shifted. Without comparing the results to the pre-crisis period, the research would not be full.

Future studies are also recommended to address the problem of proxies of performance. This research used ROA and Tobin Q ratio to represent profitability and market performance respectively. However, both indicators are subject to accounting treatment and manipulation. Therefore, alternative measures such as stock return and operating cash flows rather than accounting earnings are recommended to be included in the future analysis.

There are also opportunities in future studies to expand the list of corporate governance factors. While the main incentives and control mechanisms were covered in this dissertation, such factors as compensation of the board directors, their social network and structure of audit and risk management committees should be included as potential determinants of profitability and market performance in financial institutions such as banks.

5.7. Reflections

Reflecting on the research process, it can be stated that the major challenges have been faced in data collection and analysis. It was found that financial data is rather scarce on Saudi companies compared to the US and UK companies. This mainly applies to corporate governance variables which could only be retrieved for the latest year 2014. However, the study also helped to improve numerical and analytical skills. Some technical knowledge was required to work with Stata but these challenges were also overcome.

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The research showed that all objectives were attained and questions answered. However, if the study had to be done all over again, the managerial ownership would have been omitted from the ownership characteristics. After all data had been collected, it was found that managers in Saudi banks did not have substantial shareholding. Thus, the effects of this factor would be impossible to investigate. In addition to this, the results could be improved by collecting a more balanced sample of companies with an equal distribution of firms by CEO duality. Most of the companies investigated had no CEO duality. Thus, this factor could not be adequately researched in the regression analysis.

5.8. Summary

In conclusion, this chapter summarised the main findings of this dissertation and compared them to empirical literature and theories. All objectives were attained in this study and limitations of the research have been provided. There are many opportunities to address these limitations and the key points were stated in the directions for future study. The chapter also listed recommendation for companies and regulators which constituted implications for practice. The main outcome of the research is that best practices in corporate governance should be pursued in Saudi Arabia but investors should be informed that corporate governance is not the strongest factor that determines performance and profitability of financial institutions. However, more studies are needed in this area to achieve more reliable and generalisable results.

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Appendices

Appendix A: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
bs	60	17.50	7.30	9	32
bc	60	0.33	0.30	0	0.82
duality	60	0.08	0.28	0	1
tenure	60	2.98	2.64	0	10
mo	60	0.00	0.00	0	0
oc	60	0.29	0.12	0.07	0.44

Appendix B: Correlations Analysis

	bs	Bc	duality	tenure	Oc
bs	1.00				
bc	-0.70	1.00			
duality	-0.23	-0.34	1.00		
tenure	-0.26	0.32	0.00	1.00	
oc	0.11	0.17	-0.05	0.10	1.00

Appendix C: Pooled OLS Regressions

roa	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
bs	0.0001	0.0003	0.4200	0.6780	-0.0004	0.0007
bc	0.0090	0.0074	1.2200	0.2280	-0.0058	0.0237
duality	0.0069	0.0053	1.3100	0.1960	-0.0037	0.0175
tenure	0.0003	0.0004	0.6900	0.4940	-0.0005	0.0010

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mo	0.0000	(omitted)				
oc	0.0020	0.0086	0.2300	0.8190	-0.0153	0.0193
_cons	0.0104	0.0067	1.5500	0.1260	-0.0030	0.0238

tobin q	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf. Interval]**	
bs	0.0016	0.0029	0.5500	0.5820	-0.0042	0.0075
bc	-0.0465	0.0767	-0.6100	0.5470	-0.2002	0.1072
duality	-0.0074	0.0550	-0.1400	0.8930	-0.1176	0.1028
tenure	0.0016	0.0038	0.4300	0.6720	-0.0060	0.0093
mo	0.0000	(omitted)				
oc	0.1877	0.0899	2.0900	0.0420	0.0074	0.3679
_cons	0.7724	0.0696	11.1000	0.0000	0.6329	0.9120

Appendix D: Random Effects Regressions

roa	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
bs	0.0001	0.0006	0.1600	0.8710	-0.0011	0.0014
bc	0.0073	0.0166	0.4400	0.6590	-0.0252	0.0398
duality	0.0062	0.0120	0.5200	0.6050	-0.0173	0.0297
tenure	0.0007	0.0004	1.5400	0.1240	-0.0002	0.0016
mo	0.0000	(omitted)				
oc	0.0017	0.0197	0.0900	0.9300	-0.0369	0.0404
_cons	0.0100	0.0152	0.6600	0.5110	-0.0198	0.0399

tobinq	**Coef.**	**Std. Err.**	**z**	**P>z**	**[95% Conf. Interval]**	
bs	0.001	0.007	0.190	0.849	-0.013	0.015
bc	-0.078	0.186	-0.420	0.675	-0.442	0.287
duality	-0.021	0.135	-0.150	0.879	-0.285	0.243
tenure	0.010	0.004	2.360	0.018	0.002	0.018

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mo	0 (omitted)					
oc	0.183	0.221	0.830	0.408	-0.251	0.617
_cons	0.766	0.171	4.470	0.000	0.430	1.101

Appendix E: Fixed Effects Regressions

roa	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
bs	0.0000	(omitted)				
bc	0.0000	(omitted)				
duality	0.0000	(omitted)				
tenure	0.0008	0.0005	1.6900	0.0970	-0.0002	0.0019
mo	0.0000	(omitted)				
oc	0.0000	(omitted)				
_cons	0.0148	0.0016	9.1700	0.0000	0.0116	0.0180

tobin q	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
bs	0.0000	(omitted)				
bc	0.0000	(omitted)				
duality	0.0000	(omitted)				
tenure	0.0116	0.0044	2.6200	0.0120	0.0027	0.0205
mo	0.0000	(omitted)				
oc	0.0000	(omitted)				
_cons	0.8091	0.0143	56.7400	0.0000	0.7804	0.8378