2016

Corporate Governance, Risk Management, and Bank Performance in the GCC Banking Sector

Elbahar, Ehab

Plymouth University

Corporate Governance, Risk Management and Bank Performance in the GCC Banking Sector

By

Ehab Ragab Elbahar

A thesis submitted to Plymouth University for the Degree of

Doctor of Philosophy

Faculty of Business

School of Management

2016

Dedication

To my parents, my wife, and my son and daughters
(Mr. Ragab Elbahar and Mrs. S M. H. Haggag)
(Noha, Baraa, Sabi, and Sara)

And to my brothers and sister
(Eng. Salah, Dr. Mohamed, and Mrs. Eman)

Thank you all for your love, sacrifices, and support

Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Graduate Committee.

Relevant scientific seminars and conferences were regularly attended at which work was often presented; external institutions were visited for consultation purposes and several papers prepared for publication.

I have presented and published the following papers;

- I published one paper under the title of "Corporate Governance and risk management in GCC banks" in the "*Corporate Ownership and Control Journal*" / Volume 13, Issue 3, 2016.
- I presented part of my empirical and theoretical work in the conference of "Innovation Arabia 8" under the title of "Risk Management and Corporate Governance in Banking Industry, Evidence from GCC", and this was paper published on the main web Page of the conference, http://www.innovationarabia.ae/system/files/documents/IBF_Proceedings_IA8_2015_17Mar2015.pdf

External Contacts: Dr. Tarek Abdelfattah, Hamdan Bin Mohammad Smart University, UAE *& Mansoura University, Egypt* T.Abdelfattah@hbmsu.ac.ae

Word count of main body of thesis: 79,057 words

Signed: Ehab R. Elbahar

Date: 08 June 2016

Acknowledgement

My praise and thanks to God, the Almighty, for having made everything possible by giving me strength and courage to do the current study.

I am highly indebted to Professor Ahmed El-Masry for his superb supervision, guidance, comments and encouragement. He has guided and encouraged me to work hard, and has been very friendly and considerate. He has always been there when I needed motivation and support during the difficult stages of my work. He was always available, with a smile, to listen to my concerns and inquiries over the period of study.

Furthermore, I would like to express my deepest gratitude to Professor Peijie Wang (my second supervisor). I have benefited greatly from his comments and advice. He has been a constant inspiration to me and his endless support has contributed enormously to completing my work.

In addition, I would like to thank the organizers and participants of the annual conference 2015 of Innovation Arabia 8, who gave me the chance to attend and present part of my empirical and theoretical work.

Special thanks to Dr Tarek Abdel-Fattah and Dr Mohamed Elbaradie for their valuable guidance, feedback and comments in all stages of this study.

I would like to thank Plymouth Business Management School, UK who gave me this chance to complete my PhD under their respective umbrella.

Finally yet importantly, I would like to thank my parents for their love, support, prayers, and encouragement. They are all a great source of encouragement in everything in my life.

Special thanks to my wife, without whose persistence and endurance my PhD would not have been realized. She has sustained great suffering and paid a precious price in shouldering the responsibility of raising our children during the time I have been. Special thanks also to my lovely children Baraa, Sabi, and Sara for their patience and sacrifices.

Abstract

The current study aims to contribute to Corporate Governance CG and Risk Management RM literature by providing empirical evidence of the relationship between the three construct: CG, RM and Bank Performance BP within the GCC banking sector. Furthermore, the Islamic data and conventional data have been separated to investigate the association between CG, RM and BP. To do so, 90 active banks (30 Islamic – 60 conventional) banks have been selected as a sample for ten years period from (2003 – 2012), and subsequently used the regression analysis (Ordinary Least Square OLS) for the four selected models as follows;

Regarding the empirical results of **Model (1)** which investigate the relationship between CG's variables and BP measured by ROE and ROA for all banks' data; Islamic data and conventional data, the result indicate that the board size, gender diversity, role duality and audit committee are insignificantly associated with bank performance measured by ROE in all types of banks. In addition, in Islamic banks the Non-Executive Board Member NEBM and credit and investment committee are negatively and significantly associated with ROE, however, this association is insignificant in conventional banks. The capital ratio is positively and significantly associated with ROA in all types of banks. Furthermore, the gender diversity is insignificantly associated with bank performance measured by ROA in both Islamic and conventional banks. Interestingly, bank size is significant and positive with bank performance measured by both of ROE and ROA in all types of banks.

Model (2) investigates the relationship between RM's variables and BP measured by ROE and ROA for all banks' data; Islamic data and conventional data. The results indicate that capital risk and liquidity risk are insignificant with BP measured by ROE in all types of banks. The association between non-performing loan and credit risk with ROE are insignificant in Islamic banks, however, this association is significant and negative in conventional banks. Interestingly, the capital adequacy ratio is positively and significantly associated with ROE and ROA in all types of banks.

Furthermore, as per **Model (3)** which investigate the relationship between both of CG and RM's variables and BP measured by ROE and ROA for all banks' data; Islamic data and conventional data, it can be concluded that the NEBM is significantly and negatively associated with BP measured by ROE and ROA in all types of banks. In this model, it was noted that some variables are insignificantly associated with bank performance in both Islamic and conventional banks, those variables are gender diversity, role duality, Loan to Deposit Ratio LDR, NPL, credit risk, capital risk and liquidity risk.

In **Model (4)** which investigate the relationship between CG and RM measured by NPL for all banks' data; Islamic data and conventional data. It can be concluded that NEBM and CEO-turnover are insignificant with NPL in all types of banks. Furthermore, board size, Role duality, LDR and Risk committee are negatively and significantly associated with NPL in conventional banks, however, they are insignificant in Islamic banks. The gender diversity in all types of banks is negative and significantly associated with NPL.

In addition to the above, the current study provides evidence that the determinants of bank performance in the GCC banking sector vary among the different independent variables. No single variable could explain the bank performance, this conclusion highlights that there is a need for additional analysis of the three constructs in different periods.

Biography

During my educational trip at Plymouth University, I have enhanced and developed my research skills by attending training courses, work shops and seminars as follows;

• Research skills training course.	• Introduction to research methods.
• Academic writing skills work shop.	• How to plan and execute your Phd works sminar.
• SPSS presentation.	• Presentation skills seminars.
• STATA work shop	• How to plan your research (presentation)

Furthermore, during the past five years I have attended a number of conferences as follows;

- Innovation Arabia 8 Conference, this is an annual conference organized by Hamdan Ben Mohamed Smart University in Dubai, UAE. This conference was held in February 2015.
- Innovation Arabia 9 Conference, this is an annual conference organized by Hamdan Ben Mohamed Smart University in Dubai, UAE. This conference was held in March 2016.
- Annual Internal Audit Global Conference, I have always attended this conference every year in Dubai and Abu Dhabi from 2010 to the present. Through this conference I attended many parallel sessions dealing with corporate governance and risk management.
- Islamic financing and corporate governance in the banking sector, June 2014 in Dubai.
- Projects management conference, this conference was organized by Dubai government authorities in January 2015.

In addition to the above, I have presented and published the following papers;

- I published one paper under the title of "Corporate Governance and risk management in GCC banks" in the "*Corporate Ownership and Control Journal*" / Volume 13, Issue 3, 2016.
- I presented part of my empirical and theoretical work in the conference of "Innovation Arabia 8" under the title of "Risk Management and Corporate Governance in Banking Industry, Evidence from GCC", and this was paper published on the main web Page of the conference,

http://www.innovationarabia.ae/system/files/documents/IBF_Proceedings_IA8_2015_17Mar2015.pdf

- I am planning to publish parts of my empirical and theoretical works in a professional business Journal during the second half of 2016 once I reach the final version.

Table of content

List of Tables

List of Figures

Chapter One: Introduction

1.1 General introduction

In the economic system of Gulf Cooperation Council (GCC) the banking sector has a very important role in allocating capital. Thus, banking system has been subject to investigation and analysis in many literature, the consensus of these literature prove that this sector has an impact on business growth (Fritzer 2004).

Worldwide, and especially in the GCC banking sector, the uncertainty regarding the association between the focus of voluntary corporate governance guidelines and risk management and their implication on banks' performance in practice has created a research gap in this area. Increased concerns regarding transparency and corporate accountability in various developed countries have been associated with the need for appropriate risk management. This has been reflected through recent corporate governance guidelines and literature. The subjectivity of this area has given rise to different levels of emphasis on corporate governance CG and risk management, and is correspondingly reflected in the governance systems of various countries.

The purposes of this study is to address this research gap, by analysing and investigating whether there is an association between the emphasis of CG, RM and Bank Performance BP in practice. The motivation behind this approach is to contribute to the CG literature on RM and BP, by establishing if corporate governance guidelines are an influencing force affecting practices in these areas. This will assist in narrowing the research gap in this area and will have relevant implications for governance policy makers who might be interested in knowing the impact of their corporate governance on risk management and performance.

The empirical results of this study would provide general indicators of corporate governance useful for all concerned parties and stakeholders; owners, employees, regulators, management, and any other concerned parties and decisions makers, as well as in rewarding or punishing the banks that have great or little intention to improve the corporate governance alignment with risk management and bank performance. Furthermore, the empirical results of this study could be used by researchers in future literature for benchmarking purposes. The empirical contribution of this study have been presented in detail in chapter six,

This chapter will present general overview about CG, RM and BP in GCC banking sector as follows; section 1.2 will present the basic characteristics of the GCC countries and the characteristics of the selected sample. Section 1.3 will present an introduction about the CG. The introduction about RM will be presented in section 1.4. Section 1.5 will highlight the BP and both of ROA and ROE as a proxy variable for BP. The research objective and question shown in section 1.6. Lastly, section 1.7 will present the thesis structure.

1.2 Basic characteristics of the GCC countries

The GCC consists of 6 Arab countries; Saudi Arabia, United Arab Emirates, Bahrain, Oman, Kuwait and Qatar. The financial system in the GCC is dominated by banking sector. Recently, the Islamic banks have grown rapidly to become a prominent source of financial intermediation in the GCC (Al-Hassan et al. 2010).

The main characteristics of the structure of the financial system in each country will be presented as follow: (Al-Hassan et al. 2012)

Saudi Arabia	U.A.E.	Bahrain	Oman	Kuwait	Qatar
The assets of banking sector is around 68 % of GDP. The banking sector has three autonomous government institutions. In addition, this sector has five sizable specialized credit institutions, their assets is around 50% of the total assets of the sector, and they provide loans with interest free for public.	This sector dealing with total assets over 140 % of GDP. The three largest banks are; Emirates Bank International, National Bank of Abu Dhabi and Abu Dhabi Commercial Bank, this three banks dealing with 32 % of total sector assets.	This sector is the largest in GCC. This sector's assets is around 260 % of the GDP. The three largest banks are; National Bank of Bahrain, Bank of Bahrain and Kuwait and Ahli United Bank, the three bank's assets represent 41 % of the sector's assets. Same like all GCC members, this sector has been strongly affected by the 2008 financial crisis. The financial system contributes about 1/3 of the total GDP	This sector is the smallest in GCC, it represents around 66% of the total GDP. There are two largest banks; National Bank of Oman and Bank Muscat, the two banks are dealing with around 55 % of sector's assets.	This sector has two largest banks; Kuwait Finance House and National Bank of Kuwait, their assets is around half of the total sector's assets. This sector include 95 Investment companies, their total assets is around 102 percent of GDP	This sector dealing with assets around 94 % of the GDP. This sector has three largest banks; Commercial Bank of Qatar, Doha Bank and Qatar National Bank, dealing with 70 % of total assets. This sector has three specialized government-owned banks.

1.3 Main characteristics of the sample

The sample of this study consist of 90 banks; 30 Islamic and 60 conventional (appendix 1). The distribution of Islamic and conventional banks per country will be as follow; figures 1.1 and 1.2.

Figure 1.1: Distribution of Islamic banks

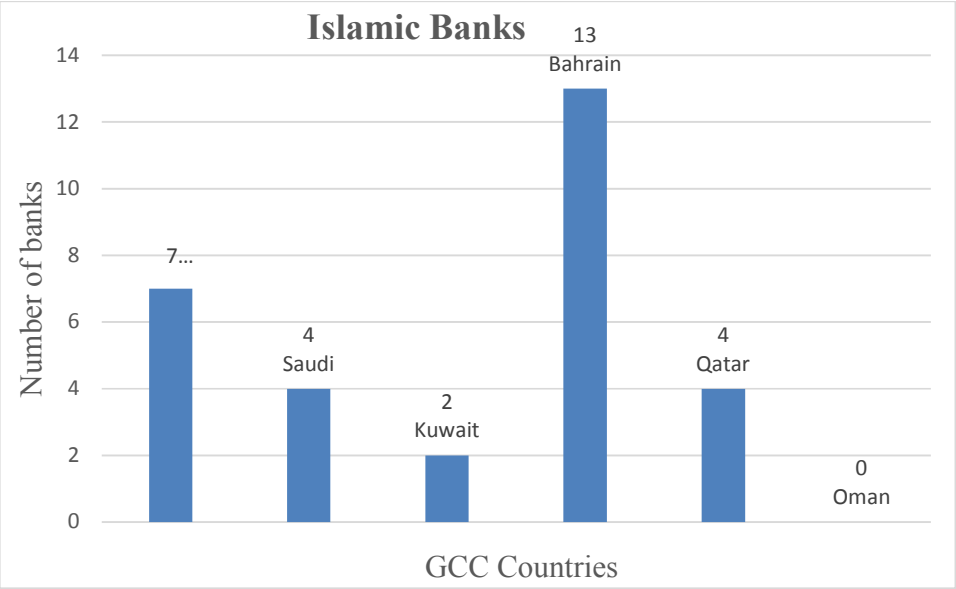
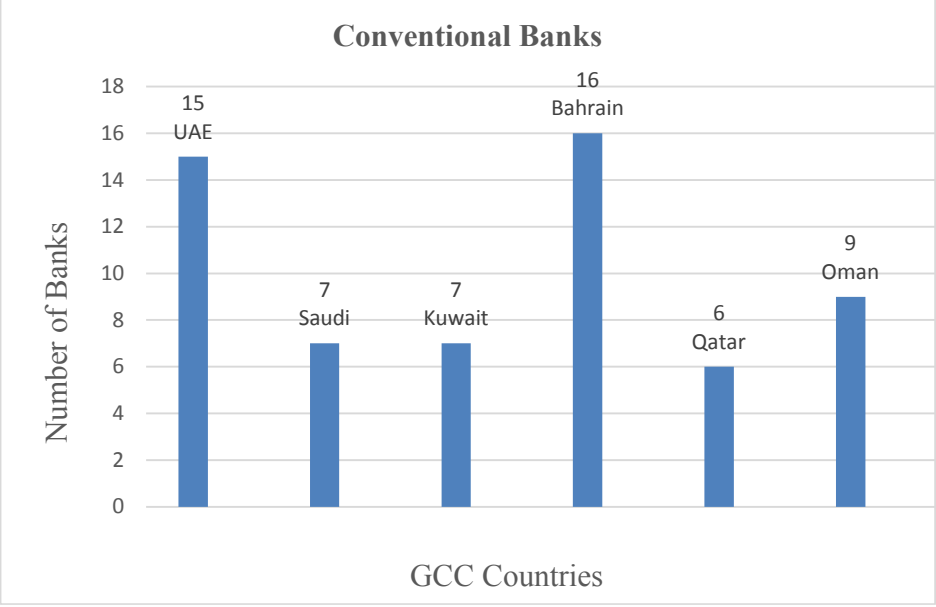


Figure 1.2: Distribution of conventional banks



The sample of 90 banks consist of 16 government banks and 74 non-government banks, their distribution per country presented in figures 1.3 and 1.4 as follow:

Figure 1.3: Distribution of government banks

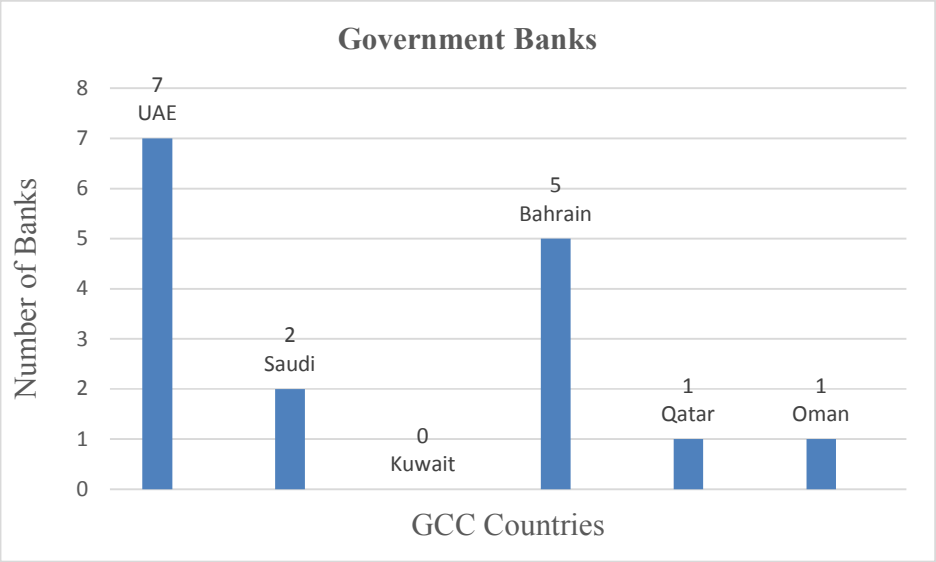
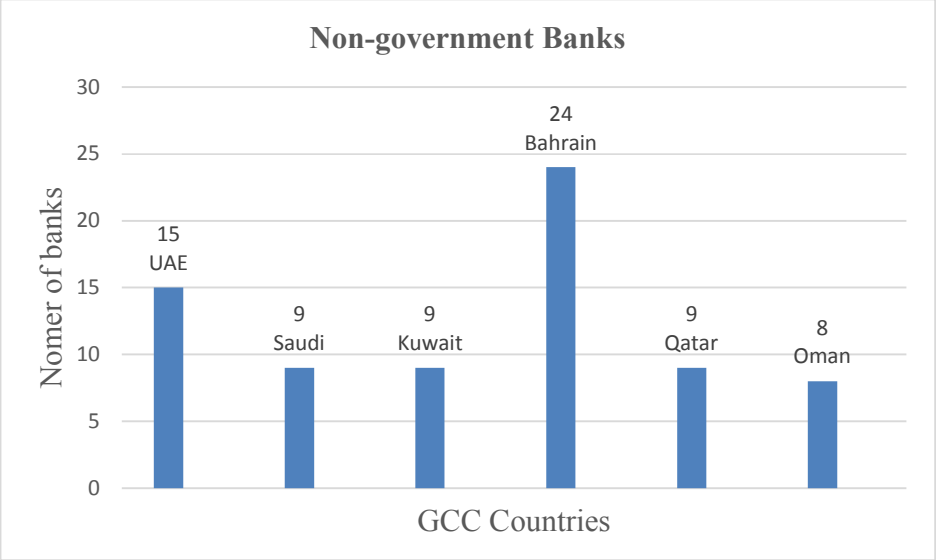
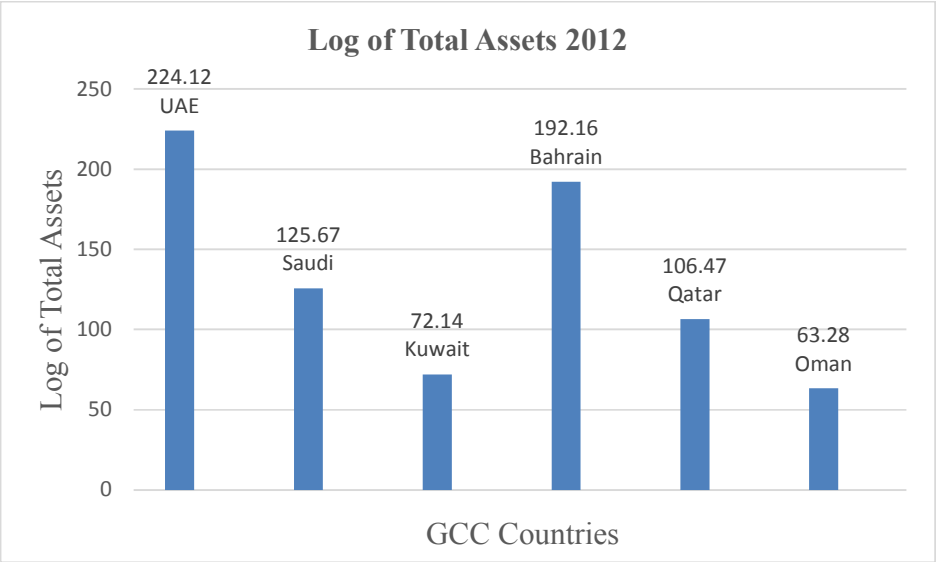


Figure 1.4: Distribution of non-government banks



As per the sample, the total log of assets in GCC banking sector is 783.84, the distribution of this total presented in figure 1.5 as follow:

Figure 1.5: log of total assets of GCC countries



1.4 Corporate governance in banking sector

The rapid growth in the business sphere has increased the role of management in the running of their businesses. Management in turn tries to find the best ways to exercise rational management to maximize the wealth of shareholders. Due to the separation between owners (shareholders) and managers, management is required to sustain the confidence of their shareholders. Unfortunately, this confidence has been affected by many scandals, which have led to the collapse of many businesses such as Maxwell, WorldCom, Enron, and the Bank of Credit and Commerce (BCCI) (Ezat, 2010).

Because of these scandals and collapses, some urgent questions have been raised about the relationship between shareholders and management of companies, and how to arrange this relationship to recognize the optimal management of wealth and use of resources. Furthermore, professional institutions and organizations have begun to consider devising a system that guarantees the non-repetition of these collapses. Consequently, the concept of corporate governance and risk management emerges as a solution to those problems.

The main components of this study (see figure 1-6) are corporate governance, risk management, and bank performance. Due to the importance of both corporate governance

and risk management and their implications on banking performance, this study will analyse and explore the relationship between all of them in order to assist the stakeholders, shareholders, management, customers, and investors in achieving their business goals.

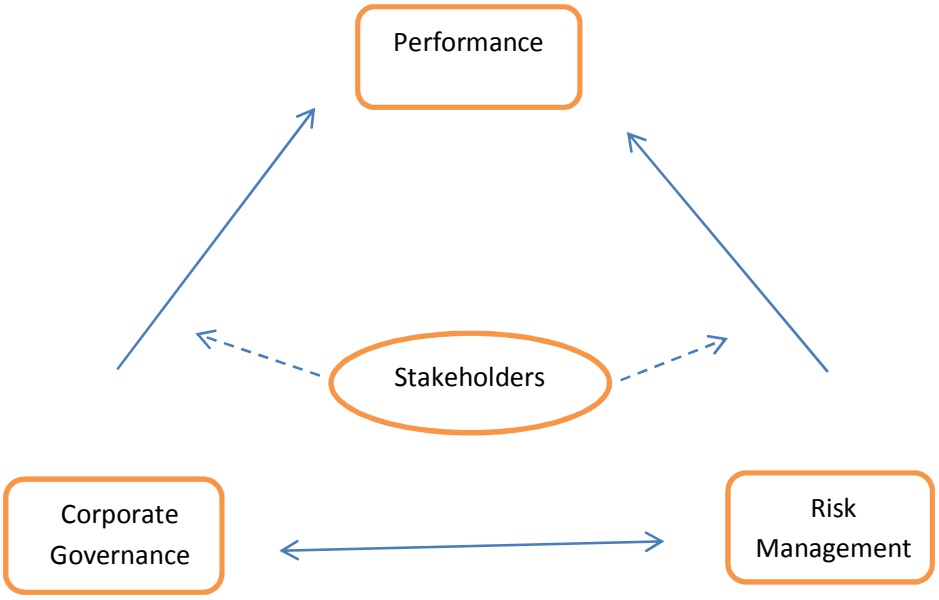


Figure 1-6 the Main Constructs of the Study

This study focuses on corporate governance and risk management practices within GCC banking sectors, and attempts to assess their impact on the bank's performance. Whilst there is no strict regime for implementation of corporate governance or risk management frameworks such as the Sarbanes Oxley Act in the USA and Basel I, II, and III in Europe, the GCC banks, through regulations from individual central banks, have laid down corporate governance and risk management requirements within their domains.

The results of this study are based on investigating and analysing the association between the selected variables that reflect the banking performance in the GCC region. Furthermore, it will study the corporate governance and risk management practices across 90 GCC banks (30 Islamic and 60 conventional). This study will attempt to correlate these practices with the general performance of the bank. More importantly, this research will allow us to assess the

impact of corporate governance and risk management as a management tool and assess the effect of applying both together.

Following to the above-mentioned collapses, scandals and East Asian financial crisis, the corporate governance came on the top of the global agenda. The financial crisis had some harmful consequences towards economic sphere, which prompted more studies and investigation as to its origins (Al Karasneh et al. 2006). Moreover, one of the major reasons behind these crisis and collapses was the bad corporate governance and risk management within the financial system. As a logical solution for that, the adherence to good corporate governance and applying effective risk management are currently recognized as crucial in averting financial crises.

Transparency, fairness, accountability and responsibility are the four main principles of effective corporate governance, these principles are very important to provide legitimacy to the corporate level in the banking sector (OECD, 2004). Furthermore these principles have a crucial implication on the growth of banking sector and economic as a whole (World Bank report 2006). Furthermore, this report showed that countries could enhance the population life style when they enforce rules and clauses of the contracts and eliminating the barriers toward any new business.

The evolution of the concept of Enterprise Risk Management (ERM) has reflecting the objectives of reducing costs and mitigating risk. At the same time the management do the best to maximize the revenues in order to add real value to the business firm (Robert Wolf 2008).

As per the OECD (2004) by Goodhart (2011) corporate governance is a group of association between all stakeholders; management, board of director, shareholders, employees, customers and investors. In addition to the above, corporate governance refers to the organizational structures, internal control and business processes of the firm. Corporate governance highlighted the importance of responsibility and accountability among the main stakeholders within the firm, and focused on the rules and procedures for making decisions on corporate affairs. Furthermore, corporate governance also provides the structure through which the objectives of the company are set, and determines the means for reaching these objectives and monitoring performance (Basel Committee on Banking Supervision Principles for enhancing corporate governance October 2010).

According to the above points of view, it can be concluded that there is no generally accepted definition of corporate governance. Nevertheless, a basic line should be maintained by all the definitions. This line is the structure of corporate governance, which constitutes to direct, manage, and control company affairs and strategies, regardless of the party/parties to which the companies are accountable. Corporate governance also provides the structures through which the objectives of the company are set, and by which the means of attaining those objectives and monitoring performance are determined" Goodhart (2011).

From the above, corporate governance seeks to maintain a balance between all related parties either inside the corporation i.e. the management, the board of directors and CEO, or outside the bank i. e. the shareholders and other stakeholders. Therefore, in order to determine the objectives of corporate governance, it is worthwhile investigating the forces used by corporate governance to balance all the parties.

Generally, there are four main powers that may be considered in the context of corporate governance; the ownership power, directors' power, managerial power and institutional shareholders' power (Tricker 1984; Monks and Minow, 2004). All these powers should be balanced within the bank. Unfortunately, there is a separation between who owns the money and who runs the business. This separation transfers the power from shareholders to management, who are then able to run the business more effectively (Monks and Minow, 2004).

Accordingly, it can be inferred that the main objectives of corporate governance are:

a. Maintaining an efficient and effective system to help the banks to achieve its objectives and goals.
b. Monitoring and rewarding executive actions and performance;
c. Selecting the committee, which protects the shareholders' interests by maximizing their wealth and regulating managers' behavior within the bank;
d. Alleviating the conflicts of interest between shareholders, management, board of directors and other stakeholders.

1.5 Concepts of risk management in banking sector

The risk management in GCC countries has been evolving rapidly during the last couple of decades. From the surging oil prices since 2003, some countries in the region have displayed some of the world's highest GDP growth rates. In these countries, the investments in infrastructure have reached the top levels until the financial crisis came in 2008. At the same time, the social, economic and political environment are subject to increasing volatility. In such an environment, risk management has risen onto the international agenda of GCC and especially in banking sector.

In the GCC banking sector, banks are realizing the need to manage compliance, financial, hazard, operational, as well as strategic risks in a comprehensive manner and align these activities more closely to the enterprise's objectives and risk appetite (Randeva et al. (2014)).

The popular definition of risk management is "a process of identifying, assessing, and prioritizing risks of different kinds". Once the risks have been identified, the risk manager will create a plan to minimize or eliminate the impact of negative events. Gordon et al. (2009) stated in their study that there are five factors affecting the banking sector: environmental uncertainty, industry competition, firm size, firm complexity, and board of directors' monitoring. Moreover, risk management generally encompasses the following process:

- Identifying the risks,
- Assessing the risks and measuring the risk level,
- Monitoring the risks,
- Determining the internal control system in place,
- Developing correction plan to mitigate the risks and
- Reporting to senior management and the board as appropriate the top risks and correction plans.

In addition, public policy makers around the world have started to question the appropriateness of the current corporate governance applied to financial institutions.

Furthermore, risk management's role in the financial system have been placed under scrutiny. This can involve many different actions. As already claimed by the Sarbanes-Oxley Act

(SOX) in 2002, financial expertise is considered to embody an important role. Other, more specific measures involve either the creation of a dedicated risk committee or designating a Corporate Risk Officer (CRO) who oversees all relevant risks within the institution (e.g., Brancato et al. 2006; Sabato, 2010). Mongiardino and Plath (2010) indicated that the risk management in highly structured banks have enhanced and improved to some extent, despite the effect of the financial crisis.

In general, in the banking sector there is a robust correlation between bank performance and risk management because the major objective of bank management is to increase bank return and enhance performance; this objective could not be achieved unless the bank has a very strong risk management team who can manage and mitigate the risks to the acceptable level.

In addition, banks face various kinds of risks such as interest risk, market risk, credit risk, off-balance risk, technology and operational risk, foreign exchange risk, country risk, liquidity risk, and insolvency risk. The bank's motivation for risk management comes from those risks that can lead in case of failure to bank underperformance.

1.6 Bank performance in banking sector

In recent years high attention to the bank performance has become more focused in the banking system. After the financial crisis of 2008, bank's management are taking actions to improve and enhance the bank performance measurement capabilities in light of economic and market changes. There are number of methods to measure the bank performance such as; profitability (Return on Assets ROA, Return on Equity ROE, and Net Interest Margin NIM to investigate the interest-related side of the business), efficiency variables (ratios of total overhead costs to assets, and personnel costs to assets), asset allocation (Securities to Assets ratio), asset quality, liquidity and productivity.

Here in this study, the profitability represented by ROA and ROE will be used as a proxy for BP. The ROA is the bank's net income to its total assets. This variable has been heavily used in many previous literature to measure the BP. The ROE is the bank net income divided by common equity. Both of ROA and ROE measure the ability of bank's management to recognize return on their assets and equity.

1.7 Research objectives and questions

Due to the importance of corporate governance, risk management and bank performance in economic growth in GCC banking sector, this section will present the main objectives of this study are as follows:

1) To add to an understanding of the relationship between corporate governance and risk management.
2) To assess the implication of corporate governance and risk management for the performance of banks in the GCC.
3) To evaluate the significance of corporate governance and risk management in the performance of Islamic banks as compared with conventional banks in the GCC.
4) To explore the relationship between corporate governance and risk management.
5) To demonstrate that the implementation of both of corporate governance and risk management simultaneously will provide a comprehensive explanation of banks' performance, however, the implementation of one of them ignoring the other will not do so.

To achieve the objectives of this research, four main questions have been developed are as follows:

Q1. Does better corporate governance lead to better bank performance?

Managers are considered the agent of the owners, and their main role is to serve the shareholders' interest in order to maximize the returns of the bank and enhance the performance. Furthermore, managers are required to accept reasonable risks which are suitable to the targeted returns. At the same time, managers as an agents may have different interests from their principals (shareholders) because they may spend bank assets beyond the optimal size in order to increase incentives and compensation due to increasing size, Jensen and Meckling (1976).

Agency theory suggests that firms should involve managers as insider ownership, in order to align their interests. This mechanism shifts the conflict of interests toward owners/managers and public or depositors. Regulators protect the public interest by issuing rules to compel owners and managers of the bank to be obedient toward the

rules (Abdel-Fattah 2008). Furthermore, for the agency problem, the corporate government is considered one of the most reasonable solution, whereas, each concerned stakeholder has roles and responsibilities and there is also accountability from the higher level of management. In addition, whenever banks have a stronger governance system, they will achieve banks' goals and enhance the performance.

Q2. Is there a significant relationship between risk management and bank performance?

If banks' management manage their risk effectively, they will have the advantage of enhancing their performance by increasing the returns. The effective and efficient risk management indicates that banks operate their activities at lower relative risk and at lower conflicts of interest between all related parties. These advantages of implementing better risk management lead to better bank performance. The better bank performance enhances their reputation and image and encourages the potential investors to invest in the bank. There is a strong relationship between both of risk and return, because if the management want to recognize high returns then they should keep the risks at acceptable level.

Q3. Does combination of better corporate governance and risk management lead to better bank's performance?

Banks that implement good corporate governance and manage their risk effectively will have the advantage of enhancing their performance presented by bank's returns. Because the owner's interest is to earn a better return on their investment (equity), they will attempt to force the management to implement better corporate governance and effectively manage their risk; the results of this study will provide an answer to this question and determine the key factors of developed bank performance, which are the corporate governance and risk management.

Q4. Does Better Corporate Governance lead to better Risk Management?

Good implementation of corporate governance is not only concerned about high-expected return but is also concerned about managing and controlling the risk better. Risk management is determined by mechanisms of corporate governance in the banking sector through different points of view. In addition, the main stakeholders of the bank are not only concerned about earning a better return on their investment, but are also concerned about how the bank's risk exposure is distributed to them.

Moreover, the power of markets is not enough to control the operations of banks. Therefore, government intervention is needed to overcome the market failure by controlling and monitoring the operations of banks, in order to restrain potentially expropriating management behavior. Corporate governance also offers some fair incentives, compensation, and career plans for the managers that reduce the expropriating managerial behavior. In addition, and summary for the above, good corporate governance reduces downside risk while increasing firm value (Wang et al. (2015)).

1.8 Thesis structure

The study is structured as follows;

- **Chapter One** gives brief introduction to the concepts of corporate governance and risk management; in addition, it sets out the objectives and motivations of the study. Based on the four main questions, the relationship between corporate governance, risk management, and performance in GCC banking sector will be examined. The chapter concludes with the thesis structure.
- **Chapter Two** outlines the theoretical framework of the current study. A theoretical framework will be applied to explain the association between the proxy variables of corporate governance, risk management, and performance. The chapter aims to demonstrate the related theories of corporate governance and risk management, in order to examine their implications on banking performance. Theories referred to in this study will aim to develop the research hypothesis and then answer the thesis questions.
- **Chapter Three** reviews the previous literature of corporate governance and risk management, and their implication on bank performance. This study classifies the previous literature into four main groups: 1) Corporate governance and bank performance. 2) Risk management and bank performance. 3) Corporate governance and risk

management and the effect on bank performance. 4) Overall performance of the banking sector. All variables will be discussed in detail to achieve the objectives of the study. This chapter presents the research hypothesis. The main objective of this chapter is to discuss the previous literature in areas of corporate governance, risk management and bank performance, to determine the gap which will be filled by the current study.

- **Chapter Four** discusses the methodology that will be used as a tool to achieve the objective of the study by interpreting the different and expected associations which arise from the research objectives and questions. This chapter presents different research philosophies, paradigms and approaches to present the most suitable methodology for the current study. Moreover, the purpose of the study will be presented through research design. This chapter shows the most suitable method for testing the correlation between proxy variables of corporate governance, risk management, and bank performance. The proxy variables of this study will be presented in detail to clarify the reasons behind investigating specific variables in relation to corporate governance, risk management, and bank performance. Finally, the chapter demonstrates the data analysis techniques and the relevant statistical procedures that will be used for analysing and testing the research model.
- **Chapter Five** presents the statistical results and discussion, and examines the relationship between the proxy variables of corporate governance, risk management, and bank performance. The chapter starts with a descriptive analysis of the independent variables used in the current study. Both parametric and nonparametric tests as bivariate analysis will be used to support this relationship. Moreover, multivariate analysis will be employed to support the results obtained from the bivariate analysis. The chapter ends with a discussion of the findings. Consequently, the chapter aims to answer the research questions and achieve its objectives.
- **Chapter Six** presents the main conclusions of the study. It summarizes the findings of the research. Furthermore, it presents the contribution of the current study to knowledge. A discussion of the limitations of the study will also be addressed. Finally, the chapter presents suitable recommendations for future research.

Chapter Two: Theoretical Framework

2.1 Introduction

This chapter will provide a critical review of the most common theories employed in the field of corporate governance, risk management bank performance literature. For the purpose of this study, the most common theories related to this thesis are: political economic approach, regulatory approach and economic approach. Regulatory approach is presented in section 2.2. Economic approach is presented in section 2.3. Political economic approach is provided in section 2.4. In section 2.5, the summary and conclusion will be presented.

Theory is a comprehensive orderings of facts and realities, it gives explanation and interpretation to facts in paradigm. The facts observed should be tested to determine the values, and there is possibility to accept or reject the theory based on the empirical results. (Engheta and Ziolkowski 2005).

The theoretical framework guides research determines what variables will be measured, and what statistical relationships to look for. For the research methods knowledge Base, Trochim et al. (2008) stated that there are two main realms in the research; theory and observation. Theory is what is going on in the heads of scientists, however observation is what is going on in the real world. To do research, one works between these two realms. The theory guides all research's aspects; developing research questions, objectives, hypothesis.

The theoretical discussion about corporate governance and risk management in the GCC Banking sector is based on several main hypotheses; firstly, that corporate governance and risk mechanisms influence the performance of the GCC Banks. Secondly, corporate governance influences risk management. In this regard, Figure 1-7 is the theoretical framework employed in the current study. The theories included in this figure are the most common theories in such studies (Abdel-Fattah 2008).

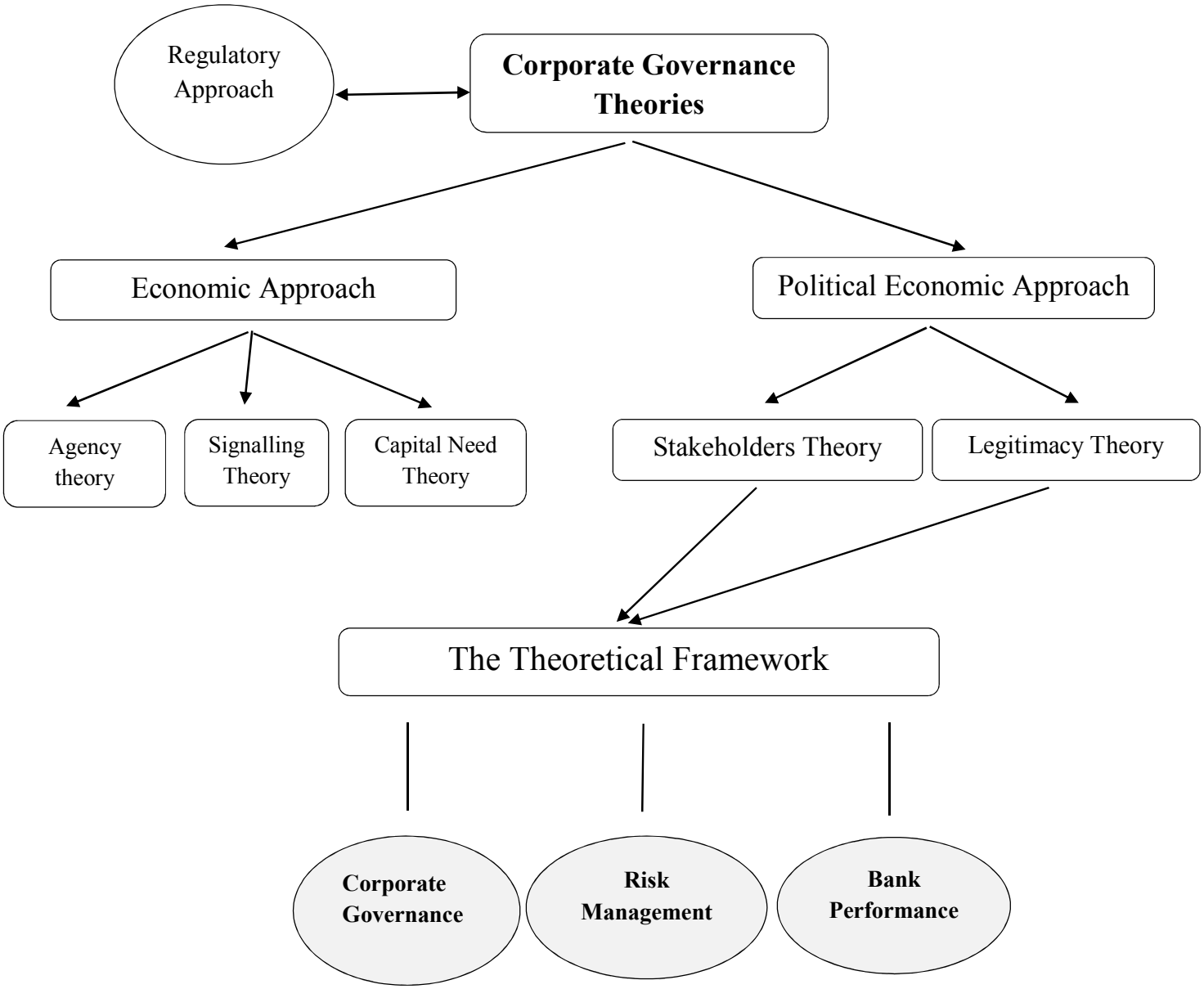


Figure 1-7 Theoretical Framework of the Study

There are different theoretical frameworks, such as agency theory, stakeholder theory, capital market theory, legitimacy theory, signalling theory, and regulatory approach. These approaches and theories will be discussed in details to test the relevance of their use as a base to explain and analyse the corporate governance and risk management and performance in the GCC banking sector. So far, corporate governance does not have an accepted theoretical

basis or generally accepted paradigm. Through the review of corporate governance literature, it can be noticed that agency theory and stakeholder theory are the dominant theories.

Abdullah and Valentine (2009) found that the fundamental theories of corporate governance are; agency theory, stewardship theory, stakeholder theory and political and ethical related theories like business and virtue ethics. From their point of view these theories address the cause and effect of variables such as board members, audit committee, role duality, independent director and CEO-turnover. They concluded that a combination of various theories would be the best approach to describe good corporate governance practice rather than focusing on a single theory.

2.2 Regulatory approach

There are two common theories related to this approach; public interest theory and private interest theory. Public interest theory is an economic theory that should provide regulations and legislations in response to the public rights in efficient or equitable market (Riahi-Belkaoui 2002). The regulation should be useful and to benefit all stakeholders in the society.

Furthermore, the regulators should be representative for all concerned stakeholders and work for the interest of the society as a whole. Private interest theory is primarily directed for the interest of special groups to be in assistance of the profession. In addition to the above, Riahi-Belkaoui (2002) indicated that the regulations under public theory applied to improve the public social welfare, however, regulations under private interest theory applied to enhance the wealth of specific interested groups.

Davis and Menon (1987) indicate that the public and private interest's considerations should be the base for any new regulation. Pound (1993) referred to that the public interest is more protected than others because the rules and regulations have been formed by government who conduct efficient monitoring to the governance system and the performance of all sectors.

Vlachos (2001) indicated that developing of regulation in every sector depends on different variables such as; the efficiency and effectiveness of the sector, social and political issues and environmental issues. Public interest theories deal with the failure of banks by two concepts; externalities and efficiency. As a result of the failure of large numbers of banks, the external

costs of the economy, costs of credit and lending and aggregate investment will be substantially affected (Bernanke 1983).

In addition, Friedman and Schwartz (2008) indicated that as a large number of failures in banking sector, the macro-economic could be highly affected in form of altering the money supply. The prudential regulation and dedicated monitoring could be a remedy for reducing the impact of the banking failure and limit macroeconomic externalities.

The government policies and regulation could be used as a control tool for monopoly of the existing banks by doing one of the following; imposing more requirements on paid-in capital or limiting and controlling who can receive a new commercial licenses. In addition, dedicated follow up and supervision from authorities could be a solution to ensure that products and price are competitive and monitor the enforcement of legal restrictions on bank activity.

The objectives of the public interest could be affected by the private interest of some investors, suppliers, bankers, customers, or political constituencies. In this case the corporate governance system will be the most effective solution adding to the dedicated monitoring of government's authorities.

From the above discussion, it can be noted that number of limitations are attached with regulatory approach over banking sector, which may affect the application of bank's corporate government, risk management, and performance. In addition to the above, it can be concluded that the regulatory approach is considered relevant to the thesis to limited extent and the approach stand alone cannot explain the association between the three construct.

2.3 Economic approach

Generally, the economic approach is focusing on the goals, objectives and profit maximization. Furthermore it concentrates on the interests of two parties; shareholders (principle) and managers (agent). Three main theories under this approach, agency theory, signalling theory, and capital market theory.

2.3.1 Agency theory

One of the famous theories that has been used widely in corporate governance and risk management literature is agency theory. The agency theory has been used in different fields;

accounting, marketing, economics, finance, political science, organizational behaviour, and sociology (See: Eisenhardt, 1989). Behind the separation between ownership and management or internal controls, agency theory has been used to explain the relationship between them. The agency theory focuses on the relationship between two contracting parties, the principal is (owners) and the agent is (managers). This relationship involves delegating some decision making authority to managers (Jensen and Meckling 1976). Thus, managers are empowered to use all kinds of resources (financial, human…etc.) and consequently have all information about the bank. On the other hand, the owners have the power to hire managers, and they will need a lot of information to evaluate the performance. The problem here is the degree of accuracy of this information. It is assumed that individuals are effort-averse and act in self-interest to maximize their benefits. In addition, the agency theory indicates that there is conflict of interest between the agent (managers) and the principal (owners). The mentioned conflict of interest assumes that the managers may take decisions that maximize their benefits, but not necessarily the benefits of owners. In order to avoid the conflict of interest, a number of mechanisms should be adopted to measure and monitor the agent's behaviour, leading to agency costs.

In the context of corporate governance and risk management, information asymmetry has been identified as one of the motivations of enhancing the corporate governance system. It can be observed that corporate governance is a very important tool used to reduce agency costs (Craswell and Taylor 1992).

Claessen and Fan (2003) study corporate governance in Asia. They find that agency problems arise from certain ownership structures. Conventional corporate governance mechanisms (through takeovers and boards of directors) are not strong enough to relieve the agency problems in Asia. Firms use other mechanisms to reduce their agency problems (for example, employing from the big four auditors), although they have only limited effectiveness. The low transparency of Asian corporations relates to these agency problems, and the prevalence of connection-based transactions that motivate all owners and investors to protect rents. The rents often appear from government actions, including a large safety net provided to the financial sector. The research also attempts to cover the unresolved problem by examining

the relationship sensitivity between corporate governance and performance for domestic-owned banks versus foreign-owned banks.

The agency theory predicts that conflict of interest between managers and owners would harm firm value. Agency theory argues that the separation of ownership and controls enforces conflict of interests between parties. Ownership structure, as agency theory predicts, will reduce conflict between parties when, for example, managers have significant amount of ownership in the firm. Meanwhile, existing shareholders will benefit from reducing gap between managers' and shareholders' interests.

Furthermore, a number of authors criticized the assumption of agency theory that agents (managers) act to maximize their benefits. They indicate that there is an overestimation of motivating managers to act in the owners' interests. In addition, there are internal and external pressures that direct the performance of managers to serve the interests of owners in addition to their interests. Consequently, it could be helpful to mitigate the severity of the problem.

The dispersion of ownership structure also plays a major role in reducing agency conflict, because the dispersion of ownership plays a significant factor in implementing good corporate governance. Shleifer and Vishny (1997) argue that dispersion of level of ownership will affect the corporate governance mechanism. They argue that the effect of free riders' problems with regard to level of concentration of ownership will influence shareholders (with a significant proportion of ownership) to control managers. Therefore, ownership structure will play a vital role in the corporate governance mechanism.

Claessens (2006) and LLSV (2000) also support the prediction of the agency theory, that better corporate governance helps firms to reduce their cost of equity capital. This is probably because outsiders are likely to provide more finance and expect lower rates of return if they are given greater assurance (through better governance) of a return on their investment.

The agency theory suggests that there are many mechanisms to mitigate the agency problem in the firm. These include managerial incentive mechanism compensates the managers to serve the owners' interests; dividend mechanism reduces managerial intention to make an overinvestment decision which may be financed by internal free cash flow; bonding mechanism reduces managerial moral hazard which potentially occurs when they are not

restricted by bond contract and bankruptcy risk; choosing a reputable board of directors; direct intervention by shareholders.

In relation to the market failure, agency theory stand alone cannot resolve the agency problems due to the external issues of the market that are considered out of the agency theory scope. Whereas, the governments plays a very important role in monitoring and controlling the banks to protect the public interest for the following reasons;

- The importance of banking sector in the financial system and economic as a whole.
- The important role of government in anti-competitive behaviour of some banks (Llewellyn and Sinha 2000).

From the above discussion, it can be noted that there are some limitation over agency theory. However it is relevant to explain and support this study, but the theory stand alone cannot explain the corporate governance in all circumstances.

2.3.2 Signalling theory

As mentioned in the previous section, the information flow is one of the highly emerging problems in the business sphere. The signalling concept was emerged by Spence in 1973 depending on the paper of Akerlof (1970). In addition to the above, the signalling theory focusing on that the asymmetry of information could be reduced/eliminated by raising signals of information to all concerned parties (An et al. 2011). Consistently with An et al. (2011), Morris (1987) who found that the theory shows how asymmetry could be eliminated or reduced when the party who has more information signals it to other parties.

Signalling is a general phenomenon applicable in any market with information asymmetry. The signalling theory is similar to agency theory, in that the signalling theory recognizes the separation of ownership and management, and recognizes that the market pressures motivate managers to work in a transparent environment.

Furthermore, the recent scandals have renewed attention to corporate transparency. According to signalling theory, under information asymmetry, corporations with high information transparency signal better corporate governance. Previous research has also

indicated that firms that have better corporate governance signal better performance (Chiang and Chai 2005).

If there is information asymmetry between a firm's managers and investors, the firm can signal information to the investors in order to eliminate the asymmetry (Spence 1973). In other words, if information asymmetry exists, the investor will not understand the real situation of the firm's operations. Previous research indicates that investors rely on the information sent out from the firm to take investment decisions (Poitevin 1990; Ravid and Saring 1991). In practice, banks with good corporate governance and performance often signal information to the public to promote positive impressions of their banks.

Under signalling theory, the management with agency problems have been encouraged to signal to the market that they have effective and efficient internal corporate governance and attempt to reduce agency costs. The transparency increases the value of the firm and send assurance to the stakeholders that management works well for their interest (Wang and Zhou 2006; Ye 2009). Managers have more information about the company than others such as owners and investors. Managers may desire to send signals to interested parties; owners, investors, and governmental agencies, that the governance and performance is perfect.

The assumption of signalling theory is that individuals are acting in their own interest; the same criticism received by agency theory. In addition, a number of authors criticize the assumption of equal distribution of power. They argue that it is not individuals who exercise power, but institutions (Gray et al. (1996) as cited in Watson et al. 2002). Furthermore, Newman and Sansig (1993) draw attention to the difficulty of the signalling process when many parties or multiple users are involved.

Regarding the interaction between agency theory and signalling theory, Morris (1987) concludes that agency theory and signalling theory are almost consistent, and there is kind of overlap that exists between both of them, and the sufficient conditions of both are consistent. The two theories recognize rational behaviour; information asymmetry is implied in agency theory; the quality can be defined as a variable of agency theory; and signalling costs are implicit in some bonding devices of agency theory.

As mentioned in the above discussion, it can be observed that the signalling theory is relevant to limited extent to explain and support this study, but the theory stand alone cannot explain this study constructs in all circumstances.

2.3.3 Capital need theory

According to this theory, the managers are motivated to have good corporate governance, risk management and performance in order to encourage others to invest in their bank, and to raise capital at the lowest possible cost. To get capital with lower cost, either in the form of shares, bonds, or loans, a bank's management should inform all stakeholders about the enhancement and development of the bank as a means to help in reducing investor uncertainty, and information asymmetry.

Current governance theories such as agency theory (Fama and Jensen 1983) and capital theory (Lin et al. 2001) target two simultaneously coexisting mechanisms that influence the behavioural and consequently financial outcomes of the firm. Firstly, the motivation of the mangers to serve shareholders' interests through effective competitive actions; secondly, the organizational capability to take enough competitive actions that are possibly enhanced by corporate governance arrangements. In addition to the above, Fama and Jensen 1983 found that the management and the board of directors could influence both motivation and capability of the firm, while non-board components of the corporate governance system such as executive compensation and institutional ownership are mainly motivation-aligning instruments. Thus, the role of the board of directors cannot be fully understood without consideration of the capital theory (for the firm's capabilities in perceiving and implementing strategies that are enhanced by its board members).

2.3.4 Evaluation of economic approach

All of agency, signalling and capital need theories are derived from the economic approach. There are some limitations around this approach, which is based on the desire for income and avoiding loss (Bedford, 1973 as cited in Haniffa 1999). In addition, the economic approach focuses on profit maximization and cost minimization. Furthermore, in banking sectors most management concentrates on profit maximization and cost minimization base, and they ignore other important goals.

Furthermore, the economic approach highly focuses on two parties only (managers and shareholders), and pays less attention to other important parties in the society, such as (employees, creditors, suppliers, government, taxation authorities, and consumer groups). In addition, the economic approach cannot be studied in isolation from the political, social and institutional framework within which the economic actions take place (Gray et al. 1995).

From the above discussion, the signalling theory has some limitation such as; investors could be less sophisticated or there are data unavailability. That is why the signalling theory stand alone cannot explain the CG, RM and BP.

Due to the abovementioned limitations of the economic approach, a number of studies employ the political economic approach that takes into consideration the relation with society and other institutions.

2.4 Political economic approach

The political economic approach recognizes the interaction between economic activities and politics, institutions, and society. Therefore, the emphasis is not on the relationship between management and shareholders only but also other stakeholders. Furthermore, the political economic approach considers the issue of distribution of power and wealth in society, which means that it recognizes the interaction between all parties mentioned above. The prominent corporate governance theories that are derived from this approach are stakeholder theory, legitimacy theory.

2.4.1 Stakeholder theory

All individuals or groups who could affect or be affected by the performance of the firm (Freeman, 1984, P. 46). As mentioned before, the agency theory concentrates only on the relationship of two parties; shareholders as a (principal) and managers as an (agent), however, stakeholder theory considers the relationship between all stakeholders such as shareholders, managers, employees, customers, suppliers, and government. As per stakeholder theory, all stakeholders who are concerned with the performance of the firm are waiting for some return against their involvement (Crowther and Jatana 2007).

Sternberg (1997) indicates that there is a radical shift from those who affect the firm, which could not survive if they withdrew, to those who are affected by it as they have a stake in the

company. Furthermore, under stakeholder theory, firms need support from all their stakeholders to be able to survive and continue in the business for the long term (Smith et al., 2005).

Practically, stakeholders can be classified into two main categories. First is a primary stakeholder group, which includes those who are essential to the continuation of the business, such as shareholders, employees, suppliers, investors and the government. The second is a secondary stakeholder group that includes those who are not essential to the continuity of the business (Rizk 2006). There are two sources of accountability under the stakeholder theory: ethical responsibilities, and managerial responsibilities. As per stakeholder theory, the managers have responsibility to assess the importance of every group of stakeholders, and they should do their best to satisfy them.

In the stakeholders' approach, the role of the board of directors will be even more important, as it will not only control that the top management main decisions comply with the shareholders' interests, but also that all the other stakeholders are satisfied in order to keep the firm going on. From some point of view, the stakeholders' approach is a way to relieve the management from excessive attention to the short-term financial results, and to redirect its attention to the long term overall performance.

Stakeholder theory focusing on the concept that organizations are dependent to stakeholders for success, and every stakeholder have stakes in the firm. Under the stakeholder's theory, managers must work on behalf of all stakeholders and not only the shareholders for the purpose of maximizing benefit; furthermore, shareholders will benefit, as the main stakeholders, in the long run. On one hand, Sternberg (1997) criticizes stakeholder theory and argues that this theory is incompatible with business and with corporate governance. It rules out the objective of business, which maximizes long term owner value. In addition, the theory implies that the firm should be accountable to everyone, not only to their owners, and encourages managers to violate their prior obligations to owners. Sternberg indicates in his study that stakeholder theory undermines private property and accountability and the balancing of stakeholder benefits is an unworkable objective and unjustified.

Inconsistent with Sternberg, Turnbull (1997) indicates that there are empirical evidences that do not support the first two criticisms of Sternberg. On the contrary, Turnbull argues that stakeholder relationships are legitimate and protect private property, agency, and wealth. However, three aspects of stakeholder theory can be identified, descriptive, instrumental and normative (Donaldson and Preston 1995). The first, descriptive, is used to describe and explain specific firm characteristics and behaviours. The second, instrumental, concerns the connections between stakeholder management and the achievement of corporate objectives. The third one, normative, is used to interpret the function of the corporation and the related moral and ethical guidelines.

Based on both agency and stakeholder theories, Hill and Jones (1992) have constructed a paradigm called "stakeholder-agency approach". In addition, they indicated that this approach is considered a modification of agency theory, which assumes efficient markets and rejects the concept of power differentials between managers and stakeholders to accommodate theories of power, and is a resource dependence theory that assumes inefficient markets which recognize the existence of unequal resource dependencies between managers and stakeholders.

2.4.2 Legitimacy theory

As mentioned by An et al. (2011), Legitimacy theory is the relationship between the business firm and society, and this relationship could be described as a "social contract". Legitimacy is a generalized perception that the decisions and actions taken by the entity are desirable and accepted within the whole social system of values, norms and definitions (Suchman 1995, p. 574, emphasis in original). As per legitimacy theory, all organizations and their representatives are ultimately seek legitimacy (Suchman 1995).

Critical assumption within institutional theory is that all social actors are seeking legitimacy, and/or reinventing legitimacy norms, within the institutional environment (Doglas 1990). Although this is widespread in environmental and social disclosure, a number of corporate governance studies conclude that legitimacy theory was inadequate to fully explain social reporting behaviour (Guthrie and Parker 1989; O`Dwyer 2002; as cited in Ghazali 2004). In addition, it could be difficult to measure or qualify the concepts of society's values and ethics when developing the research hypotheses. However, the social values in which a firm exists

affect the manner used by the firm to operate and report its performance (Gray et al. 1995). Furthermore, Adams et al. (1998) indicated that it is assumed that considering the social and political environment may be helpful to address the motivation for corporate social choices (Adams et al. 1998).

Legitimacy theory is based on the concept that business firms have a social agreement with the society as a whole, whereas it agrees to work in consistence with the desirable and acceptable actions (Guthrie and Parker, 1989). Under legitimacy theory, a firm's behaviour are monitored and assessed regularly by the public, due to that, firms working to acquire social approval. Furthermore, business firms are affected by many environmental factors. Based on the legitimacy theory, organizations can continue in their existence if the society assured that they working and acting within the acceptable system (Rizk 2006).

To legitimize their actions, all firms have four strategies they need to apply: (Lindblom 1994 as cited in Rizk 2006)

1. Firms should educate and inform their relevant stakeholders about changes in the firm's performance,
2. Change the perceptions of the relevant stakeholders but not change its actual behaviour,
3. Manipulate perception by deflecting attention from the issues of concern to other related issues through an appeal,
4. Change the external expectations of its performance.

2.4.3 Evaluation of political economic approach

As per the discussion, it can be observed that the stakeholder theory and legitimacy theory provide an explanation to corporate governance, but both of them also suffer from some limitations. It can be noted that legitimacy theory explains and predicts that organizations will enhance their corporate governance and disclosure mechanisms to legitimize their business; it is insufficient to fully explain the practices. On the other hand, stakeholder theory assumes that managers determine the importance of stakeholders based on their powerful.

Deegan (2002) highlights the links between legitimacy theory and other theories such as stakeholder theory and institutional theory. Moreover, he points out the benefits of employing more than one theory.

The idea of legitimacy is also central to institutional theory due to the overlapping of many theories (Rizk 2006). Under legitimacy theory, organizations need to change their structure or operations to conform to external expectations about what structures or forms are legitimate. In contradiction to legitimacy theory, Deegan (2002) indicated that there is perceived to be an ability of managers to alter perceptions of legitimacy. Under institutional theory, managers are expected to conform with "norms" that are largely imposed upon them.

2.5 Summary and conclusion

This chapter showed the approaches and theories that have been used heavily in the area of corporate governance, risk management and bank performance literature. The results of this study will help in answering the questions and accept/refuse the predefined hypotheses. From the above discussion there is no one theory can stand alone fully explain the association between CG, RM and BP in GCC banking sector. Furthermore, it was observed that there is an obvious overlap between those theories such as signalling theory, agency theory, and capital market theory which are all complementary to each other.

In addition to the above, by reviewing these theories it can be noted that each theory interacts with corporate governance from a different perspective. It can be observed that there is an overlap between regulatory approach and legitimacy theory on one side, and other approaches on the other side. Interestingly, the economic approach focuses on parties related closely with economic activities (managers, shareholders, employees, …, and other stakeholders) and assumes that individuals are highly motivated by economic self-interest only, while the political economic approach focuses on other parties in addition to governmental agencies, and assumes that people are motivated by power and economic self-interest.

This study addresses the relationship between corporate governance and risk management mechanisms, and how they affect bank performance. Therefore, there are many stakeholders such as; managers, shareholders, government, investors, creditors, investors and regulators. Consequently, the agency theory that is focused more on shareholders and managers is still relevant but for limited extent for this study. In addition, this study assesses several elements of corporate governance such as board composition, CEO-turnover, financial ratios, and the existence of main board committees. Consequently, the regulatory approach that is related

more to government regulations is also limited to explain the full relationship between the three constructs.

Furthermore, the economic approach that focuses on assumptions of efficient market, profit maximization and self-interest is considered to be relevant to some extent but cannot explain alone the three constructs. Therefore, this study will use the political economic approach as the appropriate and relevant theoretical base for the current study because it is cove so many aspects which is not included in the other theories. This approach is relevant to explain the corporate governance and risk management and bank performance. However, choosing these theories does not mean that they have some absolute superiority over others. So the selected theoretical framework is relevant and can support this study in order to develop the research hypotheses. The next chapter presents the literature review and research hypotheses.

Chapter Three: Literature Review and Hypotheses Development

3.1 Introduction

Before present the methodologies and samples that will be used (chapter 4) and determine the theoretical framework (chapter 2), this chapter will provide review of previous literature that have been done in the area of CG, RM and BP. This chapter has been structured as follows: Section 3.2 reviews previous literature related to corporate governance and bank performance. Section 3.3 reviews literature of risk management and bank performance. The review of empirical literature on the effect of corporate governance on risk management will be presented in section 3.4. Section 3.5 reviews literature of corporate governance and risk management, and the effect on bank performance. Section 3.6 reviews the control variables and the implications on bank performance. Section 3.7 provides a summary.

Scandals and collapses such as Enron and WorldCom mainly highlighted the importance for new developments in the accounting and governance system. Furthermore, the financial crisis following the subprime meltdown in USA has led to extra awareness and needs for appropriate corporate governance and risk management techniques and structures, especially in the banking sector which considered vital in the global financial system. This has prompted many researchers to investigate the relationship between corporate governance, risk management and their implications on bank performance. Corporate governance has been studied and defined by different scholars and practitioners. However, they have come to the same conclusion, hence giving more of a consensus in the definition. For example, Coleman and Biekpe (2006) defined corporate governance as the relationship of the enterprise to shareholders, or in a wider sense as the relationship of the enterprise to the society as a whole.

In addition, the corporate governance has many components such as; processes, structures, people, business environment and information and communication. The corporate governance is a system based on which firms are managed through this system which help organise the relationship and determine the roles and responsibilities for all concerned stakeholders such as (board of directors, supervisory board, management, shareholders and employees). This system should have the main component of corporate governance;

accountability, responsibility, fairness and transparency. In addition this system should formulate rules, policies and procedures for adopting decisions on corporate matters (Goodhart, 2011).

Similarly, Arun and Turner (2002) indicated that the corporate governance is a system and approach, whereas the owners see the subject as a mechanism in which the managers will act in the benefit and interests of the owners. Macey and O'Hara (2001) indicated that the corporate governance should be adopted in the banking sector, because of the peculiar contractual form of banks which required that the corporate governance mechanisms should encapsulate depositors as well as shareholders. In the same line, Arun and Turner (2002) referred to the special characteristics of banking sector which require not only broader view of corporate governance, but also the government has very important role in preventing the undesirable behaviour of some banks.

In relation to one of the very important questions which is; the corporate governance has an impact on the risk management? And there are different answers from researchers. For example, Jansen, 1993; Greuning and Bratanovic (2004) indicated that the stakeholders themselves in the corporate governance system have an impact on both of risks and performance. In contradiction with this conclusion, Simpson and Gleason (1999) and Prowse (1997) indicated that the stakeholders do not have significant impact on both of performance and risks.

This literature review presents many studies dealing with a single component of corporate governance such as (bank ownership, board of director's size and composition, audit committee independence (outside members), role duality and CEO-turnover) and examine its implications on bank performance. But in this study we will measure the existence of the audit committee not the independency.

In addition to the above, in the area of risk management (as a quantitative technique), researchers and practitioners are focusing on the methods of the quantitative measurement and how to enhance the management of special kinds of risks such as market risk, liquidity risk, capital risk and credit risk. From structural prospective, there is a current issue which is still being addressed in how to integrate all kinds of risks into one single report to the board and top management.

Number of literature on risk management are focusing on single type of risk, however ignoring the interdependence of other risks (Miller, 1992). In addition, in the 1990's, the researchers started to focus on the integration and association between risk management and bank performance (e.g., Nocco and Stulz (2006); Cumming and Mirtle (2001); Miccolis and Shaw (2000); Miller, 1992 and Sabato 2010).

3.2 Review of the empirical literature on corporate governance and bank performance

This section will review the main empirical literature on the banking sector's corporate governance and bank performance. Those literature focused on the main components of corporate governance, such as; bank ownership, board size and composition, and audit committee independence. However, the corporations are advised to take governance as a necessity and not as a duty before authorities. Furthermore, private and public sectors need to work cooperatively to establish governance mechanisms, ensuring the best banking performance (Al-Hawary, 2011). Quaresma et al. (2014) find that there is a significant relation between application of the best corporate governance practices and financial performance of the studied banks.

Nobanee and Ellili (2016) investigated the degree of the corporate sustainability disclosure, using annual data for listed banks in the UAE during the period (2003–2013). The results show that the overall level of sustainability disclosure based on sustainability reporting for banks in UAE is at a low level including the degree of the corporate sustainability disclosure of the conventional banks which is higher than the Islamic banks. In addition, the empirical results reveal that the sustainability disclosure affects the banking performance of the conventional banks significantly and positively, while no significant effect on the Islamic banks' performance is observed.

Mulyadi and Anwar (2015) concluded significant association between corporate governance and profitability management. In addition, (Mollah and Zaman 2015) referred to that the board of director role and good corporate governance is still continue to be a matter of concern.

Sarbah (2015) examined the state of the corporate governance environment, and the nature of the governance system employed by family businesses using Ghanaian family businesses.

This paper underlines the importance for family businesses to adopt good corporate governance structures. Furthermore, this study proves that the issues of family business corporate governance come to the fore when the business owners consider major transitions, such as the sale of the business or succession planning.

Lai and Choi (2014) conclude that there is a statistically significant relationship between both capital adequacy ratio and profitability with corporate governance. Non-performing loan and return on assets are not a statistically significant relationship within corporate governance. There is also a statistically significant relationship between capital adequacy ratio and board size. Non-performing loan and return on assets are not a statistically significant relationship between board sizes. Besides, there is a significant relationship between the return on assets and board meetings. Capital adequacy ratio and non-performing loan are not significant with board meetings.

Quaresma (2014) analysed the relationship between the quality of corporate governance practices and the financial performance of internationally listed banks. This research concluded that there is a significant relationship between the best corporate governance practices and the financial performance of the studied banks.

In relation to corporate governance and in terms of inside and outside directors in the board, there are number of literature that focus on such as; Hermalin and Weisbach (1988); Linck et al. (2008). Regarding the CEO-turnover (Weisbach 1988). For the board size (e.g., Boone et al. 2007). In area of board's composition (Harris and Raviv 2008). Regarding the ownership structure (Denis and Sarin 1999). Recent studies relate board diversity in terms of gender to performance (Farrell and Hersch (2005); Adams and Ferreira (2009); Huang and Kisgen (2013); Faccio et al. (2001); Ahern and Dittmar 2012).

3.2.1 Role duality and bank performance

The expression of role duality is used when the chairperson of the board is the chief executive officer at the same time. Researchers who agree with this duality, assume that due to the better knowledge of the chairperson about the bank, he/she will be in a better position to make good and suitable decisions regarding the performance and risks. In addition, role duality enables the CEO to interact quickly regarding any difficult situation and may provide strong

leadership style (Brickley et al. 1997). Furthermore, role duality creates a strong individual power base, which could affect the effective control exercised by the board (e.g. Donaldson and Davis 1991; Jensen and Meckling (1976); Fama and Jensen (1983); Whittington, 1993).

Separation between Chairman and CEO does not have a statistically significant effect on financial performance (Durgavanshi, 2014). Hoque and Muradoglu (2013) concluded that there is role duality in 49% of the sample, and they did not find that duality destroys value to the board, and furthermore the duality is not significant for the stock market return regressions. Mollah and Zaman (2015) indicated that in Islamic banks there is negative association between bank's performance and role duality.

In contradiction with the above study, Al-Hawary (2011) concluded that the combination between the two positions of Chairman and CEO by one person had a positive effect on bank performance; role duality can be attributed to family ownership, which characterizes Jordanian banks.

This study tests the association between role duality and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.1	***There is a significant association between role duality and bank performance***

3.2.2 Non-executive board member and bank performance

The independent directors are directors without any relationship with the firm except for their board membership. Aebi et al. (2011) classified directors with prior executive function, with a family relationship with an executive officer of the bank, or with any other business ties, such as for example lawyers or consultants doing other work for the bank, as non-independent (or "gray") directors.

Al-Hawary (2011) investigated the effect of non-executive directors on the bank performance as measured by Tobin's Q. He found that percentage of non-executive directors had a statistically significant, positive effect on performance; whereas leverage had a statistically significant negative effect on performance. In harmony with Al-Hawary (2011), firms with independent board members are significantly associated with better bank performance, measured by returns on equity (Brown and Caylor 2004).

Another important issue concerns the relationship between the board composition and performance: in theory, a wide number or a majority of outside directors could be associated with better performance, since it should reduce agency problems between shareholders and management. As concerns the presence of executive directors in the board, two opposite effects have been identified. On the one hand, executive directors could positively affect performance since they provide a more in-depth understanding of the company, and greater and better information on which the board may base its decisions. According to this approach, more executive directors may positively affect the quality of information that reaches the board (Adams and Ferreira 2007). On the other hand, the presence of executives may limit the board's effectiveness in controlling and disciplining top management.

Busta (2007) indicated in his study which was in European that, there is positive and significant association between the present non-executives and bank performance in Continental Europe (France, Germany, Italy and Spain), this association was negative in UK.

Coleman and Biekpe (2006) examined how corporate governance indicators such as board size, board composition and CEO duality affected the financing decisions of 47 firms listed on the Nairobi Stock Exchange. They found that firms with larger board sizes employed more debt and the independence of a board correlated negatively and significantly with short-term debts.

Adams (2012) shows that banks with board members that are more independent performed worse during the crisis; this finding is consistent with Beltratti and Stulz (2012). For non-banks, Hermalin and Weisbach (1991) and Bhagat and Black (2002) find no significant relation between the percentage of outside directors and firm value.

Similarly (2012) using system generalized method of moments (System GMM) find that the independent directors decrease bank performance. This conclusion comes in conformity with Hoque and Muradoglu (2013),who found that the percentage of independent directors in the board has a negative and significant coefficient with performance, measured by (annual stock market return and ROA), which means that independent directors do not help banks perform better.

Mollah and Zaman (2015) indicated that in Islamic banks the association between board structure (board size and board independence) and bank performance is significant with

negative direction. In addition, they provide empirical evidence for the positive contribution of Shari'ah supervision boards. They also emphasized that this board need a very strong for enforcement and regulatory mechanisms to affect the performance positively.

In contrast to Beltratti and Stulz (2012); Fahlenbrach and Stulz (2010) indicated that the more independent boards is associated with performance sensitivity, and the high insider ownership is associated positively with banks' crisis performance.

Lunck et al. (2008) found that the outside directors are less informed than directors from inside, however the outside directors are associated with more effective control and enhanced bank performance because they come from outside with different skills, experience and qualifications which may be needed for banks. In general and similar to this conclusion,

Erkens et al. (2012) through the international sample of 296 financial firms from 30 countries during the credit crisis of 2007/2008, they investigated the association between corporate governance and bank performance. They concluded that the independent boards and higher institutional ownership experienced is associated negatively with the stock returns during the crisis. Moreover, the independent boards raised more equity capital during the crisis, which led to a wealth transfer from existing shareholders to debt holders.

Empirical investigations of the relationship between board composition and performance do not lead to conclusive results: certain studies find that the presence of independent directors is positively associated with performance, whereas, Staikouras et al. (2006) found that the percentage of independent directors seems to be positively correlated with performance measured by Tobin's Q.

This study tests the association between non-executive board member and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.2	***There is an insignificant association between Non-executive board member and bank performance***

3.2.3 Gender diversity of board and its relationship to bank performance

As per the review of previous literature, different results can be noted about the participation of female directors in the board, whereas a number of researchers found a positive relationship with bank performance, and other researchers found that this relationship is negative.

Low et al. (2015) concluded that the existence of increasing number of female on the board is associated positively with performance measured by ROE. Consistent with the same result, Gulamhussena and Santa (2015) who investigated the role of female in the board through a sample of 461 large size banks in OECD countries, and they noted that the existence of female directors in the board is associated significantly and positively with performance. In addition, they noted that there is a negative relation between the presence of women in board and risk-taking.

García-Mecaa et al. (2015) investigated the effect of board diversity (gender and nationality) on performance in banks, making use of a sample of 159 banks in nine countries during the period 2004–2010. They found that gender diversity increases bank performance, while national diversity inhibits it.

There is a negative relationship between the presence of females on the board and profitability (Adams and Ferreira (2009); Ahern and Dittmar (2012)). The interpretation of this result suggests that female directors engage in excessive monitoring that decreases shareholder value (Almazan and Suarez (2003) and Adams and Ferreira (2007)). In relation to investment, females make poorer decisions as they face higher obstacles than males in obtaining information about investment projects (Bharat et al. (2009)).

Berger et al. (2014) concluded that female executives self-select into stable and well-capitalized banks. However, in the three years following the increase in female board representation, risk taking increases, although the change is economically marginal. In contrast with that, Wachudi and Mboya (2012) concluded that board gender diversity has no significant effect on the performance of banks; this is shown by a statistically insignificant relationship between board gender diversity and bank performance.

Hoque and Muradoglu (2013) concluded that the gender diversity (the existence of female directors) does not add any value to the board. In contrast to this result, Stepanova et al. (2012)

concluded that there is a positive relationship between gender diversity and performance, which is due to female directors providing banks with better monitoring, resulting in better performance. Similar to Stepanova et al. (2012), Smith et al. (2006) concluded that the existence of female director in the board will enhance and improve the competitive advantage and improve the image of the firm as this has a positive implication on customers' satisfaction and consequently the performance.

This study tests the association between gender diversity and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.3	***There is an insignificant association between gender diversity and bank performance***

3.2.4 Board size and bank performance

A certain group of studies reports a negative correlation between board size and performance, such as Uwuigbe, 2012; Hermalin and Weisbach (2001). However, Denis and McConnell (2003); de Andres et al. (2005); Bohren and Strom (2007) report no relation between independent directors and performance, and there is a negative correlation between board size and value of the company using a sample of international companies, excluding financial institutions.

Bennedsen et al. (2004) used the sample of 500 Danish firms to investigate the relationship between board size and performance, and they concluded that the association is significant and negative between both of them. However, they also observed that board size below six has no effect on performance. It is viable for only large size board (more than seven). Dwivedi and Jain (2005) conducted a study on 340 large, listed Indian firms for the period (1997-2001), and found a weak positive relation between board size and performance of the firm. Adams and Mehran (2005) accessed the relationship between banking firm's performance (represented by Tobin's Q) and board size, and found a non-negative relationship between board size and Tobin's Q.

In the same line, Lipton and Lorsch (1992) found that large boards could be less effective than small boards. Increase in board's size brings about increase in agency problems (such as director free-riding) within the board, and the board becomes less effective. Furthermore,

Jensen, 1993 supported the theory of Lipton and Lorsch (1992) and added that the decision-making power of the board becomes slower with large board size.

In harmony of the above, Fanta et al. (2013) concluded that the board size is associated significantly and negatively with bank performance. Oluwafemi et al. (2013) examined the relationship between corporate governance and performance in Nigeria's banking sector, and concluded that the improved performance of the banking sector is not dependent on increasing the number of executive directors and board composition. In addition, the need for increase in board size and decrease in board composition is measured by the ratio of outside directors to the total number of directors in order to increase the bank performance. Hoque and Muradoglu (2013) found that the board size is negatively related to return during the crisis period, however, it is positively related during non-crisis periods.

In Ghana, Coleman and Biekpe (2006) identified that boards with small number of directors is associated with better performance of Micro Finance Institutions. Mak and Kusnadi (2005) through the sample of listed firms in Singapore and Malaysia, they indicated that when the board of director consist of five directors then the firm valuation will be in high level, and interestingly, this number of directors on the board is considered small in such countries. Sanda et al. (2003) in Nigeria indicated that the performance is associated significantly and positively with small number of directors in boards.

Coleman and Biekpe (2006) through the sample of 47 listed firms in Stock Exchange of Nairobi, they investigated the association between corporate governance elements such as; board (size and composition) and CEO duality and performance, and they found that the larger board sizes associated with more debts, and the independence of the board associated negatively and significantly with short-term debts.

There are studies in the US which do not find any significant relation between board size and composition and performance (Belkhir, 2006). Adams and Mehran (2005) indicated that the board size is positively associated with performance measured by Tobin's Q. Furthermore, the association between the presence of independent members and performance is significant, in addition, companies with boards dominated by outside members highly associated with better performance.

Staikouras et al. (2006) through a sample of European banks, indicated that there is negative and significant association between the size of the board and performance. Brogi (2008) concluded that there is no empirical evidence on the ideal board size and composition whereas no one board size and composition can fit all banks.

Yung (2009) concluded that banks with a larger size of board of directors and with a lower level of related-party loans tend to perform well. Similarly, Stepanova et al. (2012) concluded that the relationship between bank performance and board size is negative. A larger board is expected to negatively affect the return on equity ROE (Durgavanshi, 2014).

Rachdi and Ameur (2011) investigate the relationship between board characteristics; performance Return on Assets and Return on Equity and bank risk taking (Z-score). This study concluded that a small bank board is associated with more performance and with more bank risk-taking. The presence of independent directors within the board of directors affects negatively the performance, but has no significant effect on the risk-taking.

In contradiction with the above studies, (Belkhir, 2009) who studied 174 US bank and savings institutions, found no effect between board size and firm performance. However, this study did not report any positive relationship between board size and performance. Similarly, Zulkafli and Samad (2007) examined 107 banks in 9 Asian markets in 2004. Their findings suggest no significant relationship between the board size and performance measures (e.g. return on assets and Tobin's Q).

This study tests the association between board size and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.4	***There is a significant association between board size and bank performance***

3.2.5 CEO-turnover and bank performance

As per the review of the previous literature, there is a consensus that the probability of CEO-turnover negatively affects the bank performance. The board replaces a poorly performing CEO to enhance and develop the firm's performance, Huson et al. (2001) and Hermalin and Weisbach (2001). The improvements of shareholders' wealth and business operations follow CEO-turnover (Denis and Denis (1995); Huson et al. (2004)).

Bornemann et al. (2015), this study was in German over the period 1993–2012 and investigated the relationship between CEO-turnover and saving banks performance. They concluded that the incoming CEOs increase discretionary expenses, this increase from outside CEOs is stronger than CEOs from outside. There is another group of literature which found that there were significant positive changes in firm performance when CEO departures were followed by the appointment of a new CEO from outside the firm, Borokhovich et al. (1996), Farrell and Whidbee (2003) and Huson et al. (2004).

Hermalin and Weisbach (2001); Huson et al. (2004) concluded that the CEO's departure from his position might be due to retirement or movement to an external position. As a result, the departures are not a flag of poor performance, and consequently, firms' future performance is expected to show smaller variations when compared with unexpected departures. In addition, not identifying the type of departure only increases the signs that the proxy measure of executive turnover is not pure, which could lead to a downward biased estimate of performance changes.

This study tests the association between CEO-turnover and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.5	***There is a significant association between CEO-turnover and bank performance***

3.2.6 Audit committee and bank performance

The audit committee is a committee belongs to board of director, in addition this committee has very important role in overseeing and monitoring the areas of internal controls and risks. The primary role of the audit committee is to oversight the financial performance and ensure the adherence to rules, policies, procedures and laws additional to the reliability of the financial reporting mechanism. The audit committee should be allowed to work independently without any intervention from top management and board of director. The committee should have regular review to all matters related to internal control, risk management and corporate governance. In addition to the above, the committee should coordinate the all works related to audit.

Chen et al. (2015) investigate whether firms adopting the audit committee system can improve earnings quality. They found that improvements in earnings quality cannot be achieved by merely adopting the audit committee, but are more beneficial by firms that focus on audit committee with substance. In addition, they indicated that many Japanese firms may adopt audit committee as a fashionable "label" without embracing shareholder primacy. (Durgavanshi, 2014) found that there is no significant relationship between the existence of audit committee and both Return on Equity ROE and Operational Self Sufficiency (OSS).

Fanta et al. (2013) found that the existence of an audit committee in the board had a statistically significant negative effect on bank performance. In agreement with this conclusion, (Klein, 2002) reports a negative correlation between earnings management and audit committee independence.

Anderson et al. (2004) found that the independent audit committees are highly associated with significant lower financing cost of debts. Also, yield spreads are negatively correlated to audit committee size and the number of their meetings. In contrast, (Kajola, 2008) concluded that the audit committees occupied by a majority of outside members have no influence on the firm's performance. This is because (Kajola, 2008) shows that the relationship between the audit committee and the two performance measures is not statistically significant.

Agrawal and Chadha (2005) showed that firms with audit committees that have an independent director with a background in accounting or finance are significantly associated negatively with lower returns and earnings. However, Abbott et al. (2002) indicated that audit committees that have no experience in finance and risk management are significantly associated with high probability of financial errors and mistakes. DeFond et al. (2005); Davidson et al. (2004) report a positive market response when the audit committee consist of directors with auditing and accounting experience.

Hayes et al. (2004) showed that the market to book ratio as a proxy variable of performance is not associated with the fraction of outside directors on the audit committee. Beasley (1996) indicated that there is no significant association between the audit committee and its composition and financial fraud. Likewise et al. (2005) found that there is no significant association between the independence of the audit committee and probability of earnings.

Carcello and Neal (2000) they found empirical evidence that the independence of the audit committee members provides no superior benefit to the firm.

This study tests the association between audit committee and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.6	***There is an insignificant association between audit committee and bank performance***

3.2.7 Risk committee and bank performance

As mentioned by the Sarbanes-Oxley Act (SOX) 2002, financial expertise is highly considered to play an important role in a firm. Furthermore, another measure is to involve either creation of a specialized risk committee or designating of a CRO who oversees all relevant risks within the institution, e.g. (Brancato et al. (2006); Sabato, 2010).

Battaglia et al. (2015) through a sample of Chinese and Indian listed banks during the financial crisis of 2008, they investigated the association between boards of directors and risk management and bank performance, and they noted that there is positive relationship between the risk committee size and bank performance measured by ROE and ROA.

Mongiardino and Plath (2010) concluded that only few number of banks are follow the best practices in 2007. They found that the better risk governance needs to have a dedicated risk committee which should be independent. In addition, risk governance in large banks seems to be developed and improved despite the pressure of the financial crisis. Merely having a risk committee does not necessarily help banks' crisis performance. However, having a more dedicated committee that meets more frequently and is larger seems to positively affect the banks' performance in the crisis (Aebi et al. 2011).

This study tests the association between risk committee and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.7	***There is significant association between risk committee and bank performance***

3.2.8 Credit and investment committee and bank performance

As per the review of the annual reports of GCC banks, it was noted that the majority of GCC banks in recent years established credit and investment committees in order to work as a control tool for one or more of the followings:

- approving extension or renewal of credit facilities,
- granting temporary excesses to customers with credit facilities approved by the board,
- approving early repayments of facilities,
- monitoring the performance and quality of the Group's credit portfolio and overseeing the administration and effectiveness of and compliance with the credit policies through the review of such processes,
- reporting other information as it deems appropriate.

From the review of the previous literature, minor number of studies investigated the association between the existence of this committee, and performance and risk management. Therefore, this study will use the credit and investment committee as a proxy for corporate governance. In addition, this study tests the association between credit and investment committee; and bank performance measured by ROE and ROA.

H1.8	***There is a significant association between credit and investment committee and bank performance***

3.2.9 Capital ratio and bank performance

The capital ratio represents better obedience towards the central bank's regulation. Capital ratio is equal to loan loss provision (LLP) plus equity divided by total loan. The CR has been used in many previous literature as a proxy variable of corporate governance by (Tandelilin et al. (2007); Kim et al. (2012)).

This study tests the association between capital ratio and bank performance measured by ROE and ROA.

H1.9	***There is a significant association between capital ratio and bank performance***

3.2.10 Loan to deposit ratio and bank performance

This ratio represents the proportion of depositors' contribution as a source of capital to finance the banks' loans. Smaller LDR indicates that the depositors are financing a large proportion of banks' loans. On the other hand, if the LDR ratio is too much high, it means that banks might not have enough liquidity to meet any unforeseen financial obligation or fund requirements. In addition, if the LDR ratio is too low, it means that banks have a big liquidity and they have no ability to create investment and recognize the targeted returns.

Tandelilin et al. (2007), concluded that the LDR had a significant and negative effect on CAR at 1% confidence level. In addition, the joint-venture-owned banks had mean LDR of 109%, higher than the maximum level of 85% determined by the Central Bank. Foreign-owned banks had mean LDR of 60%, higher than domestic-owned banks' LDR. However, Fanta et al. (2013) concluded that the loan to deposits ratio did not have a statistically significant effect on performance.

This study tests the association between LDR; and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H1.10	***There is a significant association between loan to deposit ratio and bank performance***

3.3 Review of the empirical literature of risk management and bank performance

The banking sector has many types of related risks that could be differ by number of factors such as; market, service rendered, regulations and business environment. Furthermore, there are many types of risks that can be classified to six groups; legal risks, operational risk, counterparty risk, market risk, credit risk and liquidity risk. This section will discuss those types of risks and how the board of director and management can deal with them and discuss their implications on bank performance.

Mokni et al. (2015) through the survey that have been done for 47 banks; 23 Islamic banks and 24 conventional banks in MENA region, they investigated the association between risk management and bank performance in Islamic and conventional banks. They concluded that in MENA region there is effective risk management frameworks and efficient risk strategies in banking sector. Furthermore, they considered the credit risk and liquidity risk are the most

important risks in both conventional and Islamic banks. In addition, the traditional credit risk mitigation tools still be used substantially by Islamic banks.

As per review to the previous literature, there are many literature in the area of risk management and bank performance and most of them are conceptual, these literature have drawn the theoretical relationship between the best practice of risk management and better bank performance. In addition, there several studies investigated the association between risk and bank performance, number of these studies tried to discussed in details the risk measurement and its implication on performance (e.g. Hughes and Mester (1998); Altunbas et al. (2000); Park and Weber (2006); Banker et al. (2010); Hsiao et al. (2010); Barros et al. (2012)).

(Gordon et al. (2009); Nocco and Stulz (2006); Schroeck (2002)) stress the importance of good risk management practices to maximize firms' value. In this context, Nocco and Stulz (2006) suggest that effective enterprise risk management (ERM) provides a long-run competitive advantage to banks, compared to those that manage and monitor risks individually. In addition, it is suggested that companies manage risks strategically by viewing all the risks together within a coordinated manner. In the same context, (Stulz, 1996) associates good risk management practices with the elimination of costly lower-tail outcomes by proposing full coverage of risk management as compared to selective risk management. The study suggests that prudent risk management is important in mitigating and reducing bankruptcy costs. Moreover, in the case of the US, there are potential benefits, for example, that risk management could also reduce taxes.

Other group of studies highlighted the association between effective risk management in practices with better bank performances such as (Smith, 1995; Schroeck; 2002). Those couple of studies concluded that the effective risk management practically mitigate the volatility in financial performance; earnings, operating income, firm's market value and returns in general. In addition, Schroeck (2002) indicated that as per the best practice, the effective risk management is highly associated with increased earnings.

As per literature review, and in relation to the empirical evidence for the relationship between, it could be noted that minor number of studies are there. Among these studies, (Drzik, 2005) who concluded that the huge investment in risk management during the 1990s aimed to mitigate profit and loss volatility during the recession of 2001. Consistently with this conclusion, Pagach and Warr (2007) who tested the factors that influence the ERM, and they concluded that more leveraged the firms are, the more volatile their earnings are. This study reports that firms that are more levered, more volatile earnings, and poorer stock performances, are more likely to adopt ERM.

Angbazo (1997) in his study presented a new horizon in investigating the association between risk management and bank performance by testing the relationship between different types of risk factors and banks' profitability. This study found that the default risk is a determinant of bank performance; net interest margin (NIM), and the regional banks are more sensitive to interest risk same like default risk.

There is another study of Saunders and Schumacher (2000) who investigated the determinants of NIM in 614 banks in 6 European countries and US during the period from (1988 to 1995), this study provides empirical evidence on the importance of controlling risks to financial performance and the interest rate volatility is associated significantly and positively with bank profitability. Kim et al. (2012) concluded that banks need to make corporate changes in order to meet global standards and to be able to compete for stability and profitability of the banking sector.

Ariffin and Kassim (2011) investigated the relationship between risk management and bank performance, and found that board of directors' approval of the overall policies and ensuring that management takes necessary actions to manage the risks is important. This indicates that the governance structure must be in place to cater to these needs, and the overall objectives of the bank should be communicated throughout the bank.

3.3.1 Non-performing loan and bank performance

Zhang et al. (2016) during the period from (2006–2012) investigated the implication of NPL on banks behaviour in China using a sample of 60 city commercial banks, 16 state banks and joint-stock banks, and 11 rural commercial banks. They concluded that an increase in the NPL

ratio is associated with higher riskier lending, and this high percentage of NPL will badly affect the performance, loan quality and financial system instability as a whole.

Micco et al. (2004) provide a comprehensive analysis of bank ownership and performance, and conclude that state banks in developing countries tend to have lower profits, higher costs, and larger non-performing loans relative to private banks. Non-performing loans NPL negatively affect the efficiency and return on assets, Epure and Lafuente (2015). The NPL have a positive significant effect on VAR at 1% level of alpha (Tandelilin et al. 2007).

As per review of previous literature, it can be noted that several studies discussed the risk variables and their association with efficiency measures. Most of them used the parametric analyses under cost function approaches; McAllister and McManus (1993); Berger and DeYoung (1997); Hughes and Mester (1998); Altunbas et al. (2000).

Altunbas et al. (2000) discussed the loan portfolio quality by investigating the ratio of non-performing loans NPL, they concluded that this percentage is one of the most important variables in measuring risks. According to Berger and DeYoung (1997) the non-performing loan is considered a very important variable in addressing the quality over loan portfolios.

This study tests the association between NPL and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H2.1	***There is a significant association between Non-performing loan and bank performance***

3.3.2 Capital adequacy ratio and bank performance

Aspal and Nazneen (2014) investigated the association between capital adequacy ratio and performance and they concluded that the capital adequacy ratio is significantly and negatively associated with lending (loans), asset quality and management efficiency. In addition, this association was significant and positive with liquidity and sensitivity. The regression results have revealed that Loans, Management Efficiency, Liquidity and Sensitivity have statistically significant influence on the capital adequacy of private sector banks. Generally, this conclusion is in agreement with (Navapan and Tripe, 2003) who found a negative relationship between CAR and ROE.

Hassan et al. (2016) investigated the changes in banks' capital adequacy ratio (CAR) and examine the results of both of conventional and participation banks in Turkey. This study concluded that the CAR declines substantially. Furthermore, the participation banks suffer more in declined CAR compared to conventional banks. In addition to the above they noted that participation banks in Turkey are more sensitive to sudden changes in exchange rates and increased NPL.

Furthermore, Bateni et al. (2014) found that there is a positive and significant association between return on equity ROE and capital adequacy ratio. Inconsistent with this, Büyükşalvarcı and Abdioğlu (2011) investigated the determinants of Turkish banks' capital adequacy ratio and its effects on the financial positions of banks covered by the study for the period (2006 – 2010), and found that the return on equity had a negative and significant effect on CAR.

Epure and Lafuente (2015) found that capital adequacy ratio positively affects the net interest margin, which supports that incurring monitoring costs and having higher levels of capitalization may enhance performance. All banks should maintain a capital adequacy ratio higher than the minimum ratio set by the central banks. Capital included in the CAR comprises main capital and secondary capital. Currently, the Basel Committee proposed a minimum capital adequacy ratio of 8%. CAR is considered a very good banking tool to measure the bank’s ability to pay its liabilities and meet any risks that may be incurred in the future.

Hakim and Neamie (2001) concluded that there is strong link between capital adequacy ratio and commercial bank return, with high capitalization being the limitation to return. The study concludes that the capital is a sunk cost, with large banks realizing high profits in absolute but not in percentage terms.

Mili et al. (2016) investigate the influencing factors that could affect the capital adequacy ratio in foreign banks, they used a sample from 310 subsidiaries and 265 branches to examine the implication of the parent banks on the capital adequacy ratio of subsidiaries and branches. Furthermore they investigated whether the same influencing factors have the same effect on CAR of subsidiaries and branches in developed and developing countries. This study have empirical evidence that CAR of subsidiaries and branches in developing and developed

countries is not depend on the same influencing factors. They also noted that the regulatory framework of a parent bank's home country affects the capitalization of its foreign subsidiaries in the host countries.

This study tests the association between capital adequacy ratio and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H2.2	***There is significant association between capital adequacy ratio and bank performance***

3.3.3 Credit risk and bank performance

Hakim and Neamie (2001) Used banking data from two countries; Egypt and Lebanon over the period from (1993 to 1999) to investigate the relationship between credit risk and bank performance in the 1990s. This study estimates a fixed effects model of bank return with varying intercepts and coefficients. The findings show that the credit variable is positively related to profitability.

Furthermore, Aduda and Gitonga (2011) examined the association between credit risk and profitability as a proxy for bank performance, for this purposes they used both of qualitative and quantitative methods in order to achieve this study objectives, in addition they used the regression statistics technique to test the relationship. The main result of this study show that there is an association at reasonable level between credit risk management and profitability in all commercial banks analysed. In contrast, (Sayedi, 2014) found that there is insignificant and negative association between credit risk and profitability. In addition, banks should ensure that they continue to maintain a low level of credit risk in order to increase the profitability; this is because the insignificant decline in credit risk has a negative effect on the profitability of banks.

Miller and Noulas (1997) investigated the relationship between credit risk and bank profitability as a proxy of bank performance, and they concluded that there is significant and negative between both of them which can be explained that the effective risk management is related to the better bank performance. In addition any kind of loans is associated with risks, accordingly, banks will face a big difficulties in maximizing the profitability.

In relation to credit risk, it is defined as the probability that a bank's assets, especially loans, will decline in value and it may become worthless. The banks need to make provisions for loan losses. Higher provision becomes relative to the size of total loans and is an indicator for high risk. Thus, management of credit risk is very important to the health of the entire financial system (Tsorhe et al. 2011).

Credit risk has a negative relationship with financial performance. This is in harmony with extant finance literature, which highlights that, it is probable that when risky lending increases the payback declines. This in turn negatively affects commercial banks' earnings (Rogers 2008). Similarly, the coefficient on credit risk is significant at a level of 10 percent, indicating that banks with higher credit risk are less efficient (Jiang et al. 2012).

Tsorhe et al. (2011) Board strength does not have a significant impact on credit risk. This conclusion is consistent with Aboagye and Otieku (2010) who found that an index that captures the state of corporate governance, outreach to clients, dependence on subsidies and use of technology is not statistically associated with their financial performance.

This study tests the association between credit risk and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H2.3	***There is significant association between credit risk and bank performance***

3.3.4 Capital risk and bank performance

Furthermore, Tsorhe et al. (2011), found that the power of board of director as a proxy for corporate governance does not have any significant relationship with capital risk.

Hassan et al. (2016) investigated the changes in banks' capital risk and examine the results of both of conventional and participation banks in Turkey. This study concluded that the capital risk declined compared to conventional banks. Furthermore, Bateni et al. (2014) found that there is a positive and significant association between return on equity ROE and capital adequacy ratio. Inconsistent with this, Büyükşalvarcı and Abdioğlu (2011) investigated the determinants of Turkish banks' capital adequacy ratio and its effects on the financial positions

of banks covered by the study for the period (2006 – 2010), and found that the return on equity had a negative and significant effect on CAR.

Tsorhe et al. (2011) used a sample from Ghanaian banks, this study focused on the financial health of banking sector in Ghana. They investigated whether the corporate governance is associated with three measures of bank risks; capital risk, credit risk and liquidity risk. This study concluded that the power of board of director is insignificantly associated with (credit, capital and liquidity) risk.

Epure and Lafuente (2015) found that capital adequacy ratio positively affects the net interest margin, which supports that incurring monitoring costs and having higher levels of capitalization may enhance performance. Hakim and Neamie (2001) concluded that there is strong link between capital adequacy ratio and commercial bank return, with high capitalization being the limitation to return.

This study tests the association between capital risk and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H2.4	***There is insignificant association between capital adequacy ratio and bank performance***

3.3.5 Liquidity risk and bank performance

Bank liquidity is the bank ability to have enough liquid assets that can be easily liquid in order to make new invest or pay any kind of financial or contractual obligation. Banks will be exposed to liquidity risk when they do not have enough liquid assets that can be used to compensate any expected and unexpected obligation. Based on that, the liquidity risk is considered one of the most important type of risks that banks' management should be concerned about.

In the banking sector, liquidity risk has an opposite effect on profitability. Some studies such as (Molyneux and Thornton (1992); Barth et al. (2003)) supported the positive effect of liquidity risk on the profitability; while some studies such as (Bourke, 1989; Kosmidou et al. (2005)) believed in its negative effect.

(Tsorhe et al. (2011); Cornett et al. (2005); Jiang et al. (2012)) used this variable as a proxy for risk management. Furthermore, Tabari et al. (2013) found that there is a negative and significant association between liquidity risk and bank performance, which means that the liquidity risk will cause the performance of the bank to weaken.

Jiang et al. (2012) concluded that there is a positive and significant coefficient on liquidity risk, which suggests that a bank facing higher liquidity risk suffers efficiency losses despite the trade-off between liquidity and profitability. In contradiction with this, Hakim and Neamie (2001) concluded that the liquidity variable is insignificant across all banks and has no impact on profitability.

Tsorhe et al. (2011) focused in their study on the financial health of banks in Ghana. It also investigated whether the state of corporate governance in the Ghanaian banking industry impacts three measures of bank risks – capital risk, credit risk and liquidity risk. The main conclusion of Tsorhe et al. (2011) is that the board strength does not have a significant impact on liquidity risk.

This study tests the association between liquidity risk and bank performance measured by ROE and ROA. From the above discussion, this study tests the following hypothesis:

H2.5	***There is significant association between liquidity risk and bank performance***

3.4 Review of the empirical literature that focus on the effect of corporate governance on risk management.

Generally, there are not many studies investigating the association between the corporate governance independent variables and non-performing loan as a measure of risk management. The results of this study could be used in the future research for benchmarking purposes. However, the results of the few studies available in this field were as follows;

(Surifah, 2013) investigated the relationship between board size and risk management measured by NPL and found that there is negative and significant association between board size and NPL, which means the larger board size the lower NPL and better risk management.

Likewise, Poudel and Hovey (2013) found that the association between board size and NPL is negative and significant, in other words bigger board size leads to lower NPL which means better efficiency in the commercial banks.

Wang et al. (2015) used data for Taiwanese firms from 2002 to 2012 to investigate the relation between corporate governance and downside risk. This study concluded that good corporate governance reduces downside risk while increasing firm value.

Iqbal et al. (2015) investigated the relationship between corporate governance and the systemic risk of financial institutions. They used a sample of large U.S. financial institutions from (2005 to 2010) and examined whether the strength of corporate governance mechanisms could explain the cross-sectional variation in systemic risk around the recent financial crisis. They concluded that financial institutions with stronger and more shareholder-focused corporate governance structures and boards of directors are associated with higher levels of systemic risk. Thus, the results suggest that good corporate governance may encourage rather than constrain excessive risk-taking in the financial industry.

Huang and Wang (2015) concluded that firms with smaller boards experience are more associated with higher executive pay-to-performance sensitivity, tend to pursue riskier investment policies, and engage more in earnings management and larger variability in future firm performance. However, Chinese firms who have smaller board size are found to be more conservative in dealing with debt financing.

Zagorcheva and Gao (2015) used a sample from US to examine how the corporate governance associated with financial institutions' risk management during the period from (2002 to 2009). This study found that better governance is negatively associated with excessive risk-taking, and the association was significant and positive with US financial institutions' performance. Second, they noted that the good corporate governance is associated with higher provisions and reserves for loan/asset losses of financial institutions. Furthermore the corporate governance practically are associated with less total non-performing assets, less real estate non-performing assets, and higher Tobin's Q.

Nyor and Mejabi (2013) through s sample of deposit money banks in Nigeria, have examined the association between board size as a proxy variable of corporate governance and non-performing loans as a proxy variable for risk management, and they noted that the association

between the two variables are insignificant, in addition, they concluded that the agency theory assumes that a smaller size of boards is recommended to minimize the agency cost, by exerting more efforts in maintaining effective internal control system over banks. Furthermore, the larger size of boards is related to more interactions between members which may be result in more conflicts (Yoshikawa and Phan (2003)). Furthermore, Lai and Choi (2014) found that the non-performing loans NPL is statistically significant with board sizes.

Furthermore, Poudel and Hovey (2013) used a sample of 29 conventional banks during the period from (2005 to 2011) in Nepalese, this sample is used to investigate the association between corporate governance variables and the efficiency of commercial banks. This study used the number of corporate governance variables and used the non-performing loan variable is used for bank's efficiency. The board size, board independence, Audit Committee size and ownership structure as a proxy variables for corporate governance, they used the regression analysis and found that bigger size of the board, the number of directors on the audit committee, lower number of board meetings and lower proportion of bank ownership are associated with better efficiency i.e. lower NPL.

Salas and Saurina (2002) investigated the association between the bank size and risk management measured by NPL, and found that bank size is significantly associated with non-performing loans. (Hu et al. (2004); Rajan and Dhal (2003)) report similar empirical evidence.

In Hong Kong, Yung (2009) this literature investigated the association between corporate governance and the quality of loans. This study concluded that banks with larger size of board of directors and with a lower level of related-party loans tend to have better performance. The extent of related-party loans is a key consideration for effective corporate governance practices. Whenever the level of lending to related-party is very high, it may send signals to the market that the corporate governance system is not effective which may adversely affect and damage the reputation and performance of banks.

Lai and Choi (2014) concluded that there is a statistically significant relationship between CAR, PTC and corporate governance. TA, NPL, ROA do not have a statistically significant relationship with corporate governance. There is also a statistically significant relationship between CAR, PTC and board size. TA, NPL and ROA do not have a statistically significant relationship with board sizes. Besides, a statistically significant relationship was shown

between PTC, TA, ROA and board meeting. CAR and NPL do not have a statistically significant relationship with board meetings.

Kumah et al. (2014) examined the degree to which banks in Ghana use risk management practices and corporate governance in dealing with different types of risk. This study concluded that board of directors, senior management are practically involved in risk management. The most common types of risks related to banking sector are credit risk, interest risk, operating risk, liquidity risk and solvency risk. In addition they noted that banks involved in the sample are efficient in dealing with risk management.

Cheung (2010) investigated the association between corporate governance and performance and risks, he concluded that the corporate governance is highly significant with returns and risks. Furthermore, he concluded that the good corporate governance is significantly associated with higher stock returns as a proxy for performance, and with lower unsystematic risk as a proxy for risk management. However, Tsorhe et al. (2011) concluded that board strength does not have a significant impact on capital risk, credit risk nor liquidity risk. They report that there is no statistical difference between the strengths of bank boards in Ghana, and that board strength does not have a significant impact on capital risk, credit risk nor liquidity risk.

Rachdi and Ameur (2011) investigate the relationship between board characteristics; performance (Return on Assets and Return on Equity) and bank risk taking (Z-score) in Tunisian banks. They conclude that the small board size is associated with better bank performance, and also associated with high level of risk-taking. Furthermore, the existence of independent board members is significantly and negatively associated with performance, but has no significant effect on the risk-taking, and a lower CEO ownership is associated with lower performance. Aebi et al. (2012) argue that banks have to significantly improve the quality and profile of their corporate governance and risk management function in order to be well prepared to face a financial crisis.

Tarraf and Majeske (2011) investigated the association between corporate governance, risk taking and financial performance at bank holding companies (BHCs) during the financial crisis of 2008. This study concluded that the association between corporate governance and risk-taking level is insignificant. In addition, this study indicated that the BHCs with lower

level of risk is associated with better performance than BHCs with higher level of risks during the financial crisis. Uwuigbe and Fakile (2012) reported a negative relationship between board size and bank financial performance in Nigeria. Moreover, larger boards were found to be less effective than smaller boards, as increase in board's size occurs with increase in agency problems. The authors recommended a smaller board size (6 and 8) for better financial performance of banks in Nigeria.

Minton et al. (2012) indicate that the independent directors with financial expertise in U.S. banks is associated positively with risks. However, the board of directors with financial expertise is not strongly associated with better performance before 2008, but it was strongly related to lower performance during the financial crisis. Overall, the results are consistent with independent directors with financial expertise supporting increased risk-taking prior to the crisis.

Ismail (2012) explores the perceptions and role of internal auditors in the audit of risk management in Egyptian banks. The study concludes that the majority of Egyptian conventional banks are employing a framework of risk management to identify and properly manage the various risks. Moreover, he provides evidence of a strong association between the type of bank ownership and the quality of the risk-based audit procedures; private and joint-venture banks have higher quality. Internal auditors look at themselves as they are capable to play a larger role in the area of risk management, corporate governance and internal control system. If outsourcing is employed, internal auditors prefer an independent risk management consulting firm to audit risk management in banks.

Hassan (2013) uses a sample of 84 Islamic and conventional banks in Bangladesh, Bahrain, Malaysia, Pakistan, Saudi Arabia, UAE, and the United Kingdom over the period from (2006 to 2009) to investigate the association between corporate governance and risk-taking. He concludes that the corporate governance and financial disclosure indices emerged as the key driving forces for risk-taking for Islamic banks.

Abdul Rahman et al. (2013) examine the effects of governance on both risk management process and risk management practices in addition to the impact of risk management process on the risk management practices of Islamic banks in emerging economies. They indicate that banks may lack experience in the effective application of risk management. Furthermore,

Stulz (2014) concludes that the effective risk management practically depends on the good corporate environment, however, the effective risk management should lead to better risk-taking.

This study tests the association between corporate governance and risk management measured by NPL. From the above discussion, this study tests the following hypotheses:

H3.1	***There is significant association between board size and risk management***
H3.2	***There is significant association between non-executive board member and risk management***
H3.3	***There is significant association between gender diversity and risk management***
H3.4	***There is significant association between CEO-turnover and risk management***
H3.5	***There is significant association between role duality and risk management***
H3.6	***There is significant association between audit committee and risk management***
H3.7	***There is significant association between credit and investment committee and risk management***
H3.8	***There is significant association between capital ratio and risk management***
H3.9	***There is significant association between loan to deposit ratio and risk management***
H3.10	***There is significant association between risk committee and risk management***

3.5 Review of literature on the relationship between corporate governance and risk management and the effect on bank performance

As per the review of the previous literature, it was observed that there are several studies investigating the association between corporate governance and performance. On the other hand, another group of studies investigated the association between risk management and bank performance in the banking sector. In actuality, it was noted that there are few number of literature investigated the relationship between both corporate governance and risk management, and their implications on bank performance. The main conclusion of these studies highlighted the importance of good corporate governance and effective risk management, and their effect on bank performance. Aebi et al. (2012) concluded that for the banks to be better prepared to face financial crisis, they have to significantly improve the quality and profile of their corporate governance and risk management functions.

Battaglia and Gallo (2015) used a sample of Chinese and Indian listed banks during the financial crisis of 2007/2008 to investigate the association between board of director and risk management and bank performance. The bank performance was measured by Tobin's Q, price–earnings ratio (P/E), return on asset ROA and return on equity ROE. They noted that banks with larger risk committee is significantly and positively associated with profitability as a proxy for better performance. Moreover, the association between the existence of risk committee and returns are significant and positive.

Tsorhe et al. (2011) used a sample from Ghanaian banks, this study focused on the financial health of banking sector in Ghana. They investigated whether the corporate governance is associated with three measures of bank risks; capital risk, credit risk and liquidity risk. This study concluded that the power of board of director is insignificantly associated with (credit, capital and liquidity) risk.

Beltratti and Stulz (2012) used a sample of 98 international banks during the financial crisis of 2008 to investigate the association between corporate governance and bank performance. They concluded that when the shareholders of the bank nominate a friendly board of director (this variable measured by Corporate Governance Quotient CGQ), the performance will be worse during the financial crisis. In addition, the concept of "good corporate governance" is not necessarily to be related to the interests of shareholders.

Sarens and Christopher (2010) through a sample of Belgian firms, they investigated the association between corporate governance framework and risk management and control system. The main conclusion of this study is that the ineffective corporate governance in risk management and internal control system is highly associated with less enhanced risk management and internal control in Belgian firms compared to Australian firms. In the same line with the abovementioned result, Cheung et al. (2010) concluded that the good corporate governance mechanism represented by the level of the scores in the CGI is associated with significantly with the future higher stock returns and lower risk. Kleffner et al. (2003) was in agreement with the above, whereas they got empirical evidence from Canadian firms that the use of ERM is impacting the TSE guidelines in firms' strategies related to risk management. Furthermore, in 2003 the practice of ERM was still not widely used, the firms that stared to

apply the concept of ERM are adopting a more integrated approach in risk management than before.

Tandelilin et al. (2007) concluded that ownership structure has no significant effect on corporate governance, and there is a significant negative inter-relationship between risk management and bank performance, and corporate governance has a significant and negative effect on risk management, and the relationship between corporate governance and risk management is sensitive to type of bank ownership. The results are statistically robust for all types of bank ownership, except state-owned banks.

The same focus on bank ownership and its effect on the risk taking and performance has been examined by (Laeven 2006) in USA who concluded that large owners with substantial cash-flow rights tend to induce banks to increase risk. In addition, the association between ownership structure and risk taking are based on the; owner interest, laws and regulation, investors, boards and management.

Minton (2010) investigated how risk taking and U.S. banks' performance in the crisis are related to board independence and financial expertise of the board. The results show that financial expertise of the board is positively related to risk taking and bank performance before the crisis, but is negatively related to bank performance in the crisis. Cornett et al. (2010) used a sample of 300 publicly traded U.S. banks during the financial crisis of 2008 to investigate the relationship between various corporate governance variables and bank performance. Furthermore, Beltratti and Stulz (2012); Erkens et al. (2012); Fahlenbrach and Stulz (2010) investigated the same association and concluded that better corporate governance; independent boards, higher pay-for-performance sensitivity and an increase in insider ownership to be significantly and positively associated with bank performance during the financial crisis.

The recent financial crisis that followed the U.S. subprime meltdown has increased the awareness of enterprise risk management and the need to improve the structures and techniques of risk management in financial institutions. Previously, monitoring and controlling systems within banks was based on using quantitative risk management and improving the measurement and management of specific risks (Miller1992). Most recently, an integrated view to risk management has been the focus of control systems at the bank's

structural level. Therefore, this issue has attracted high amounts of research. Researchers previously focused on single types of risk in their studies, and missed out the interdependence to other risks (Miller1992). In the 1990's, the ERM concept became the interest of many researchers (e.g., Miller, 1992; Cumming and Mirtle (2001); Nocco and Stulz (2006); Sabato, 2010). It was concluded that the effective enterprise risk management set more standards and approaches for a corporate culture that should lead to better performance and in agreement with the authority decisions related to accountability and responsibility (Nocco and Stulz (2006)).

In relation to the gender diversity and its correlation to risk, Adams and Funk (2011) show that female directors are more prone to taking risks than male. On the other hand, there are more studies concluded that women are more risk averse in financial decision making, such as (Jianakoplos and Bernasek (1998); Sundén and Surette (1998); Agnew et al. (2003); Barsky et al. (1997)). The relationship between risk-taking behaviour with respect to investment decisions and gender differences has been investigated by Sundén and Surette (1998); Barsky et al. (1997); Jianakoplos and Bernasek (1998); Agnew et al. (2003).

3.6 Control variables and the implication on overall bank performance

3.6.1 Bank type (Islamic-conventional) and bank performance

Islamic banks, which tend to be (in terms of size) smaller than conventional banks, are likely to be less efficient as technical efficiency tends to increase with the size of the bank (Bhattacharyya et al. 1997).

Kolsi and Zehri (2014) found that during the crisis, Islamic banks were more profitable, less efficient and less risky than conventional ones. In addition, Islamic banks are more stable and immunized against the crisis (2007-2008) due to the requirements of the Shariaa law.

Siraj and Pillai (2012) used a sample of 6 Islamic banks and 6 conventional banks in GCC banking sector to investigate the association between growth of performance indicators in conventional banks and Islamic banks in GCC region using financial ratio analysis. They concluded that Islamic banks are more equity financed than conventional banks. In addition, Conventional banks had growth in revenue during the period, but could not achieve improved profitability due to higher provisions towards credit losses and impairment losses.

Abdullah et al. (2015) used a sample of 67 Islamic banks in the Southeast Asian and GCC regions to investigate the determinants of voluntary disclosure of corporate governance. This study have empirical evidence that stronger corporate governance is associated with a higher level of voluntary disclosure. In addition, the size of Islamic banks is influencing the voluntary governance disclosures. In addition, there is a need for effective corporate governance in Islamic banks by providing more insights by management in encouraging disclosures in Islamic banks' annual reports.

Shahid et al. (2010) investigated the efficiency comparison between conventional and Islamic Banks in Pakistan, and used a sample of five Islamic and five conventional banks during the period (2005 – 2009). They found that the technical efficiency of conventional banks is better than that of Islamic banks. Furthermore, the allocative efficiency (AE) and Cost Efficiency (CE) in both sectors are healthy. The t-statistics show that there is no significant difference in mean efficiency scores of conventional and Islamic banks except in the year 2008.

Ryu et al. (2012) concluded that the Islamic system is less risky and more profitable than the conventional system. In practice, (Waseem, 2008) submits that its costs of funding are almost the same as those of conventional banks, since interest rates in lieu of administrative costs and share of profit are also as relevant to Islamic banks as they are to conventional banks.

Johnes et al. (2014) used data envelopment analysis (DEA) during the period from 2004 to 2009 (before, during and after financial crisis to compare the performance of Islamic and conventional banks. they found that there is insignificant difference in the efficiency between conventional and Islamic banks, the efficiency was measured by common frontier. The use of the Meta-Frontier analysis (MFA) assume that the efficiency in Islamic bank is less than conventional bank.

Furthermore in the area of Islamic Banking, Bashir (2000) assessed the performance of Islamic banks using profitability measures (Net Interest Margin (NIM), Before Tax Profit (BTP), Return on Assets ROA, and Return on Equity ROE), controlling economic and financial structure measures in eight Middle East countries, Kuwait, Jordan, Qatar, Bahrain, Sudan, Egypt, Turkey, and United Arab Emirates during (1993-1998). The other internal variables were (bank size, leverage, loans, short-term funding, overhead and ownership); external variables (macroeconomic environment, regulation, and financial market) were used.

His study confirms previous findings that profitability of Islamic banks is positively related to equity and loans.

Hassan and Bashir (2003) studied the determinants of Islamic banking profitability for 43 Islamic Banks for the period from (1994 – 2001) in 21 countries, and observed that Islamic banks are well capitalized. Results obtained by Hassan and Bashir (2003), were similar to the (Bashir, 2000) results, confirming that i) a positive relationship between capital and profitability, ii) a negative relationship between loans and profitability and iii) a negative relationship between total assets with profitability.

Hassoune (2002) used a sample from three GCC regions, Kuwait, Saudi Arabia, and Qatar to compare the ROE and ROA Volatility in both of Islamic and conventional banks. He found that Islamic banks is based on profit and loss, and the managements have a very important role in creating high volumes of returns and maximize the wealth of investors.

The study of Charles et al. (2015) examined whether the Islamic indexes are more risky than the conventional indexes using different risk measures and analysed the performance of both indexes from various risk-adjusted performance measures. They noted that Islamic indexes seem to be more risky than their conventional counterparts as well as exhibiting a higher performance on the full period (1996–2013). The results also show that both indexes have been affected by variance changes, in addition most of the Islamic indexes have a higher level of risk than the conventional indexes, whatever the sub-periods. Consequently, this finding means that the Islamic indexes are riskier than the conventional indexes. In most cases of the Islamic indexes, they noted that they either outperform the conventional indexes or there is no significant difference in performance between both indexes.

3.6.2 Ownership structure and bank performance

The empirical literature on bank ownership and performance can be classified into three main groups. The first group investigate the financial performance of individual banks and other bank-level characteristics such as; size and balance sheet structures. The second group of empirical studies investigate whether government banks contribute positively to financial development and economic growth, the third group of studies examines the interactions between the actions of government banks and the political cycle, and to assess the level of political intervention in these institutions.

One of the important objectives of the first group of literature is to investigate the association between bank ownership and bank performance measured by profitability, margins, costs, and loans' quality.

Demirgüç and Huizinga (2000); Kim and Rasiah (2010) investigated the ownership (foreign banks) in banking sector. And they concluded that foreign banks especially in developing countries is associated with higher volume of interest margins, returns and profits.

Micco et al. (2004) provide a comprehensive analysis of bank ownership and performance, and conclude that state banks in developing countries tend to have lower profits, higher costs, and larger non-performing loans relative to private banks. Foreign banks on the other hand are more profitable and have lower costs. However, Levy-Yeyati et al. (2007); Farazi et al. (2011) they got conclusion from the poor financial performance of government banks as it may not only reflect lager extensive political interference and operational inefficiencies but also it reflects their development and enhanced mandates. Moreover, in industrial countries, state banks have been able to operate with clearer mandates and sounder governance structures.

Farazi et al. (2011) show that higher government ownership of banks is associated with slower subsequent financial development and GDP growth. Barth et al. (2007) find similar results in a study focused on banking regulation. However, Levy-Yeiati et al. (2007) revisit La Porta et al. (2002) and used extra recent data, better statistical techniques and more controls, and they got an empirical evidence that state banks are associated with lower growth and no strong financial development.

Two recent papers (Korner and Schnabel (2010); Andrianova et al. (2008)) reach similar conclusions. They find a negative relationship between a high fraction of public ownership in the banking system and growth when financial development and the quality of political institutions are low, conditions that tend to prevail in developing countries. However, similar to Levy-Yeyati et al. (2007), they do not find a negative impact of public ownership and growth in developed countries. They stress that the quality of institutions and governance are important in studying the impact of public ownership on growth.

The third group of literature examines the interactions between credit decisions of state banks and the political cycle. Dinc (2005) uses a large sample from cross-country, and he found that during the selected years, the credit decisions in private banks are slow, however the growth in credit in state banks remains constant. Mian and Khwaja (2004) in Pakistan banking sector, the politically-connected firms' borrowing are in high level from state banks with higher default rates. Sapienza (2004) indicated that the Italian state banks charge lower interest rates in the provinces whereas the chairman of the board is stronger. In the same line, Micco et al. (2007) found that state banks are associated with lower performance measured by profitability, and higher costs than commercial banks.

There is group of literature have concluded that concentrated ownership is associated with more active monitoring activities which lead to good corporate governance. The monitoring activities effectively reduces the probability of expropriating of management owners' wealth. In addition, there is a nonlinear relation between insider (Hill and Snell (1988); Weiss and Nikitin (2004); Morck et al. (1988); McConnell and Servaes (1990)) ownership and firm value. They find that the alignment effects of inside ownership dominate the entrenchment effects over low ranges of managerial ownership, but the opposite is true at higher ranges. In contrast, Himmelberg et al. (1999) suggest that managerial ownership and firm performance are determined by a common set of characteristics, and question the causal relationship from ownership to performance.

Similarly, Bhagat et al. (2004) do not find supporting evidence regarding the positive association between ownership concentration and firm performance. Generally, the state banks have an important role in developing countries. Extensive political interference in credit and employment decisions, blurred mandates, poor governance structures, and severe operational deficiencies may eventually outweigh the potential for these banks to address their development mandates and contribute to financial and economic progress.

Pan (2013) used a sample of 74 banks in Europe during the crisis period of (2007-2008) to investigate the association between corporate governance and bank performance. This study concluded that the ownership concentration and independence of board are significantly and negatively associated with bank performance during the financial crisis. The existence of CRO in the board is significantly and positive affect the bank performance during the crisis.

Overall, this paper have empirical evidence that the association between CG and BP is very strong during the financial crisis.

Jiang et al. (2012) concluded that there was no significant difference in performance for banks with or without foreign minority ownership, and there is weak evidence that foreign banks (with majority foreign ownership) are more efficient than domestic banks. Furthermore, the majority state ownership is associated with a rather low efficiency, and SOCBs are the most unprofitable banks. In addition, they noted that banks with a more dispersed ownership structure are more efficient.

3.6.3 Bank size and bank performance

As indicated in chapter three, bank size is the most common variable in corporate governance and risk management literature, and measured as a natural logarithm of total assets. The majority of these studies indicate that bank size has a significant positive association with performance.

Fanta et al. (2013) found that the bank size had a statistical significant positive effect on bank performance measured using ROE, implying that large banks enjoy better profits than smaller banks. This benefit is likely to be due to economies of scale and larger market share possessed by the larger banks; this is consistent with the findings of (Tomar et al. 2012). Similar to the above, Bertay et al. (2013), found the same, that banks with large absolute size tend to be more profitable as indicated by the return on assets.

In contrast with the above conclusions, (Al-Hawary, 2011) used the bank size as a control variable and he found that no statistically significant effect in Tobin's Q (p =0.796) and in addition the calculated value of (t-0.260) was lower than the scheduled t-value.

3.6.4 Financial crisis (before crisis - after crisis) and bank Performance

In order for banks to be better prepared to face the financial crisis, they have to significantly improve the quality and profile of their corporate governance and risk management function (Aebi et al. 2011). Pan (2014) investigates the association between the implication of corporate governance on bank performance before and during the financial crisis in Europe. In addition, this study concluded that the ownership concentration and board independence have negative effects on bank performance during the crisis. Furthermore, the existence of

CRO on the board of director is significantly and positive affect the bank performance during the crisis.

Hoque and Muradoglu (2013) concluded that board size is negatively related to return during the crisis period; however, it is positively related during non-crisis periods. Regarding the gender diversity, it does not add any value to the board. In addition, they concluded that independence is negatively related to the non-crisis period; however, it is not significant during the crisis period.

In the same context, financial expertise of the board is positively related to risk taking and bank performance before the crisis but is negatively related to bank performance during the crisis (Minton, 2010).

3.7 Summary

The current chapter additional to methodology chapter help get a link between the theoretical framework chapter and empirical chapter. Furthermore, the literature review and hypotheses chapter in the current study have been presented. Moreover, the predefined hypotheses will be investigated in chapter five which will aim to answer the research questions in order to achieve the research objectives. As presented in this chapter there are variety in conclusions which means sometimes there is agreement between researchers and sometimes there is disagreement. Furthermore and as mentioned in this chapter there is research gap in the area of combining the three constructs in one thesis, one of the contribution of this study to fill this gap in literature by investigating and analysing the relationship between the above mentioned constructs, and providing new empirical evidence from the GCC region.

Chapter Four: Research Methodology

4.1 Introduction

The methodology in research sphere is as a systematic approach and theoretical analysis of the methods adopted and applied in the thesis. It comprises the theoretical analysis of the methods and principles related to the knowledge. In different words, the methodology is an explanation and justification for the methods used in the research. This chapter introduces the various research philosophies discussed in the different research areas. Further, different types of paradigms and approaches are compared to justify clearly the best methodology for the current study.

In addition, the chapter outlines the design of the current study and highlights the best methods for collecting and analysing data according to the methodology chosen by the current study. Therefore, the main aim of this chapter is to determine the suitable methodology of the current study that will be followed to answer its questions, and achieve the proposed objectives.

The chapter is organized as follows: The chosen methodology is presented in section 4.2. Research design is discussed in section 4.3. Section 4.4 shows the research variables and measurement. Section 4.5 provides this research models.

4.2 The chosen methodology

Choosing a suitable methodology for this study is consistent with research questions and objectives. Based on both of them (questions and objectives), there are important points which assist in selecting the research methodology. These points are as follows;

a) This study is considered as an empirical study, as it is intended to present a good understanding about the importance of having and applying effective and efficient corporate governance and risk management, and test their implications on GCC banking sector performance. At the same time, this study presents a comparison between the results of Islamic banks and conventional banks.

   Therefore, in this research, empirical evidence is used to find answers to the predefined questions and achieve the research objectives.

b) The most suitable philosophy for this research is positivism, as it relies on empirical evidence rather than the opinions of individuals or groups in a society to explain to what extent the applying of good corporate governance and effective risk management may positively affect the banking performance.
c) The appropriate paradigm for this research is quantitative, as it seeks to collect and analyse numerical data to interpret and test the relationship between the dependent variables and the independent variables.
d) Deduction approach is used in this research whereas the research questions are developed based on the theoretical framework, as discussed in the theoretical framework chapter. Then this research develops various hypotheses to investigate the relationship between corporate governance and risk management and bank performance. Finally, it uses the appropriate statistical techniques to test these hypotheses, which leads to either accepting or rejecting this relationship according to the chosen theories.

Determining the suitable philosophy, paradigm and approach will help in determining a suitable plan for this study. The next section discusses in details this research design.

4.3 Research design

Saunders et al. (2007, p.136) state that research design is "the general plan of how you will go about answering your research questions". In addition, Research design is "the science of planning procedures for conducting studies so as to get the most valid findings" (Vogt, 1993 as cited in Collis and Hussey (2003)). Consequently, research design deals with issues such as purpose of the study, research strategy, unit of analysis, population and sample, sources of collecting data, and the time framework over which the research is undertaken. Each issue will be discussed briefly as follows;

4.3.1 The purpose of the research

In general, there are three types of research based on its purpose. First; descriptive research which is designed to obtain data that describes or portrays the characteristics of particular phenomena, topics, events or situations (Hair et al. (2007); Saunders et al. (2007)). Descriptive research relies on depicting the trend of a particular topic, and seeks to count the frequencies of this trend.

Second; exploratory research, which is designed to discover new insights, relationship, ideas and patterns Hair et al. (2007). Exploratory research relies heavily upon qualitative techniques, although it may be used with quantitative techniques (ibid);

Finally, explanatory (causal) research is designed to investigate the relationship between variables related to a particular phenomenon or problem (Saunders et al. 2007). The causality refers to the dependency of one event or variable (the effect or dependent variables) on another event or variable (the cause or independent variables) (Hair et al., 2007).

Based on the predefined research questions and the objectives, the purpose of this research is descriptive (to show the extent of good corporate governance and effective risk management), and explanatory (to test the relationship between the selected variables of corporate governance and risk management, and their effect on bank performance).

4.3.2 The research strategies and data collection

Research strategy is a tool that helps the researcher to investigate the research issue. Furthermore, Research strategy is a plan that help in answering the research questions. The effective strategy should contains; research questions, clear objectives, data collection resources, limitation that may affect the research such as limitation in; time, access, location Saunders (2003).

In this study, the data collection method for this test depends on the secondary data, and is basically a cross-sectional perspective on GCC countries. Originally, 102 banks from the GCC banking sector were selected to be tested, and due to the following, 12 banks have been excluded. Finally, 90 banks were selected to be tested. (See Appendix 4-1: List of Banks)

1. GCC's central banks (6 banks) have been excluded.
2. Due to merging and acquisition in UAE and Bahrain (3banks) have been excluded.
3. Another (3 banks) excluded due to unavailability of required data.

Data related to the selected variables will be examined and analysed to explore the relationship between those variables for the period from 2003 to 2012 (10 years). The sources of this study's data will be primarily the annual approved reports issued by banks of the selected listed GCC banks and published on their web sites under the supervision of GCC

central banks, and secondly "Bank Scope" which is the most comprehensive, global database of banks' financial statements, ratings and intelligence. As per the literature review many literature were relying on the data of bank scope (bankscope.bvdinfo.com). In addition to the above we noted some variation in the results such as; Capital ratio, capital adequacy ratio and loan to deposit ratio which could be justified that there is variation in calculation of the variable based on the different bank magnitudes.

4.4 Research variables and measurement

As per the review of the variables used in previous literature, table 4.1, this section will outline the selected variables of the three constructs; CG, RM and BP, table 4.2, as follows;

4.4.1 Proxy variables for corporate governance

Corporate governance consists of external corporate governance and internal corporate governance that serve the public's interest, employee's interest, and owner's interest. External CG is defined as a mechanism which enforces the government responsibility to control the operations of a bank through prevailing bank regulations. Roles, policies, procedures, and committees that help and assist the board and senior management to control and monitor the overall bank performance represent the internal CG. This study uses a number of variables for corporate governance as follows;

Board of Directors' Size (Bsize); is the total number of directors on the board. This study will examine the association between board size and both of risk management and bank performance. Furthermore, this study will use the board size as a proxy for corporate governance by (Uwuigbe and Fakile (2012); Aebi et al. (2012); Lai and Choi (2014); Durgavanshi, 2014; Hoque and Muradoglu (2013); Fanta et al. (2013); Oluwafemi et al. (2013); Rachdi and Ameur (2011)).

Non-Executive Board Members (Nexc); this variable will be measured by the percentage of the existence of non-executive board members to total number of directors. According to (Pathan, 2009), the non-executive board member only has a business relationship with the bank directorship, i.e. those directors are not an existing or former employee in the bank or its immediate family members, and does not have any significant business ties with the bank. This variable was used as a proxy for corporate governance by (Aebi et al. (2012); Durgavanshi (2014); Hoque and Muradoglu (2013); Pan, 2014; Rachdi and Ameur (2011)).

Gender Diversity (Gender); This is used in this study to check the effect of female members in the board on both risk management and performance, and whether it is beneficial to the business, especially in the culture of the GCC. Gender diversity is a dummy variable that takes the value of one, if one or more from the board members are female, and zero otherwise. Gender diversity was used as a proxy variable by (Berger et al. (2014); Hoque and Muradoglu (2013); Stepanova et al. (2012)).

CEO-Turnover (CEOturn); CEO turnover is a control mechanism in relation to the monitoring task of the board (Laux, 2010). CEO replacement is crucial, as they are often linked to the monitoring task of the board. There is a consensus that the probability of CEO turnover is negatively related to performance (Huson et al. 2001; Hermalin and Weisbach (2001)). In this study, the CEO turnover is a dummy variable that takes the value of one if the CEO was replaced, and zero otherwise. CEO turnover was used as a proxy for corporate governance by (Epure, Lafuente (2015); Huson et al. (2001); Hermalin and Weisbach (2001); Laux, 2010).

Role Duality (Rdual); this expression is used when one person combine two positions of chairman and CEO at the same time. Role duality is a dummy variable whereas (1) means that there is duality between the two roles of (chairman and CEO), and (zero) otherwise. Role duality is used as a proxy variable by (Hoque and Muradoglu (2013); Al-Hawary, 2011; Coleman and Biekpe (2006).

Audit Committee (Audcom); the audit committee is an important tool to enhance and develop the corporate governance, because the audit committee assists the board in the oversight role of monitor and review the effectiveness of the internal control system, corporate governance and risk management. Furthermore the committee coordinate the auditing works; internal and external audit. The general recommendations regarding the number of its members are a minimum of 3 to 6 members (Cadbury Committee 1992, Price Waterhouse 1993, NACD 2000;). The BRC (1999) and national stock exchanges recommended a minimum of three members. Audit committee is a dummy variable that is equal to one if the bank has an audit committee, and zero otherwise. (Durgavanshi, 2014; Fanta et al. (2013) used this variable as a proxy for corporate governance.

Credit and Investment Committee (credinvscom); this committee will be used in this study as a proxy variable for corporate governance to assess its effect on both bank performance and risk management. It is a dummy variable that will take the value of one if the bank has a Credit and Investment committee, and Zero otherwise.

Capital Ratio (Capratio); capital ratio is a financial ratio and calculated by adding the Loan loss provision (LLP) to the Equity and the total will be divided by Total loan. The bank should have a Tier 1 capital ratio around 6% or greater, in this case they should not make any distribution of dividends or any kind of distributions that could affect the capital structure, in this case the bank could be classified as well-capitalized. Firms that are ranked undercapitalized or below are prohibited from paying any dividends or management fees. In addition, they are required to file a capital restoration plan. The CR has been used in many previous literature as a proxy variable of corporate governance by Tandelilin et al. (2007), Kim et al. (2012).

$$CR = \frac{LLP + Equity}{Total\ Loan}$$

Loan to Deposits Ratio (LDR); this ratio represents the portion that depositors are contributing to finance the loans issued by banks to their borrowers as a source of capital. The Small percentage of LDR indicates that the depositors provides a large proportion to support the banks' loans and the bank has no the ability to invest the extra deposits. In addition, if the LDR ratio is too high, it means that banks have no enough liquid assets to meet their expected and unexpected obligation or any fund requirements. LDR was used as a proxy variable of corporate governance by Tandelilin et al. (2007).

$$LDR = \frac{Total\ Loan}{Total\ Deposits}$$

Risk Committee (Riskcom); this is a dummy variable which is equal to one if the bank has a dedicated committee solely charged with monitoring and managing the risk management efforts within the bank, and Zero otherwise. Aebi et al. 2011 used this variable as a proxy for corporate governance.

4.4.2 Proxy variables for risk management

Risk management represents risk-taking behavior of managers. All interested parties are concerned with how banks manage their risk carefully. This study uses some measurements of risk management, which are:

Capital Risk (Caprisk); it is a financial ratio and can be calculated by dividing the total equity capital to total assets. The meaning of capital risk is the risk that investors may face when they be exposed to risk of losing all or part of the total amount invested. Capital Risk is used as a proxy variable for risk management by (Jiang et al. (2012); Tsorhe et al. (2011)).

Credit Risk (credrisk); is inherent in lending, which is the major banking business. The credit risk arises when a borrower defaults on the loan repayment agreement. Banks whose borrowers default on their repayments may face cash flow problems, which directly affect their liquidity. In addition, this negatively affects the profitability and capital through extra specific provisions for bad debts (Bank of Uganda, 2002). In this study, credit risk will be used as proxy variable for risk management and measured by dividing Loan loss provision on Gross loans. This variable is used as a proxy for risk management by (Tsorhe et al. (2011); Rogers, 2008; Jiang et al. (2012)).

Capital Adequacy Ratio (CAR); all banks should maintain a capital adequacy ratio higher than the minimum ratio set by the central bank. Currently, the Basel Committee has proposed a minimum capital adequacy ratio of 8%. CAR is considered a very good banking tool to measure the bank's ability to pay its liabilities, and meet any risks which may be incurred in the future. The reasons behind the minimum level of CAR is that to make sure that banks have enough capital to absorb any amount of losses before the bank become insolvent. Capital adequacy ratios is very important to ensure that there is efficiency and stability in the nation's financial system.

In this study, CAR will be used as proxy variable for risk management, and measured by dividing Capital / Total Risk Weighted Assets. This variable has been used as a proxy for risk management by (Epure and Lafuente (2015); Berger et al. (2014); Aspal and Nazneen (2014)).

Liquidity Risk (Liqrisk); Liquidity is very important tool for banks to meet the expected and unexpected fluctuations in the balance sheet, and to provide the required funds for growth and

investment. Liquidity ratio represents a bank's ability to manage its liquid assets efficiently and effectively, and how banks can invest the extra liquid assets and recognize high returns. (Tsorhe et al. (2011); Cornett et al. (2003); Jiang et al. (2012)) used this variable as a proxy for risk management. In this study, liquidity risk will be used as variable for risk management and will be measured as follows:

1. 1/liquidity ratio.
2. Liquidity ratio = (Liquid Assets / (Total Deposit + Short Term Funding)).

Non-performing loan ratio (NPL); this is a ratio of non-performing loan to total loans. This ratio also represents managerial risk-taking behaviour relative to all firm resources. The High percentage of NPL indicates that banks take more risks in their operations and investments, and can mean larger losses for the bank as it writes off bad loans. A smaller NPL ratio reflect the effectiveness and efficiency of banks in handling their loans additional to the quality of their outstanding loans and the effectiveness of risk management. This variable was used as a proxy for risk management by (Tandelilin et al. (2007); Epure and Lafuente (2015)).

4.4.3 Proxy variable for bank performance

Bank performance represents the objective of shareholder's interest. The board of directors and management work to maximize the benefit of a bank's shareholders. In order to recognize this objective, they have to enhance and develop the bank's performance. Bank performance can be measured as follows:

Return on Equity ROE; this is a net income available to common stockholders divided by common equity (Brigham and Ehrhardt (2005); Peong and D Rasiah (2010)). This variable has been used in many literature by (Uwuigbe and Fakile (2012); Aebi et al. (2012); Farazi et al. (2011); Kim et al. (2010); Christopher and Yung (2009); Tandelilin et al. (2007); Durgavanshi, 2014; Cornett et al. (2003); Fanta et al. (2013); Rogers (2008); Pan, 2014; Rachdi and Ameur (2011)). In this study, ROE will be used as a proxy variable for bank performance and measured as follows:

$$\boldsymbol{ROE} = \frac{Net\ Income}{Common\ Equity}$$

Return on Assets ROA; this is calculated as the bank's net income to its total assets. This variable has been used in many literature by (Emilia et al. (2012) USA; Epure and Lafuente (2015) Costa Rican; Aebi et al. (2012); Farazi et al. (2011) Middle East and North Africa; Christopher and Yung (2009); Cornett et al. (2003); Rogers, 2008 Uganda; Lai and Choi (2014); Fanta et al. (2013); Hoque and Muradoglu (2013); Oluwafemi et al. (2013); Rachdi and Ameur (2011)). In this study, ROA will be used as a proxy variable for bank performance.

Table 4.1 Summary of variables used in previous studies

Constructs	Variables	Measurement	Reference
Corporate Governance	Capital Ratio (CR):	$CR = \frac{LLP+Equity}{Total\ Loan}$	• Tandelilin et al. (2007). • Kim et al. (2012), Malaysia.
	Cash Claim on Central Bank (CCC):	$CCC = \frac{Central\ Bank\ Account}{Total\ Deposits}$	Tandelilin et al. (2007).
	Secondary Reserve Ratio (SRR):	$SRR = \frac{Marketable\ Secutities}{Total\ Deposits}$	Tandelilin et al. (2007).
	Loan to deposits ratio (LDR):	$LDR = \frac{Total\ Loan}{Total\ Deposits}$	Tandelilin et al. (2007).
	Loan Loss Provisioning (LLP):	$LLP = \frac{Allowance\ For\ Losses}{Total\ Loan}$	• Tandelilin et al. (2007). • Fanta et al. (2013).
	Fixed Assets and Inventories to Capital (FAI):	$FAI = \frac{Fixed\ Asset\ and\ Inventory}{Capital}$	Tandelilin et al. (2007).
	Real estate loans to total assets *(LOANTA)*,	*LOANTA,* is real estate loans to total assets,	Emilia et al. (2012).

	Real estate loan losses to total assets *(LOSSTA)*	*LOSSTA,* is real estate loan losses to total assets,	Emilia et al. (2012), USA.
	Real estate loan losses to real estate loans *(LOSSLN)*	*LOSSLN,* is real estate loan losses to real estate loans.	Emilia et al. (2012).
	Board size (BOS)	Number of members of the board	• Uwuigbe and Fakile (2012). • Aebi et al. (2012). • Lai and Choi (2014). • Durgavanshi (2014). • Hoque and Muradoglu (2013) • Fanta et al. (2013). • Oluwafemi et al. (2013). • Rachdi and Ameur (2011)
	CEO Turnover	CEO turnover is captured by a dummy variable that takes the value of one if the top executive manager was replaced, and zero otherwise. In addition, two dummy variables take the value of one if the successor is from inside or outside the bank, and zero otherwise.	• Epure and Lafuente (2015). • Huson et al. (2001), Hermalin and Weisbach (2001).

	FAI = Fixed asset and inventory / Capital.	FAI = Fixed asset and inventory / Capital.	Kim et al. (2012), Malaysia.
	Ownership structure (OWN)	OWNF = Ownership structure for foreign-owned banks. OWNG = Ownership structure for private domestically owned banks.	• Kim et al. (2012). • Faraziet al. (2011). • Al-Hawary, 2011. • Pan, 2014.
	The CRO is a member of the executive board (*CRO in executive board*)	CRO is a member of the executive board (CRO in executive board). If the CRO is a member of the executive board, his influence and power are expected to be larger as compared to a CRO situated on the third management level.	Aebi et al. (2012).
	The bank has a (*Risk committee*)	Risk committee is a dummy variable, which is equal to one if the bank has a dedicated committee solely charged with monitoring and managing the risk management efforts within the bank (Risk committee). Banks, for which the variable Risk committee has a value of zero, have either no committee in charge of risk management at all or the audit committee assumes responsibility.	Aebi et al. (2012).

	Role Duality	1 if the chairman plays the role of CEO at the same time, 0 otherwise	• Hoque and Muradoglu (2013). • Al-Hawary, 2011. • Coleman and Biekpe (2006).
	Board independence as measured by the percentage of independent outside directors	Board independence, as measured by the percentage of independent outside directors on the board of directors (Board independence). The independent directors are defined as directors without any relation with the company except for their board seat.	• Aebi et al. 2011. • Durgavanshi, 2014. • Hoque and Muradoglu (2013). • Pan, 2014. • Rachdi and Ameur (2011)
	Percentage of directors with experience (present or past)	Percentage of directors with experience (present or past) as an executive officer in a bank or insurance company (% directors w. finance background).	Aebi et al. 2011.
	The frequencies of board of directors meetings (*BM*)	Number of board of directors meetings	Lai and Choi (2014)
	Capital: Capital adequacy ratio (*CAR*).	CAR measured as follow = Capital / Total Risk Weighted Assets.	• Lai and Choi (2014). • Kim et al. (2012), Malaysia. • Fanta et al. (2013)
	Audit committee	1 if there is audit committee, 0 otherwise	• Durgavanshi, 2014. • Fanta et al. (2013)
	Gender diversity	1 if there a is female member in the board of director, 0 otherwise	• Berger et al. (2014) • Hoque and Muradoglu (2013). • Stepanova, et al. (2012).

Risk Management	Capital Adequacy Ratio (CAR)	CAR measured as follows = Capital / Total Risk Weighted Assets.	• Epure and Lafuente (2015). • Berger et al. (2014). • Aspal and Nazneen (2014)
	Value at Risk (VAR)	Value at risk (VAR) is a ratio of value at risk of individual bank to mean cross section value at risk of banks (based on all samples). It is represented by 5% quarterly profit and loss measure. The VAR used in the models is: VAR = (VARabs for individual bank ÷ Mean Cross Section VAR based on all samples).	Tandelilin et al. (2007).
	Non- performing Loan Ratio (NPL)	This ratio also represents managerial risk-taking behavior relative to all organization resources. Higher NPL indicates that banks take more risk in their operations and investment. This behavior tends to expropriate the public interest. In order to protect the public interest and to maintain the stability of banking systems, Central Bank determines that banks should maintain their NPL less than 5%. Hence, this ratio is also a relevant proxy for both risk management and external good corporate governance.	• Tandelilin et al. (2007). • Epure, Lafuente, (2015).
	Business Risk (BR)	**Business risk (BR)** can be represented by standard deviation of return on assets using nine overlapping periods on quarterly basis.	• Tandelilin et al. (2007). • Cebenoyan and Strahan (2004)

	Capital Risk	**Capital Risk** is defined as the ratio of equity capital to total assets.	Tsorhe1 et al. (2011).
	Credit Risk	**Credit Risk** is defined as the ratio of loan loss provision to total loans.	Tsorhe1 et al. (2011), Rogers, 2008, Jiang et al. (2012).
	Liquidity Risk	**Liquidity Risk**, is defined as the ratio of liquid funds.	• Tsorhe1 et al. (2011). • Cornett et al. (2003). • Jiang et al. (2012).
Bank Performance	Return on assets ROA	**ROA**, is calculated as the bank's net income to its total assets.	• Emilia et al. 2012, USA, • Epure and Lafuente, (2015) • Aebi et al. (2012), • Farazi et al. (2011), Middle East and North Africa. • Christopher and Yung (2009). • Cornett et al. (2003). • Rogers (2008), Uganda. • Lai and Choi (2014) • Fanta et al. (2013). • Hoque and Muradoglu (2013). • Oluwafemi et al. (2013). • Rachdi and Ameur (2011)
	Return on equity ROE	**ROE**, is calculated as the bank's net income to equity.	• Uwuigbe and Fakile (2012). • Aebi et al. (2012). • Farazi et al. (2011). • Kim et al. (2010).

			• Christopher, Mo Fung Yung (2009). • Tandelilin et al. (2007). • Durgavanshi (2014). • Cornett et al. (2003). • Fanta et al. (2013) • Rogers, 2008, Uganda. • Pan, 2014. • Rachdi and Ameur (2011)
	The net interest margin (NIM)	**NIM**, is the difference between interest income and interest expense relative to total assets.	• Epure and Lafuente (2015). • Farazi et al. (2011), Middle East and North Africa.
	Ratios of total Overhead Costs to Assets	Total Overhead Costs to Assets	Farazi et al. (2011), Middle East and North Africa.
	Personnel Costs to Assets	= Personnel Costs / Total Assets	Farazi et al. (2011), Middle East and North Africa.
	Market-to-Book Ratio	**Market-to-Book ratio**, equals the current share price divided by the book value per share.	Christopher and Yung (2009).
	Risk-adjusted return on capital (RAROC)	**RAROC** = financial net income – loan impairment allowances / (CAR * total capital).	Christopher and Yung (2009).
	Efficiency of interest management	**The efficiency ratio for interest management, is** equal net interest income divided by total assets.	Christopher and Yung (2009).
	Efficiency of non-interest management	**Efficiency of non-interest management**, mainly includes fees from service charges. Others include commission income, net trading income, net gain /loss on financial investment, net gain/loss on investment	Christopher and Yung (2009).

		on securities, net insurance premium income, other operating income, and net insurance benefits and claims.	
	Cost efficiency ratio	The formula for calculating the cost efficiency ratio is non-interest incomes divided by non-interest expenses.	Christopher, Mo Fung Yung, (2009).
	Capital Adequacy Ratio	Capital adequacy is measured by CK/RWAs ratio (Core Capital / Risk Weighted Assets).	• Rogers (2008) Uganda. • Cornett et al. (2003).
	Asset Quality	Asset Quality, is measured by NPA/ Total advances and Specific Provisions.	• Rogers (2008), Uganda. • Cornett et al. 2003.
	Liquidity	Liquidity is measured using Liquidity Assets divided by Total Deposits & Total Advances divided by Total Deposits.	• Rogers (2008), Uganda. • Aspal and Nazneen, (2014).
	Net Profit Margin (NPM)	Net Profit Margin (NPM): $NPM = \frac{Net\ Income}{Operating\ Income}$	Tandelilin et al. (2007).
	Operating Efficiency Indicators	Operating Efficiency Indicators. • Noninterest exp. to noninterest rev, Operating expenses as a percent of operating revenue. • Noninterest exp. to net operating income, Operating expenses as a percentage of net interest income plus noninterest revenue. • Noninterest exp. to total assets, Operating expenses as a percentage of book value of total assets.	Cornett et al. (2003).

		• Interest and fees on loans to loans, Interest and fee income on loans as a percentage of total loans and leases. • Personnel exp. to total assets, Personnel expenses as a percentage of book value of total assets. • Fixed assets to total assets, fixed assets as a percent of book value of total assets.	
	Growth Indicator	Growth indicators • Asset growth rate, Change in book value of total assets as a percentage of book value of total assets in the previous year. • Deposit growth rate, Change in core deposits as a percentage of core deposits in the previous year.	Cornett et al. (2003).
	Loans: Advances to Assets Ratio.	= Advances / total assets	Aspal and Nazneen (2014).
	Asset Quality: Net Non-performing Assets to Net Advances Ratio.	= Net Non-performing Assets / Net Advances.	Aspal and Nazneen (2014).
	Management Efficiency: Expenditure to Income Ratio.	= Expenditure / Income Ratio.	Aspal and Nazneen, (2014).
	OSS: (Operational self-sufficiency.	Operating revenue / (Financial Expense + Loan loss provision + operating expense)	Durgavanshi, 2014.
Control variable	Bank Size	Measured by the log of total assets	• Oluwafemi et al. (2013). • Berger et al. (2014). • Al-Hawary, 2011.

			• Rachdi and Ameur (2011). • Fanta et al. (2013)

Table 4.2 Summary of variables used in this study

Construct	Title	Notation	Measurement	Source
Control variable	Bank Type	**Btype**	Islamic (1) - Non Islamic (0)	Bank Scope
Control variable	Financial Crisis	**Fincris**	Before FC 2008 (1) - After FC (0)	Dummy
Control variable	Government Ownership	**Govown**	Government Ownership > 50% (1) - Government ownership < 50% (0)	Bank Scope
Control variable	Bank Size	**Banksize**	LN (Total assets)	Bank Scope
Corporate Governance	Board Size	**Bsize**	Number of Board Members	Annual Bank Reports
Corporate Governance	Non-Executive Board Members %	**Nexc**	Percentage of Non-executive board members to total # of board members	Annual Bank Reports
Corporate Governance	Gender diversity	**Gender**	There is a female member (1) - No Female (0)	Annual Bank Reports
Corporate Governance	CEO Turnover	**CEOturn**	CEO Replacement during the year (1) - No Replacement during the year (0)	Annual Bank Reports
Corporate Governance	Role Duality	**Rdual**	Chairman is the CEO (1) - Chairman is not the CEO (0)	Annual Bank Reports
Corporate Governance	Audit Committee	**Audcom**	There is an Audit Committee (1) - No Audit Committee (0)	Annual Bank Reports
Corporate Governance	Credit and Investment Committee	**Credinvscom**	There is a Credit and Investment Committee (1) - No (0)	Annual Bank Reports
Corporate Governance	Capital Ratio	**Capratio**	$CR = \frac{LLP+Equity}{Total\ Loan}$	Bank Scope
Corporate Governance	Loan to Deposits Ratio	**LDR**	$LDR = \frac{Total\ Loan}{Total\ Deposits}$	Bank Scope
Corporate Governance	Risk Committee	**Riskcom**	There is a Risk Committee (1) - No Risk Committee (0)	Annual Bank Reports

Risk Management	Non- performing Loan Ratio (NPL)	**NPL**	Nonperforming loans (+90 Days past due) to total loans	Bank Scope
Risk Management	Capital Risk	**Caprisk**	Is defined as the ratio of equity capital to total assets.	Bank Scope
Risk Management	Credit Risk	**Credrisk**	Loan loss provision / Gross loans.	Bank Scope
Risk Management	Capital Adequacy Ratio	**CAR**	Is measured by dividing Capital / Total Weighted Risks.	Bank Scope
Risk Management	Liquidity Risk	**Liqrisk**	Liquidity Risk (RM) = 1/liquidity ratio. liquidity ratio = (Liquid Assets / (Total Deposit + Short Term Funding))	Bank Scope
Bank Performance	Return On Equity	**ROE**	Calculated as the bank's net income to equity.	Bank Scope
Bank Performance	Return On Asset	**ROA**	calculated as the bank's net income to its total assets	Bank Scope

4.5 Regression models

Multiple Regression Model: the multiple linear regression model can be represented, in its general form, as follows:

$$Y_i = \beta_o + \beta_1 f_1(X_{i1}) + \beta_2 f_2(X_{i2}) + \ldots\ldots + \beta_k f_k(X_{ik}) + \varepsilon$$

where:

Y : dependent variable

$X_1, \ldots\ldots\ldots, X_k$: independent (explanatory) variables

$\beta_o, \ldots\ldots\ldots, \beta_k$: regression model coefficients (parameters).

$f_1, \ldots\ldots\ldots, f_k$: functions (transformations) of independent variables, such that the relationship between Y and each $f(X)$ is assumed to be linear.

ε : random error

The dependent variable for the first three models is the bank performance and for the fourth model is risk management. The independent variables contain continuous variables and dummy variables that contain proxies of five groups. The first is corporate governance characteristics (board characteristics), board leadership, and board composition. The second group is top management turnover. The third group is the existence of main committees. The fourth group is the financial variables related to corporate governance. The fifth group is the control variables: ownership structure, bank size, bank type, and financial crisis.

Four regression models have been developed in this study to examine the association between the three constructs; corporate governance, risk management and bank performance as follows. Furthermore, four models will be run for the cumulative data of the GCC banking sector, which include the data of Islamic and Conventional banks. In addition, the four models will be run separately; one time for Islamic data, and another time for conventional data, to make a comparison between the results.

Model (1) association between corporate governance and bank performance:

BP = β0 + β1Bsize + β2Nexc + β3Gender + β4CEOturn + β5Rdual + β6Audcom + β7credinvscom + β8Capratio + β9LDR+ β10Riskcom + β11Btype + β12Fincris + β13Govown + β14Banksize + ε

This study follow the recent direction in literature of assessing the relationship between corporate governance and bank performance. In addition, the independent variables examined in the current study can be classified into five groups. The first is corporate governance characteristics (board characteristics): board leadership (role duality); Board composition (non-executive directors and gender diversity); and board size. The second group is top management turnover; (CEO-Turnover). The third group is the existence of main committees such as; (audit committee, risk committee, and credit & investment committee). The fourth group is the financial variables related to corporate governance (capital ratio and loan to deposits ratio). The fifth group is the control variables, such as: ownership structure; (government ownership), firm size (bank size), bank type (Islamic and conventional), financial crisis (before and after crisis). A summary of the variables used in this study is presented in the previous section to show the definition and measurement of the abovementioned dependent and independent variables examined in the current study.

Model (2); Test the association between risk management and performance:

BP = β0 + β1NPL + β2Caprisk + β3credrisk + β4CAR+ β1Liqrisk + β11Btype + β12Fincris + β13Govown + β14Banksize + ε

Model two of this study assess the relationship between risk management and bank performance. In addition, the independent variables examined in the current study can be classified into two groups. The risk management group consists of these variables (non-performing loans - capital risk – credit risk – capital adequacy ratio – liquidity risk). The second group is the control variables, such as: ownership structure; (government ownership), firm size (bank size), bank type (Islamic and conventional), financial crisis (before and after crisis).

Model (3); Measure the relationship between corporate governance, risk management and bank performance:

BP = β0 + β1Bsize + β2Nexc + β3Gender + β4CEOturn + β5Rdual + β6Audcom + β7Credinvscom + β8Capratio + β9LDR + β10Riskcom + β11NPL + β12Caprisk + β13credrisk + β14CAR+ β15Liqrisk + β161Btype + β17Fincris + β18Govown + β19Banksize + ε

Model three of this study assess the implications of both corporate governance and risk management on bank performance. In addition, the independent variables examined in the current study can be classified into six groups. The first is corporate governance characteristics (board characteristics): board leadership (role duality); Board composition (non-executive directors and gender diversity); and board size. The second group is top management turnover; (CEO-Turnover). The third group is the existence of main committees such as; (audit committee, risk committee, and credit & investment committee). The fourth group includes the financial variables related to corporate governance (capital ratio and loan to deposits ratio). The fifth group comprises the risk management group that consists of (non-performing loans - capital risk – credit risk – capital adequacy ratio – liquidity risk). The sixth group is the control variables such as: ownership structure; (government ownership), firm size (bank size), bank type (Islamic and conventional), financial crisis (before and after crisis).

Model (4) Test the association between corporate governance and risk management:

RM = β0 + β1Bsize + β2Nexc + β3Gender + β4CEOturn + β5Rdual + β6Audcom + β7Credinvscom + β8Capratio + β9LDR + β10Riskcom + β111Btype + β12Fincris + β13Govown + β14Banksize + ε

Model four of this study assess the effect of corporate governance on risk management. In addition, the independent variables examined in the current study can be classified into five groups. The first is corporate governance characteristics (board characteristics): board leadership (role duality); Board composition (non-executive directors and gender diversity); and board size. The second group is top management turnover; (CEO-Turnover). The third group is the existence of main committees such as; (audit committee, risk committee, and credit & investment committee). The fourth group is the financial variables related to corporate governance, which are (capital ratio and loan to deposits ratio). The fifth group is the control variables, such as: ownership structure; (government ownership), firm size (bank size), bank type (Islamic and conventional), financial crisis (before and after crisis).

4.6 Statistical analysis and tests

This section will show the statistical techniques that will be used in this study in order to execute the empirical works of this thesis. To investigate the association between corporate governance, risk management and bank performance in the GCC banking sector, Analysis of Variance (ANOVA), Pearson and T-test as parametric tests will be employed. ANOVA test is an analysis tool that splits the aggregate variability found inside a data set into two parts; 1) systematic factors and 2) random factors. Moreover, non-parametric tests, such as Mann Whitney, will be employed. As per the literature review, the Mann Whitney heavily used in CG and RM literature.

Regarding the relationship between the three constructs, it can be observed that regression analysis is the dominant statistical technique in the previous literature. However, there are two types of tests, parametric and non-parametric. The parametric techniques are based on some assumptions that must be satisfied. On the other hand, non-parametric techniques are considered to be distribution free tests, so there is no need to justify these assumptions. It is commonly agreed that parametric tests are more powerful than non-parametric tests when the assumptions of parametric tests in terms of data are met (Siegel and Castellan (1988) as cited in Cooke (1998); Field (2000)).

Multicollinearity implies that there is a linear relationship between two or more explanatory variables. In such a relationship between the predictors, OLS estimators may be biased, and if this linear relationship among the predictors is perfect, the estimates for a regression model cannot be uniquely computed. To check for multicollinearity, the current study will apply the common ways which include correlation coefficients; parametric (Pearson) and non-parametric (Spearman); and variance inflation factors (VIF) in addition to tolerance values.

To test the hypothesis of the current study, both bivariate and multivariate analysis will be used.

Bivariate analysis; By calculating Pearson and Spearman correlation coefficients for continuous independent variables, and using T-test and Mann Whitney test for categorical independent variables.

Multivariate analysis; OLS with transformation as a statistical technique will be applied to analyse the relationship between the three constructs.

Summary of the techniques developed in this study will be as follow:

Descriptive statistic	ANOVA
T-test	Multicollinearity test
Mann Whitney test	OLS Regression
Pearson analysis	Spearman analysis

4.7 Multivariate analysis

Multivariate analysis is an expression used to describe analysis of data that are multivariate. Multivariate data consist of observations on several variables for a number of individuals or objects studied. Among the multivariate analyses is regression analysis, which is considered one of the most heavily used techniques in the CG and RM literature. The regression analysis is used in literature whereas there are one or more dependent variable/s that is could be a result of one or more independent variables; any changes in the independents variables can explain the changes in dependents variables.

The relationship between dependents and independents may be linear or non-linear. The multiple regression is used when the relationship is between one dependent variable and two or more independent variables.

As indicated before, the current study examines the relationship between bank performance and risk management as dependent variables, and a number of corporate governance and control variables; role duality, non-executive directors, gender diversity, board size, CEO-Turnover, audit committee, risk committee, and credit & investment committee, capital ratio and loan to deposits ratio, government ownership, bank size, bank type, and financial crisis.

Therefore, the multiple regression analysis is to be relevant to the current study. The Ordinary Least Squares (OLS) regression is considered to be the best and very useful technique when there are continuous and dummy variables in the model (Hutcheson and Sofroniou 1999). The following sections present the multiple regression model suggested in the current study, followed by the regression diagnostics that represent the first step to choose the relevant statistical method by which to analyse the collected data in the current study.

4.7.1 OLS regression analysis (*OLS with Transformed data and normal scores)*

The majority of previous literature that are related to corporate governance and risk management have employed several forms of transformation to overcome the problems of non-satisfaction with the linear regression assumptions.

The matter of transformation in corporate governance studies was examined by Cooke (1998), who undertook a review using rank regression, and suggests replacing the data with their normal scores. Under rank regression, the observations are transformed based on its ranking from the smallest to the largest (Conover and Iman 1981). Rank transformation is relatively insensitive to outliers and is considered to be distributed free, and for this reason ranks can be used to develop tests of heteroscedasticity and serial correlation (Cheng et al. (1992); Cooke, 1998). However, rank transformation suffers from some weaknesses. Under such type of transformation that is distribution free, caution must be taken in testing for and interpreting the significance of F and t-test. In addition, the error structure cannot be normal, and the mapping of individual observations to ranks is a somewhat arbitrary transformation (Cooke, 1998).

(Cooke, 1998) proposes using normal scores instead of ranks as an extension of rank method. Normal scores are based on the Van Der Waerden approach; transforming actual observations to the normal distribution by dividing the distribution into the number of observations plus one region, on the basis that each region has equal probability. Moreover, the regression coefficients derived using normal scores are meaningful. In addition, it offers a means whereby a non-normal dependent variable may be transformed into a normal one; a further advantage over ranks. In addition, Cooke indicates that the main advantage of replacing the ranks by normal scores is that the resulting tests would have exact statistical properties because of the following; significance levels can be determined, the F and t-tests are meaningful, and the power of the F and t-tests may be used.

Based on the above-mentioned discussion, the transformation has been employed in this study to deal with the problem of assumptions' violation. Several regression models were run based on different transformations. Variables that seemed to have a nonlinear relation with the dependent variable have been transformed, and to deal with the heteroscedasticity, the

dependent variable which is not normally distributed has been transformed. Then it is recommended to transform the dependent and independent variables to their normal scores, and not only the dependent one, to keep the relationship between the dependent variable and all independent variables (Cooke 1998). Examples for transformation is the bank size, which is represented by the Log. Of total assets. In the following sections, the OLS results will be presented for the four models.

The R-squared (R2) is a statistical measure of how close the data are to the fitted regression line. The R-squared is the percentage of the response variable variation that is explained by a linear model. In addition it is known as the coefficient of determination for the multiple regression. As per practice, the low R-square are not always bad and the high R-square are not always good.

4.7.2 Regression diagnostic

In general, there are several methods to estimate regression coefficients (parameters). The linear regression is usually used; OLS method. For the justification of using OLS, there are four principal assumptions.

1. Linearity: The relationship between the dependent variable and each independent variable should be linear.
2. Independence and normality of Error: The error terms **(εi)** are independent (successive residuals are not correlated, no serial correlation) and identically distributed, and follow the normal distribution with constant mean zero and constant variance σ^2.
3. Homoscedasticity: the variance of the error terms is constant for each observation (set of *Xi* values).
4. There is no linear relationship between two or more independent variables (no multicollinearity).

4.8 Summary

This chapter aims to determine the best methodology to be followed in this study in order to test the hypothesis and answer the main research questions. The current study aims to explore the relationship between corporate governance and risk management and bank performance. The positivism philosophy is represented as most suitable to fulfil this goal, because it

depends on empirical evidence rather than individuals' opinions. Furthermore, this study relies on the quantitative paradigm that is relied on in collecting and analysing numerical data that enables the researcher to examine the relationship between variables empirically. Both positivism and quantitative methods are employed within the deduction approach, that depends on the proposed theoretical framework and the hypotheses derived to explain the expected association. This study depends mainly on the secondary data method to collect the data. The sources of the data in this study will bank's annual reports and the "bankscope". In addition, four hypotheses and the relevant variables of the three constructs have been adopted in order to test those hypotheses. Data in this study will be analysed using Stata software. Chapter five will discuss the results of this study.

Chapter five: Statistical Results and Discussion

5.1 Introduction

The research questions of the current study have been presented in chapter one. The current chapter aims to answer the research questions related to the relationship between the three constructs (Corporate Governance, Risk Management, and Bank Performance). Furthermore, it tests the research hypotheses related to selected variables in chapter three. The chapter begins with descriptive statistics in section 5.2. Section 5.3 presents the bivariate analysis, while section 5.4 presents the multivariate analysis. The regression analyses are presented in section 5.5. Section 5.6 presents discussion of the statistical results. The chapter will end with the conclusion in section 5.7.

5.2 Descriptive statistics

Table 5-1: Panel A shows the descriptive statistics for both independent and dependent variables in the current study. In general and as mentioned in the table, the data are not normally distributed because the skewness for a normal distribution is zero. Negative values indicate that the data are skewed to the left side and positives indicate that the data are skewed right side. Furthermore, Kurtosis is a measure of whether the data are heavy-tailed or light-tailed relative to the normal distribution. The data with high kurtosis tend to have heavy tails, and data with low kurtosis tend to have light tails. As mentioned in table 5-1, the kurtosis of credit risk is 182 which means that the credit risk tends to have heavy tails.

The mean of board size is about 9 members, with a minimum of 3 members and a maximum of 15 members. In addition, it is notable that the mean of the proportion of non-executive members is about 91%, it ranges from (25%) to (100%); the high percentage of the mean may reflect that most of the boards in GCC region are consist of non-executive directors which comes in line with the common practice of forming boards. Capital ratio mean is around 29%, and the range between minimum and maximum is (0.7%) and (225%) respectively. Loan to deposits ratio mean is around 111%, and the range between minimum and maximum is (1%) and (982%), the high percentage of the mean means that very high percentage of the GCC Loans are financed from the deposits. Non-performing loan ratio mean is around 8%, with minimum (0%) and maximum (90%). A smaller NPL ratio reflects the capability of GCC banks in managing and mitigating the risk (losses of non-performing loans). Capital risk mean

is around 27%, with minimum (1%) and maximum (99%). Credit risk mean is around 1%, with minimum around (-57%) and maximum (29%). The mean capital adequacy ratio is about (27%), with minimum (0.05%) and maximum (226%). Liquidity Risk mean is around (6%), with minimum around (0%) and maximum (436%).

Table 5-1: Descriptive Statistic (N=900)

0 means (0%), 1 means (100%)

Panel A:Continuous independent variables	N	Mean	Min	Max	Std. Deviation	Skewness	Kurtosis
CG							
Board Size	900	8.693	3	15	1.956	-0.177	0.359
Non-Executive Board Member	900	0.913	0.250	1	0.122	-2.890	11.457
Capital Ratio	900	0.290	0.007	2.258	0.247	3.389	15.250
Loan to Deposits Ratio	900	1.114	0.012	9.825	0.914	5.716	38.232
RM							
Non-performing Loan Ratio	900	0.082	0.000	0.900	0.134	3.706	16.459
Capital Risk	900	0.271	0.000	0.998	0.245	1.876	2.419
Credit Risk	900	0.010	-0.566	0.288	0.029	-6.428	182.383
CAR	900	0.271	0.000	2.262	0.216	3.667	21.423
Liquidity Risk	900	0.063	0.000	4.367	0.194	15.615	30.472
BP							
ROA	900	0.018	-0.555	0.531	0.058	-1.723	30.837
ROE	900	0.100	-1.360	0.699	0.163	-3.238	23.319
CV							
Bank Size	900	8.425	2.493	12.813	2.312	-0.186	-0.845

Panel B Dummy variables		**N**	**%**
CG			
Gender Diversity			
Female	1	93	10
No Female	0	807	90
CEO-Turnover			

Replaced	1	74	8
Not replaced	0	826	92
Role Duality			
Yes	1	35	4
No	0	865	96
Audit Committee			
Yes	1	747	83
No	0	153	17
Credit and Investment Committee			
Yes	1	539	60
No	0	361	40
Risk Committee (CG)			
Yes	1	678	75
No	0	222	25
CV			
Bank Type			
Islamic	1	300	33.33
Conventional	0	600	66.66
Financial Crisis			
Before	1	450	50
After	0	450	50
Organization Structure			
Government	1	160	18
Non-Government	0	740	82

The mean ROA is about (2%), with minimum (-56%) and maximum (53%). ROE mean is around 10%, with minimum (-136%) and maximum (70%). The bank size ranges widely from 2.493 to 12.813, with the mean of 8.425.

Table 5-1: Panel B summarizes the descriptive statistics of this study's dummy variables. It can be observed that the female participation in the board of directors in this study sample is 10%, which is considered minor participation, but it actually reflects the culture of the GCC countries, whereas they still prefer to nominate the male gender in the top management positions and boards. The CEO-turnover is around 8 %, which reflects the stability of the GCC banking sector during the test period. Role duality is 4%; this minor percentage reflects the common separation concept in the GCC banking sector between the chairman and the CEO positions. Regarding the existence of different committees belonging to the board, it can be observed that there is a high degree of awareness and understanding of the importance of these committees in handling and controlling the bank risks overall, and taking relevant decisions relating to credit and investment. This conclusion has been built based on the high percentage of their existence, that is (audit committee 83%, credit and investment committee 60%, risk committee 75%).

5.3 Bivariate analysis

This section examines the association between the dependent variables and each of the independent variables that will be used in this study to test the hypothesis. As indicated before, Pearson correlation as a parametric test (table 5-2/1), Spearman correlation as a non-parametric test (table 5-2/2), and both of them have been used in the current study. For dummy variables, T-test and Mann Whitney test will be used (tables 5-3 and 5-4).

5.3.1 Pearson correlation

In relation to the association between corporate governance variables and bank performance represented by ROE and ROA, table 5-2/1 show that the association of both non-executive directors and capital ratio with ROE are significant at (5% and 1% significance levels respectively) and the correlation levels are (8.4% and 10%) which considered not strong, and both of them are significant with ROA at 1% significance level and the correlation are (10.6% and 14.1%) which also not strong. Regarding the board size and loan to deposit ratio, they are not significantly associated with ROE and ROA and the correlation is weak. In reference to

the control variables, the bank size is significantly associated with ROE and ROA at 1% and 10% significance levels respectively, while the correlation was 28% with ROE and very weak with ROA.

Regarding the association between risk management variables and bank performance represented by ROE and ROA, it was noted that there are four variables found to be significantly associated with ROE at 1% significance level, and those variables are; non-performing loan, capital risk (CapRisk), credit risk (Credrisk), capital adequacy ratio, the correlation of those variables with ROE are (19.6%, 20.5%, 14.4% and 9.2%). The liquidity risk was found to be insignificantly associated with ROE and the correlation is very weak. For the association with ROA, it was found that the NPL, capital risk, and liquidity risk are not significantly associated with ROA and the correlation is very weak. However, the credit risk and CAR are significantly associated with ROA, at 1% significance level, and the correlation levels are (8.8% and 14.3% respectively).

Furthermore, the association between corporate governance variables and risk management, represented by NPL was found as follows; two variables are significantly associated at 1% significance level, which are board size and capital ratio and their correlation are (11.6% and 11.5). LDR was observed to be significant at 5%, and the correlation was 7.2% with a negative effect on NPL. In addition, the percentage of non-executive directors was found to be insignificant with NPL and the correlation is weak. As a control variable, the bank size was noticed to be negative and significantly associated with NPL at 1% significance levels and the correlation is 30.9%; this result is an important indicator that the larger bank size is associated with lower level of NPL and vice versa.

Table 5-2/1: Pearson correlation matrix

	BankSize	Boardsize	Nexc	CapRatio	LDR	NPL	CapRisk	Credrisk	CAR	liqrisk	ROE	ROA
BankSize	1											
Boardsize	0.240***	1										
Nexc	-0.002	0.100***	1									
CapRatio	-0.465***	-0.151***	0.041	1								
LDR	-0.207***	-0.153***	0.140***	0.122***	1							
NPL	-0.309***	-0.116***	0.004	0.115***	-0.072**	1						
CapRisk	-0.611***	-0.165***	-0.003	0.771***	0.099***	0.152***	1					
Credrisk	-0.015	0.053	0.072**	-0.001	0.056*	0.057*	-0.014	1				
CAR	-0.498***	-0.132***	0.009	0.881***	0.136***	0.047	0.709***	-0.052	1			
Liqrisk	-0.087***	-0.013	0.047	0.079*	0.073**	0.021	0.011	-0.017	0.095***	1		

ROE	**0.280*** **	**0.031**	**-0.084** **	**-0.100*** **	**0.010**	**-0.196*** **	**-0.205*** **	**-0.144*** **	**-0.092*** **	**0.022**	**1**	
ROA	**0.057***	**-0.014**	**-0.106*** **	**0.141*** **	**0.036**	**-0.019**	**0.029**	**-0.088*** **	**0.143*** **	**.034**	**--**	**1**

*** Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.10 level (2-tailed).
** Correlation is significant at the 0.05 level (2-tailed).

5.3.2 Spearman correlation

Regarding the association between corporate governance variables and bank performance represented by ROE and ROA, table 5-2/2 shows that both of non-executive directors and capital ratio are significantly associated with ROE and ROA at 1% significance levels and their correlation in the range between (15.4% and 29.3%). Furthermore, the LDR is significantly associated with ROE at 1% and insignificant with ROA and their correlation was (32.9% and 5% respectively). In addition to the above, the board size is positively and significantly associated with ROE at 5% significance level and insignificant with ROA, and the correlation level was (17.9% and 24.4% respectively), this result suggest that the large board size the large percentage of ROE. In consistence with Pearson, the correlation coefficient between bank size and ROE and ROA is positive and significantly associated (at 1% and 10% significance levels respectively), and the correlation was higher that Pearson whereas it is (37.2% and 35.9% respectively) this suggest that the larger bank size the better bank performance.

In agreement with the results of Pearson correlation, the association between risk management's variables; NPL, capital risk, credit risk, CAR were found significantly associated with ROE and ROA at 1% significance levels, and their correlation with ROE was (29.5%, 38.5%, 37.7% and 29.8% respectively) while their correlation with ROA was (19.2%, 34.9%, 32.9% and 11.6% respectively). The liquidity risk was found insignificantly associated with ROE and significantly associated with ROA at 10% significance level, and the correlation of both of them are very weak.

In addition, the association between corporate governance variables and risk management represented by non-performing loan NPL was found as follow; NPL is significantly associated with capital ratio, board size, and non-executive directors (at 1% , 5%, 10% significance level respectively) with weak correlation. Loan to deposit ratio LDR was observed to be insignificant with NPL and the correlation is weak. Regarding the association

between bank size and NPL, it was noticed to be negative and significantly associated with NPL at 1% significance levels and its correlation is 25.6%.

Table 5-2/2: Spearman correlation matrix

	BankSize	Boardsize	nexc	CapRatio	LDR	NPL	CapRisk	Credrisk	CAR	liqrisk	ROE	ROA
BankSize	1											
Boardsize	0.226***	1										
Nexc	-0.047	0.067**	1									
CapitRatio	-0.483***	-0.139***	0.003	1								
LDR	-0.270***	-0.051	0.156***	0.236***	1							
NPL	-0.256***	-0.077**	0.058*	0.136***	-0.054	1						
CapRisk	-0.570***	-0.182***	-0.078**	0.771***	0.290***	0.105***	1					
Credrisk	-0.063*	-0.102***	-0.007	0.171***	0.082**	0.280***	0.084**	1				
CAR	-0.500***	-0.184***	0.028	0.927***	0.242***	0.078**	0.730***	0.115***	1			
Liqrisk	0.151***	0.025	0.046	-0.088***	0.172***	-0.232***	-0.071**	-0.021	-0.070**	1		
ROE	0.372***	0.179**	-0.223***	-0.293***	-0.329***	-0.295***	-0.385***	-0.377***	-0.298***	-0.013	1	
ROA	0.359*	-0.244	-0.154***	0.249***	-0.050	-0.192***	0.349***	-0.329***	0.116***	-0.061*	--	1

*** Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.10 level (2-tailed).

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

Generally, as noted from tables 5-2/1 and 5-2/2 there are variety in the significance levels between the selected variables. In addition, Pearson and Spearman correlations were noted not strong enough to prove the association, whereas the maximum correlation level between the selected variable was 39.9%. By the way, Pearson and Spearman are still bivariate analysis, and the association between the selected variables will be examined and analysed using the multivariate analysis in the following sections which are more reliable than bivariate test.

5.3.3 Dummy variables

To test the association between the dependent variables and the dummy independent variables in the current study, two statistical tests have been developed; t-test as a parametric test and Mann Whitney test as non-parametric test. Table 5-3 presents the results of corporate governance and control variables on bank performance measured by ROE. Table 5-4 presents the results of corporate governance and control variables on risk management measured by

NPL. Generally and as mentioned in tables 5-3 and 5-4, sometimes there is agreement between the results of t-test and Mann Whitney, but in other cases there is disagreement between both, so in such cases of disagreement, this study will rely on the results of Mann Whitney as a non-parametric test.

5.3.3.1 Dummy variables with ROE

The results as per table 5-3 show that boards with female or without female as per t-test is insignificantly associated with ROE which means that the change in performance cannot be explained by the change in this variable. However, Mann Whitney test shows that there is a significant and negative association between both variables, which means that the non-existence of female member on the board is significantly associated with lower ROE, at 5% significance level. On the other hand, boards with female members are associated with better performance.

Both T-test and Mann Whitney concurred in that the CEO-turnover is significantly associated with ROE at 1% significance level with different direction, whereas the t-test indicated that the no replacement of CEO is associated with higher ROE. However the Mann Whitney indicated that the replacement of CEO during the year is associated with higher ROE. Interestingly, both the T-test and Mann Whitney agreed that the role duality is significantly associated with ROE at (10% and 5% respectively) level with different direction, whereas t-test refer to that the separation between the two position is associated with better performance, however Mann Whitney indicates that the combination is associated with higher ROE.

Table 5-3: Descriptive Statistics of Dummy Variables of Corporate Governance and Control Variables with ROE (N=900)

Variable	T-test					Mann Whitney test		
	N	Mean	S.D.	t-value	Prob.	Mean Rank	z-value	Prob.
Corporate Governance								

Gender Diversity				**0.577**	**.564**		**-2.067**	**.039**
Female	93	0.0918	0.09077			397.77		
Males	807	0.1021	0.16941			456.58		
CEO-Turnover				**5.061**	**.000**		**-3.056**	**.002**
Replaced	74	0.0104	0.26910			362.09		
Not replaced	826	0.1092	0.14750			458.42		
Role Duality				**1.861**	**.063**		**-2.422**	**.015**
Yes	35	0.0509	0.25819			346.24		
No	865	0.1031	0.15789			454.72		
Audit Committee				**1.922**	**.055**		**-1.293**	**.196**
Yes	747	0.0963	0.17283			445.43		
No	153	0.1241	0.09990			475.24		
Credit and Investment Committee				**4.023**	**.000**		**-3.726**	**.000**
Yes	539	0.0833	0.17880			424.1		
No	361	0.1276	0.13203			489.92		
Risk Committee (CG)				**4.253**	**.000**		**-4.173**	**.000**
Yes	678	0.0880	0.17583			429.82		
No	222	0.1411	0.10626			513.66		
Control Variables								
Bank Type				**4.585**	**.000**		**-7.081**	**.000**
Islamic	300	0.0644	0.18837			359.25		
Conventional	600	0.1176	0.14742			491.71		
Financial Crisis				**-8.276**	**.000**		**-8.130**	**.000**
Before	450	0.1444	0.11992			520.90		
After	450	0.0577	0.18728			380.10		
Government Ownership				**0.412**	**.681**		**-1.181**	**.238**
Government	160	0.0962	0.11730			428.51		
Non-Government	740	0.1021	0.17138			455.25		

Furthermore, table 5-3 indicates that the existence of audit committee as per t-test is significantly associated with higher ROE, however the Mann Whitney indicated that there is insignificant association between both. Regarding the credit and investment committee, both of t-test and Mann Whitney agreed that the credit and investment committee is significantly associated with ROE at 1% significance level with different direction, whereas t-test indicated that the existence of the committee is associated with better performance, However, Mann Whitney indicated that the existence of this committee is associated with lower ROE.

Both T-test and Mann Whitney agreed that the risk committee is significantly associated with ROE at 1% significance level with different direction, whereas t-test show that the existence of this committee is associated with higher ROE, however, Mann Whitney indicate that the existence of this committee is related to lower ROE.

T-test and Mann Whitney agreed that the bank type is significantly associated with ROE at 1% significance level with different direction, whereas Mann Whitney indicated that the Islamic banks are related to higher ROE, however t-test referred to that conventional bank is associated with better performance. Both T-test and Mann Whitney agreed that the financial crisis was significantly associated with ROE at 1% significance level. The results suggest that the higher ROE is associated with years before crisis. Both T-test and Mann Whitney agreed that the government ownership is insignificantly associated with ROE which means that the change in performance cannot be explained by change in the variable.

5.3.3.2 Dummy variables with NPL

The results as per table 5-4 will be as follows; the existence of female member on the board as per Mann Whitney is associated with higher NPL, on the other hand, the non-existence of female member is associated with better risk management. However, t-test revealed that the female member on the board is insignificantly associated with risk management.

The findings of both the T-test and Mann Whitney reveal that the NPL is insignificantly different with the replacement of CEO. Regarding the role duality, the findings of the T-test reveal that the NPL is insignificantly different with the duality. However, Mann Whitney shows that the separation between the two positions is significantly associated with lower

NPL at 1% significance level which means better bank performance. The existence of the audit committee was significantly associated with lower NPL i.e. better bank performance under both tests (t-test and Mann Whitney) at 1% and 5% significance levels respectively. Furthermore, t-test and Mann Whitney agree that the existence of both risk committee and credit & investment committee is significantly associated with lower NPL at 1% significance level which means better risk management.

Table 5-4: Descriptive Statistics of Dummy Variables of Corporate Governance and Control Variables with NPL (N=900)

Variable	T-test					Mann Whitney test		
	N	Mean	S.D.	t-value	Prob.	Mean Rank	z-value	Prob.
Corporate Governance								
Gender Diversity				**-0.187**	**.852**		**-2.700**	**.007**
Female	93	0.0838	0.07619			519.05		
No Female	807	0.0811	0.13485			442.6		
CEO-Turnover				**-0.633**	**.527**		**-1.002**	**.316**
Replaced	74	0.0905	0.12825			479.34		
Not replaced	826	0.0806	0.13019			447.92		
Role Duality				**1.458**	**.145**		**-3.199**	**.001**
Yes	35	0.0500	0.13621			313.44		
No	865	0.0826	0.12966			456.05		
Audit Committee				**-3.080**	**.002**		**-2.167**	**.030**
Yes	747	0.0874	0.13985			458.95		
No	153	0.0520	0.05390			409.23		
Credit and Investment Committee				**-3.207**	**.001**		**-5.638**	**.000**
Yes	539	0.0927	0.13361			490.26		

No	361	0.0645	0.12264			391.13		
Risk Committee (CG)				**-2.353**	**.002**		**-3.759**	**.000**
Yes	678	0.0872	0.13527			469.04		
No	222	0.0636	0.11073			393.88		
Control Variables								
Bank Type				**0.020**	**.984**		**-1.959**	**.050**
Islamic	280	0.0812	0.14941			425.37		
Conventional	620	0.0814	0.12033			461.85		
Financial Crisis				**0.390**	**.697**		**-1.429**	**.153**
Before	450	0.0797	0.13641			438.18		
After	450	0.0831	0.12336			462.82		
Government Ownership				**-1.631**	**.103**		**-1.569**	**.117**
Government	160	0.0966	0.13397			479.58		
Non-Government	740	0.0781	0.12897			444.21		

Regarding control variables in table 5-4, both the government ownership and financial crisis are insignificantly associated with the NPL under both tests. In addition, t-test revealed that the NPL is insignificantly different with bank type. However, Mann Whitney shows that the conventional bank is significantly associated with lower NPL, at 10 % significant level and the Islamic bank is associated with higher NPL.

From the above discussion, bivariate analysis provides evidence of the association between the dependent variables of bank performance and risk management and each one of the independent variables. As indicated in the literature review chapter, a number of prior corporate governance and risk management studies employed the two tests and found agreement in some cases and disagreement in other cases between the results of the two tests.

5.4 Checking multicollinearity

Multicollinearity implies that there is a linear relationship between two or more independent variables. When multicollinearity exists, it will be difficult to differentiate the individual effects of explanatory variables, and OLS estimators may be biased or tend to have large

variances (Murray, 2006). Furthermore, if there is a perfect linear relationship among the independents, the estimates for a regression model cannot be uniquely computed. The two common ways to check for the presence of multicollinearity between independent variables are correlation coefficients and variance inflation factors (VIF) with tolerance values. These two ways have been used widely in corporate governance literature. The current study employs both of them to check whether the explanatory variables or the model suffer from multicollinearity for the cumulative data, which include all data of Islamic and conventional banks. In addition, the multicollinearity will be tested separately for Islamic data and conventional data. Table 5-5 Panel A, Panel B and Panel C show the Variance Inflation Factor (VIF) and Tolerance coefficients of each explanatory variable for the cumulative data. Furthermore, tables 5-6 Panel A, Panel B and Panel C show the Variance Inflation Factor (VIF) and Tolerance coefficients of each explanatory variable for the Islamic banks' data. In addition to the above, tables 5-7 Panel A, Panel B and Panel C show the VIF and Tolerance coefficients of each explanatory variable for the conventional banks' data.

Regarding the VIF, Damodar (2003) indicates that there is no problem if the VIF is less than (10). However, others suggest that the value of (5) can be used as a rule of thumb (Groebner et al. 2011).

As mentioned in all these test tables, the VIF is less than (10) and less than (2) in most of them, and the tolerance is at the acceptable level. Therefore, the results of VIF and tolerance coefficients, based upon the rule of thumb, indicate that there is no unacceptable level of multicollinearity in the current study.

It is commonly agreed that the correlation matrix is a powerful tool for indicating the relationship between predictors. There has been no agreement among researchers regarding the cut off correlation percentage (Alsaeed, 2006). Actually, some researchers use 0.8; e.g. Damodar (2003); others suggest using 0.7; e.g. Tabachnick and Fidell (1996).

Table 5-5
VIF and Tolerance Test Results
For All banks
ROE, ROA, and NPL

Panel A
ROE

Variables	Collinearity	
	VIF	Tolerance
Board size	1.253	.798
Non-executive director	1.080	.926
Gender diversity	1.154	.866
CEO-turnover	1.082	.924
Role Duality	1.132	.883
Audit Committee	1.516	.660
Credit & inv. comm.	1.239	.807
Capital Ratio	6.461	.155
LDR	1.144	.874
Risk Committee	1.615	.619
NPL	1.230	.813
CAR	5.255	.190
Credit risk	1.056	.947
Capital Risk	3.631	.275
liquidity risk	1.045	.957
Bank type	1.371	.729
Financial crisis	1.131	.884
Gov. ownership	1.194	.838
Bank Size	2.325	.430

Panel B
ROA

Variables	Collinearity	
	VIF	Tolerance
Board size	1.25	0.798
Non-executive director	1.08	0.926
Gender diversity	1.15	0.866
CEO-turnover	1.08	0.924
Role Duality	1.13	0.883
Audit Committee	1.52	0.660
Credit & inv. comm.	1.24	0.807
Capital Ratio	5.46	0.195
LDR	1.14	0.874
Risk Committee	1.62	0.619
NPL	1.23	0.813
CAR	5.26	0.290
Credit risk	1.06	0.947
Capital Risk	3.63	0.275
liquidity risk	1.05	0.957
Bank type	1.37	0.729
Financial crisis	1.13	0.884
Gov. ownership	1.19	0.838
Bank Size	2.33	0.430

Panel C
NPL

Variables	Collinearity	
	VIF	Tolerance
Board size	1.239	0.807
Non-executive directo	1.063	0.941
Gender diversity	1.139	0.878
CEO-turnover	1.075	0.930
Role Duality	1.118	0.895
Audit Committee	1.462	0.684
Credit & inv. comm.	1.216	0.822
Capital Ratio	1.404	0.712
LDR	1.105	0.905
Risk Committee	1.585	0.631
Bank type	1.194	0.838
Financial crisis	1.124	0.890
Gov. ownership	1.157	0.864
Bank Size	1.593	0.628

Table 5-6
VIF and Tolerance Test Results
For Islamic Banks Data
ROE, ROA, and NPL

Panel A
ROE

Variables	Collinearity	
	VIF	Tolerance
Board size	1.65	0.604
Non-executive board member	1.32	0.760
Gender diversity	1.25	0.798
CEO-turnover	1.22	0.821
Role Duality	1.75	0.571
Audit Committee	1.81	0.552
Credit & inv. comm.	1.82	0.549
Capital Ratio	3.03	0.33
LDR	1.47	0.679
Risk Committee	2.12	0.471
Non-performing loan	1.67	0.598
Capital adequacy ratio	2.32	0.43
Credit risk	1.44	0.694
Capital Risk	5.01	0.199
liquidity risk	1.51	0.662
Financial crisis	1.2	0.834
Gov. ownership	1.67	0.601
Bank Size	3.97	0.252

Panel B
ROA

Variables	Collinearity	
	VIF	Tolerance
Board size	1.65	0.604
Non-executive board member	1.32	0.760
Gender diversity	1.25	0.798
CEO-turnover	1.22	0.821
Role Duality	1.75	0.571
Audit Committee	1.81	0.552
Credit & inv. comm.	1.82	0.549
Capital Ratio	3.03	0.33
LDR	1.47	0.679
Risk Committee	2.12	0.471
Non-performing loan	1.67	0.598
Capital adequacy ratio	2.32	0.43
Credit risk	1.44	0.694
Capital Risk	5.01	0.199
liquidity risk	1.51	0.662
Financial crisis	1.2	0.834
Gov. ownership	1.67	0.601
Bank Size	3.97	0.252

Panel C
NPL

Variables	Collinearity	
	VIF	Tolerance
Board size	1.58	0.634
Non-executive board member	1.28	0.780
Gender diversity	1.18	0.846
CEO-turnover	1.21	0.830
Role Duality	1.66	0.604
Audit Committee	1.69	0.593
Credit & inv. comm.	1.62	0.616
Capital ratio	1.52	0.660
LDR	1.18	0.850
Risk Committee	1.95	0.512
Financial crisis	1.16	0.861
Gov. ownership	1.61	0.622
Bank Size	1.74	0.573

Table 5-7
VIF and Tolerance Test Results
For Conventional Banks Data
ROE, ROA, and NPL

Panel A
ROE

Variables	Collinearity	
	VIF	Tolerance
Board size	1.33	0.750
Non-executive board member	1.11	0.903
Gender diversity	1.17	0.853
CEO-turnover	1.08	0.926
Role duality	1.07	0.935
Audit committee	1.59	0.630
Credit and inv. Comm.	1.22	0.819
Capital ratio	6.07	0.165
LDR	1.24	0.806
Risk committee	1.64	0.609
Non-Performing loan	1.53	0.655
Capital Adequacy ratio	3.44	0.291
Credit risk	1.04	0.958
Capital risk	4.51	0.222
liquidity risk	1.1	0.912
Financial crisis	1.14	0.879
Government ownership	1.26	0.796
Bank size	2.23	0.449

Panel B
ROA

Variables	Collinearity	
	VIF	Tolerance
Board size	1.33	0.750
Non-executive board member	1.11	0.903
Gender diversity	1.17	0.853
CEO-turnover	1.08	0.926
Role duality	1.07	0.935
Audit committee	1.59	0.630
Credit and inv. Comm.	1.22	0.819
Capital ratio	6.07	0.165
LDR	1.24	0.806
Risk committee	1.64	0.609
Non-Performing loan	1.53	0.655
Capital Adequacy ratio	3.44	0.291
Credit risk	1.04	0.958
Capital risk	4.51	0.222
liquidity risk	1.1	0.912
Financial crisis	1.14	0.879
Gov. ownership	1.26	0.796
Bank size	2.23	0.449

Panel C
NPL

Variables	Collinearity	
	VIF	Tolerance
Board size	1.3	0.769
Non-executive board member	1.08	0.923
Gender diversity	1.15	0.872
CEO-turnover	1.07	0.937
Role duality	1.05	0.952
Audit committee	1.51	0.661
Credit and inv. Comm.	1.2	0.834
Capital ratio	1.43	0.697
LDR	1.13	0.883
Risk committee	1.61	0.620
Financial crisis	1.12	0.893
Government ownership	1.2	0.835
Bank size	1.58	0.634

The following section employs multivariate analysis, multiple regression, to explain the association between the dependent and independent variables.

5.5 Regression analysis

This section employs multivariate analysis to explain the association between the dependent and independent variables for the four models. As per our review to the previous literature, it can be noted that the R-squared in number of studies is between 10% -50%, in this study the

average of R-squared is 10% - 32%. As mentioned in chapter four, the low R-square are not always bad and the high R-square are not always good.

5.5.1 OLS results for regression model (1)

This part will discuss the results of OLS as a multivariate regression test for model (1), which investigates the association between corporate governance and bank performance measured by ROE and ROA. There are six tables from 5-8 to 5-13 showing this association as follows:

As indicated in table 5-8 which shows the relationship between corporate governance and ROE, the R squared for this model is 22.03% at 1% significance level. It was noted that there is negative and significant association between ROE and both non-executive board member and CEO-turnover, at 1% significance level. The existence of credit and investment committees are negatively and significantly associated with ROE, at 5% significant level. The LDR is positively and significantly associated with ROE at 10% significant level. All the control variables; bank type, bank size, government ownership, and financial crisis were noted as significant, with ROE at 1% significance level. However, there is no significant association between the ROE and (6) independent variables; board size, gender diversity, role duality, audit committee, risk committee, and capital ratio at any significant level.

Table 5-8 Model (1) OLS Regression Results

Corporate Governance and ROE

All Banks

ROE	Coef.	Std. Err.	T	P>t	95% Conf.	Interval]
Board Size	-0.00184	0.002754	-0.67	0.503	-0.00725	0.003561
Non-executive board member	-0.12243	0.041105	-2.98	0.003	-0.20310	-0.04175
Gender diversity	0.013257	0.016959	0.78	0.435	-0.02003	0.046542
CEO-turnover	-0.06849	0.018255	-3.75	0.000	-0.10432	-0.03266
Role duality	-0.03941	0.026447	-1.49	0.137	-0.09132	0.012493
Audit committee	-0.01571	0.015571	-1.01	0.313	-0.04627	0.014851
Credit and investment committee	-0.02413	0.010884	-2.22	0.027	-0.04549	-0.00277
Capital Ratio	0.031531	0.023238	1.36	0.175	-0.01408	0.077139
LDR	0.010027	0.005568	1.8	0.072	-0.00090	0.020955
Risk committee	-0.00047	0.014126	-0.03	0.973	-0.02820	0.027254
Bank type	-0.04611	0.011415	-4.04	0.000	-0.06852	-0.02371

Financial crisis	0.081621	0.010256	7.96	0.000	0.06149	0.10175
Government ownership	-0.04697	0.01361	-3.45	0.001	-0.07368	-0.02026
Bank size	0.024142	0.002642	9.14	0.000	0.018956	0.029327
_cons	0.020788	0.049137	0.42	0.672	-0.07565	0.117227
Prob. >F	**0.000**					
Adjusted R-squared	**0.2203**					

As mentioned in tables 5-9 and 5-10, the R squared for these models are **28.76 % and 20.92 %** respectively, at 1% significance level. The board size, Gender diversity, Role duality, Audit committee, and LDR in both Islamic banks and conventional banks are insignificant with ROE. Furthermore, bank size and financial crisis are significant with ROE at 1% significance level in both Islamic banks and conventional banks. In addition, the Non-executive board member, credit and investment committee, and capital ratio were noted as significant with ROE in Islamic banks, while the three variables were insignificant in conventional banks. In conventional banks, the CEO-turnover, Risk committee, and Government ownership were noted as significant with ROE but insignificant in Islamic banks.

Table 5-9 Model (1) OLS Regression Results

Corporate Governance and ROE

Islamic banks

ROE	Coef.	Std. Err.	T	P>t	95% Conf.	Interval]
Board Size	0.006889	0.005471	1.26	0.209	-0.00388	0.017661
Non-executive board member	-0.6713	0.130594	-5.14	0.000	-0.92843	-0.41418
Gender diversity	0.065261	0.050712	1.29	0.199	-0.03459	0.165108
CEO-turnover	-0.01751	0.044983	-0.39	0.697	-0.10608	0.07106
Role duality	-0.08322	0.089309	-0.93	0.352	-0.25906	0.092622
Audit committee	-0.03002	0.029448	-1.02	0.309	-0.088	0.027963
Credit and investment committee	-0.05862	0.028421	-2.06	0.04	-0.11458	-0.00266
Capital Ratio	0.074057	0.042685	1.73	0.084	-0.00999	0.1581
LDR	0.052929	0.05144	1.03	0.304	-0.04835	0.15421
Risk committee	0.038479	0.034486	1.12	0.266	-0.02942	0.106378
Financial crisis	0.093891	0.018275	5.14	0.000	0.057909	0.129873
Government ownership	0.023847	0.036427	0.65	0.513	-0.04788	0.095569
Bank size	0.032492	0.005034	6.45	0.000	0.022581	0.042403

_cons	0.268529	0.168956	1.59	0.113	-0.06413	0.601191
Prob. >F	**0.000**					
Adjusted R-squared	**0.2876**					

Table 5-10 Model (1) OLS Regression Results

Corporate Governance and ROE

Conventional banks

ROE	Coef.	Std. Err.	T	P>t	95% Conf.	Interval]
Board Size	-0.00471	0.003002	-1.57	0.117	-0.01061	0.001185
Non-executive board member	-0.05276	0.034221	-1.54	0.124	-0.11996	0.014449
Gender diversity	0.010796	0.015199	0.71	0.478	-0.01905	0.040646
CEO-turnover	-0.07537	0.035197	-2.14	0.033	-0.1445	-0.00625
Role duality	0.029977	0.027905	1.07	0.283	-0.02483	0.08478
Audit committee	0.011752	0.011104	1.06	0.290	-0.01006	0.03356
Credit and investment committee	-0.00631	0.011543	-0.55	0.585	-0.02898	0.016357
Capital Ratio	-0.00479	0.026685	-0.18	0.858	-0.05719	0.04762
LDR	0.006432	0.004984	1.29	0.197	-0.00336	0.01622
Risk committee	-0.03188	0.011104	-2.87	0.004	-0.05369	-0.01008
Financial crisis	0.076102	0.010161	7.49	0.000	0.056146	0.096057
Government ownership	-0.0322	0.011433	-2.82	0.005	-0.05465	-0.00975
Bank size	0.021345	0.0039	5.47	0.000	0.013687	0.029004
_cons	0.007736	0.038044	0.2	0.839	-0.06698	0.082451
Prob. >F	**0.000**					
Adjusted R- squared	**0.2092**					

In relation to the association between corporate governance and ROA, and as mentioned in table 5-11, the R square is 14.54% with 1% significance level. It was noted that the Non-executive board member, Gender diversity, CEO-turnover, Audit committee, capital ratio, LDR, government ownership, financial crisis, and bank size are significantly associated with ROA. Furthermore, the board size, role duality, risk committee, credit and investment committee, and bank type are insignificantly associated with ROA.

Table 5-11 Model (1) OLS Regression Results

Corporate Governance and ROA

All Banks

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board Size	-0.0001	0.001045	-0.1	0.922	-0.00215	0.001949
Non-executive board member	-0.05637	0.013316	-4.23	0.000	-0.08251	-0.03024
Gender diversity	0.007943	0.00459	1.73	0.084	-0.00107	0.016951
CEO-turnover	-0.02704	0.010433	-2.59	0.01	-0.04752	-0.00657
Role duality	0.009748	0.016309	0.6	0.55	-0.02226	0.041757
Audit committee	-0.01333	0.005538	-2.41	0.016	-0.0242	-0.00246
Credit and investment committee	-0.00557	0.003518	-1.58	0.114	-0.01247	0.001337
Capital Ratio	0.051914	0.01213	4.28	0.000	0.028106	0.075722
LDR	0.002932	0.001598	1.83	0.067	-0.00021	0.006069
Risk committee	0.002128	0.003711	0.57	0.567	-0.00516	0.009412
Bank type	-0.00796	0.004947	-1.61	0.108	-0.01767	0.001752
Financial crisis	0.02212	0.003357	6.59	0.000	0.015531	0.028709
Government ownership	-0.01432	0.002776	-5.16	0.000	-0.01977	-0.00887
Bank size	0.005192	0.00141	3.68	0.000	0.002425	0.007959
_cons	0.016569	0.018504	0.9	0.371	-0.01975	0.052887
Prob. >F	**0.000**					
Adjusted R- squared	**0.1454**					

In table 5-12 and Table 5-13 which show the association between corporate governance and ROA for Islamic Banks and conventional banks respectively, it was noted that the R squared are 24.78% and 15.24% respectively. Interestingly, it was found that the non-executive board member, capital ratio, risk committee, financial crisis, government ownership, and bank size are significantly associated with ROA in Islamic banks and conventional banks. The audit committee in Islamic banks was significantly associated with ROA; however, it is insignificant in conventional banks. The board size and CEO Turnover were significant with ROA in conventional banks, while it is insignificant in Islamic banks. In addition, the gender diversity, LDR, role duality, credit and investment committee were noted as insignificantly associated with ROA in Islamic banks and conventional banks.

Table 5-12 Model (1) OLS Regression Results

Corporate Governance and ROA

Islamic Banks

ROA	Coef.	Std. Err.	T	P>t	95% Conf.	Interval]
Board Size	0.005634	0.00365	1.54	0.124	-0.00155	0.01282
Non-executive board member	-0.31957	0.070728	-4.52	0.000	-0.45883	-0.18031
Gender diversity	0.026624	0.017294	1.54	0.125	-0.00743	0.060674
CEO-turnover	-0.01205	0.01811	-0.67	0.506	-0.04771	0.023603
Role duality	0.030158	0.035543	0.85	0.397	-0.03982	0.10014
Audit committee	-0.03944	0.015693	-2.51	0.013	-0.07033	-0.00854
Credit and investment committee	-0.0064	0.010292	-0.62	0.535	-0.02666	0.013867
Capital Ratio	0.078439	0.024825	3.16	0.002	0.029561	0.127317
LDR	0.016653	0.017135	0.97	0.332	-0.01708	0.05039
Risk committee	0.028987	0.012566	2.31	0.022	0.004245	0.05373
Financial crisis	0.039015	0.008878	4.39	0.000	0.021534	0.056495
Government ownership	0.029114	0.016273	1.79	0.075	-0.00293	0.061155
Bank size	0.010589	0.003184	3.33	0.001	0.004319	0.016859
_cons	0.120613	0.07353	1.64	0.102	-0.02416	0.265388
Prob. >F	**0.000**					
Adjusted R- squared	**0.2478**					

Table 5-13 Model (1)

OLS Regression Results

Corporate Governance and ROA

Conventional banks

ROA	Coef.	Std. Err.	T	P>t	95% Conf.	Interval]
Board Size	-0.00191	0.000864	-2.21	0.028	-0.0036	-0.00021
Non-executive board member	-0.02412	0.009956	-2.42	0.016	-0.04368	-0.00457
Gender diversity	0.005349	0.005062	1.06	0.291	-0.00459	0.015291
CEO-turnover	-0.02485	0.013079	-1.9	0.058	-0.05053	0.000841
Role duality	0.002734	0.006432	0.43	0.671	-0.0099	0.015366
Audit committee	0.001003	0.00295	0.34	0.734	-0.00479	0.006797

Credit and investment committee	-0.00055	0.003125	-0.17	0.861	-0.00668	0.005592
Capital Ratio	0.035799	0.010562	3.39	0.001	0.015057	0.056542
LDR	0.001123	0.001328	0.85	0.398	-0.00148	0.003731
Risk committee	-0.00978	0.002971	-3.29	0.001	-0.01562	-0.00395
Financial crisis	0.015239	0.002554	5.97	0.000	0.010223	0.020255
Government ownership	-0.01023	0.003196	-3.2	0.001	-0.01651	-0.00396
Bank size	0.003658	0.001423	2.57	0.01	0.000864	0.006452
_cons	0.018741	0.011864	1.58	0.115	-0.00456	0.042041
Prob. >F	**0.000**					
Adjusted R- squared	**0.1524**					

5.5.2 OLS results for regression model (2)

This section will discuss the results of OLS test for model (2), which investigates the association between risk management and bank performance measured by ROE and ROA. There are six tables from 5-14 to 5-19 showing this association as follows:

As indicated in table 5-14 which shows the relationship between risk management and ROE, the adjusted R square for this model is 20.80% at 1% significance level. It was noted that the capital adequacy ratio is positively and significantly associated with ROE at 5% significant level. However, the non-performing loan, credit risk, capital risk, and liquidity risk are not significantly associated with the ROE at any significant level. The four control variables; bank type, bank size, government ownership, and financial crisis were noted as significant with ROE at 1% significance level.

Table 5-14 Model (2)

OLS Regression Results

Risk Management and ROE

All Banks

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Non-performing loan	-0.1128801	0.0997106	-1.13	0.258	-0.3085753	0.082815
Capital adequacy ratio	0.0814247	0.0374472	2.17	0.03	0.0079296	0.15492
Credit risk	-0.5685732	0.3587931	-1.58	0.113	-1.272752	0.135606
Capital risk	-0.0509412	0.034498	-1.48	0.140	-0.1186481	0.016766
Liquidity risk	0.0233387	0.0171242	1.36	0.173	-0.0102698	0.056947
Bank type	-0.0436627	0.012873	-3.39	0.001	-0.0689277	-0.0184
Financial crisis	0.0904399	0.009823	9.21	0.000	0.0711609	0.109719
Government ownership	-0.0341454	0.0097252	-3.51	0.000	-0.0532324	-0.01506
Bank size	0.0197569	0.0032442	6.09	0.000	0.0133896	0.026124
_cons	-0.0858073	0.039965	-2.15	0.032	-0.164244	-0.00737
Prob. >F	0.000					
Adjusted R- squared	**.2080**					

In table 5-15 and Table 5-16 which show the association between risk management and ROE for Islamic Banks and conventional banks respectively, it was noted that the adjusted R squared are 19.53% and 21.11% respectively. Interestingly, the Islamic banks are similar to Conventional banks in that the capital adequacy ratio, financial crisis and bank size are significantly associated with ROE. Furthermore, it was found that the capital risk and liquidity risk are insignificant in both Islamic banks and Conventional banks. The NPL and credit risk are significantly and inversely associated with ROE in Conventional banks and vice versa with Islamic banks, which means that in Conventional banks there is a good control over the NPL and credit risk to keep them at a lower level, which directly and positively enhance the bank performance represented by ROE. On the other hand, the Islamic banks need to make some efforts in this area.

Table 5-15 Model (2)

OLS Regression Results

Risk Management and ROE

Islamic banks

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Non-performing loan	-0.22241	0.225803	-0.98	0.326	-0.66697	0.222138
Capital adequacy ratio	0.100417	0.053982	1.86	0.064	-0.00586	0.206694
Credit risk	-0.08538	0.433702	-0.2	0.844	-0.93923	0.768473
Capital risk	-0.07724	0.066236	-1.17	0.245	-0.20764	0.053164
Liquidity risk	0.350588	0.243637	1.44	0.151	-0.12907	0.830249
Financial crisis	0.105319	0.020626	5.11	0.000	0.064712	0.145926
Government ownership	-0.07531	0.026115	-2.88	0.004	-0.12672	-0.02389
Bank size	0.021161	0.006933	3.05	0.002	0.007513	0.03481
_cons	-0.15856	0.081886	-1.94	0.054	-0.31977	0.002658
Prob. >F	**0.000**					
Adjusted R- squared	**0.1953**					

Table 5-16 Model (2)

OLS Regression Results

Risk Management and ROE

Conventional banks

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Non-performing loan	-0.1127	0.051329	-2.2	0.028	-0.2133	-0.01209
Capital adequacy ratio	0.074171	0.044802	1.66	0.098	-0.01364	0.161981
Credit risk	-0.7492	0.180205	-4.16	0.000	-1.1024	-0.39601
Capital risk	-0.05148	0.041707	-1.23	0.217	-0.13323	0.030262
Liquidity risk	0.008642	0.024599	0.35	0.725	-0.03957	0.056854
Financial crisis	0.082458	0.010694	7.71	0.000	0.061497	0.103418
Government ownership	-0.02639	0.013362	-1.98	0.048	-0.05258	-0.0002
Bank size	0.018033	0.003127	5.77	0.000	0.011905	0.024161
_cons	-0.06448	0.034708	-1.86	0.063	-0.13251	0.003547
Prob. >F	**0.000**					
Adjusted R- squared	**0.2111**					

In a comparison between table 5-17 and 5-14 that show the association between risk management and ROA and ROE respectively, there is complete agreement between both of them, which means that the risk management has the same significance implication on both ROE and ROA. However, the capital adequacy ratio is positively and significantly associated with ROE at 1% significance level, and the non-performing loan, credit risk, capital risk, and liquidity risk are insignificantly associated with the ROA. The four control variables; bank type, bank size, government ownership, and financial crisis were noted as significant with ROA at 1% significance level.

Table 5-17 Model (2)

OLS Regression Results

Risk Management and ROA

All banks

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Non-performing loan	0.020222	0.029953	0.68	0.50	-0.03857	0.07901
Capital adequacy ratio	0.070515	0.02642	2.67	0.008	0.018662	0.122368
Credit risk	-0.10969	0.077785	-1.41	0.159	-0.26235	0.042972
Capital risk	-0.00872	0.023372	-0.37	0.709	-0.05459	0.03715
Liquidity risk	0.005121	0.005758	0.89	0.374	-0.00618	0.016421
Bank type	-0.00756	0.003945	-1.92	0.056	-0.0153	0.000181
Financial crisis	0.02648	0.00381	6.95	0.000	0.019002	0.033958
Government ownership	-0.00994	0.002568	-3.87	0.000	-0.01498	-0.0049
Bank size	0.005009	0.001303	3.84	0.000	0.002452	0.007567
_cons	-0.05058	0.015588	-3.25	0.001	-0.08118	-0.01999
Prob. >F	**0.000**					
Adjusted R- squared	**0.1086**					

In table 5-18 and Table 5-19 which show the association between risk management and ROA for Islamic banks and conventional banks respectively, it was noted that the adjusted R squared are 14.98% and 13.30% respectively. There is agreement between Islamic banks and

Conventional banks in that the capital adequacy ratio, capital risk, financial crisis, and government ownership, are significantly associated with ROA. Furthermore, the NPL is insignificantly associated with ROA in Islamic banks and conventional banks. Regarding the credit risk and bank size, conventional banks are significantly associated with ROA, and vice versa with Islamic banks. The liquidity risk in Islamic banks is significantly associated with ROA and vice versa with conventional banks.

Table 5-18 Model (2)

OLS Regression Results

Risk Management and ROA

Islamic Banks

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Non-performing loan	-0.02155	0.059732	-0.36	0.719	-0.13915	0.096045
Capital adequacy ratio	0.112328	0.044314	2.53	0.012	0.025086	0.199571
Credit risk	0.074685	0.117875	0.63	0.527	-0.15738	0.306752
Capital risk	-0.07423	0.043725	-1.7	0.091	-0.16031	0.011859
Liquidity risk	0.129753	0.071585	1.81	0.071	-0.01118	0.270686
Financial crisis	0.044064	0.009392	4.69	0.000	0.025573	0.062555
Government ownership	-0.01946	0.006746	-2.88	0.004	-0.03274	-0.00618
Bank size	0.002128	0.002868	0.74	0.459	-0.00352	0.007775
_cons	-0.03828	0.031819	-1.2	0.23	-0.10093	0.024361
Prob. >F	**0.000**					
Adjusted R- squared	**0.1498**					

Table 5-19 Model (2)

OLS Regression Results

Risk Management and ROA

Conventional Banks

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Non-performing loan	0.001817	0.014876	0.12	0.903	-0.02734	0.030972

Capital adequacy ratio	0.032343	0.012984	2.49	0.013	0.006895	0.057791
Credit risk	-0.17244	0.052225	-3.3	0.001	-0.2748	-0.07009
Capital risk	0.03494	0.012087	2.89	0.004	0.01125	0.05863
Liquidity risk	0.004027	0.007129	0.56	0.572	-0.00995	0.017999
Financial crisis	0.018511	0.003099	5.97	0.000	0.012436	0.024586
Government ownership	-0.0087	0.003872	-2.25	0.025	-0.01629	-0.00111
Bank size	0.004456	0.000906	4.92	0.000	0.002681	0.006232
_cons	-0.04037	0.010059	-4.01	0.000	-0.06009	-0.02066
Prob. >F	**0.000**					
Adjusted R- squared	**0.1330**					

5.5.3 OLS results for regression model (3)

As mentioned in the methodology chapter, model (3) will investigate the association between both corporate governance and risk management with bank performance measured by ROE and ROA. This section discusses the results of the OLS test for model (3). There are six tables from 5-20 to 5-25 showing this association as follows:

As indicated in table 5-20 which shows the relationship between corporate governance and risk management and ROE, the adjusted R squared is 0.2265 at 1% significance level. It was noted that the association between the ROE and non-executive board member, CEO turnover, non-performing loan, and credit risk are negative and significant at 1% significance level. In addition, capital risk is negatively and significantly associated with ROE at 5% significant level. Moreover, role duality and credit and investment committee are associated with ROE significantly with negative direction, at 10% significant level. There is no significant association between ROE and the following independent variables; capital ratio, board size, gender diversity, audit committee, risk committee, capital adequacy ratio, loan to deposit ratio, and liquidity risk.

Interestingly, the four control variables; bank type, bank size, government ownership, and financial crisis were noted significant, with ROE at 1% significance level.

Table 5-20 Model (3)

OLS Regression Results

Corporate Governance and Risk Management with ROE

All Banks data

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	-0.002	0.002737	-0.73	0.466	-0.00737	0.003377
Non-executive board member	-0.12042	0.040937	-2.94	0.003	-0.20077	-0.04008
Gender diversity	0.007357	0.016871	0.44	0.663	-0.02575	0.040469
CEO turnover	-0.07343	0.018099	-4.06	0.000	-0.10896	-0.03791
Role duality	-0.04887	0.026309	-1.86	0.064	-0.10051	0.002763
Audit committee	-0.00653	0.015668	-0.42	0.677	-0.03728	0.024223
Credit and investment committee	-0.01878	0.010854	-1.73	0.084	-0.04008	0.002521
Capital ratio	0.073185	0.049264	1.49	0.138	-0.0235	0.169873
Non-performing loan	-0.10646	0.040806	-2.61	0.009	-0.18655	-0.02637
Capital adequacy ration	-0.00225	0.051147	-0.04	0.965	-0.10264	0.098132
Liquidity risk	0.024802	0.0257	0.97	0.335	-0.02564	0.075243
Capital risk	-0.08005	0.037357	-2.14	0.032	-0.15337	-0.00674
Credit risk	-0.60674	0.166433	-3.65	0.000	-0.93339	-0.28008
Loan to deposit ratio	0.008226	0.005598	1.47	0.142	-0.00276	0.019213
Risk committee	-0.00484	0.014093	-0.34	0.731	-0.0325	0.022817
Bank type	-0.0334	0.012091	-2.76	0.006	-0.05713	-0.00967
Financial crisis	0.078491	0.010169	7.72	0.000	0.058534	0.098449
Government ownership	-0.04264	0.01366	-3.12	0.002	-0.06945	-0.01583
Bank size	0.018815	0.003154	5.96	0.000	0.012624	0.025005
_cons	0.08144	0.054571	1.49	0.136	-0.02566	0.188545
Prob. >F	**0.000**					
Adjusted R- squared	**0.2265**					

Regarding table 5-21 and table 5-22 it was noted that the R squared is 31.49%and 24.77 % respectively. As shown in the tables, the non-executive board member, financial crisis, and bank size are significantly affecting the ROE in Islamic banks and conventional banks, the positive direction of association with bank size means that the larger bank size the higher bank performance. Interestingly in this model, the role duality, gender diversity, audit committee, LDR, NPL, credit risk, capital risk and liquidity risk are insignificantly associated

with ROE in both type of banks; Islamic banks and conventional banks. In conventional banks, the board size, CEO turnover, risk committee, and government ownership are significantly associated with ROE and vice versa with Islamic banks. In Islamic banks, it was noted that the credit and investment committee, capital ratio, and capital adequacy ratio are significantly associated with ROE but are not significant in Conventional banks.

Table 5-21 Model (3)

OLS Regression Results
Corporate Governance and Risk Management with ROE

Islamic Banks

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	0.008777	0.005756	1.52	0.129	-0.00256	0.020112
Non-executive board member	-0.64342	0.13752	-4.68	0.000	-0.91421	-0.37263
Gender diversity	0.037081	0.038253	0.97	0.333	-0.03824	0.112405
CEO turnover	-0.02367	0.044267	-0.53	0.593	-0.11084	0.063498
Role duality	-0.0951	0.094909	-1	0.317	-0.28198	0.09179
Audit committee	-0.02538	0.034323	-0.74	0.46	-0.09296	0.042208
Credit and investment committee	-0.04743	0.020399	-2.32	0.021	-0.08759	-0.00726
Capital ratio	0.395124	0.177705	2.22	0.027	0.045206	0.745041
Loan to deposit ratio	0.059078	0.054301	1.09	0.278	-0.04785	0.166001
Risk committee	0.031945	0.035281	0.91	0.366	-0.03753	0.101417
Non-performing loan	-0.20061	0.250754	-0.8	0.424	-0.69437	0.29315
Capital adequacy ration	-0.32952	0.170404	-1.93	0.054	-0.66506	0.006026
Credit risk	-0.55956	0.431613	-1.3	0.196	-1.40945	0.290325
Capital risk	-0.07529	0.097856	-0.77	0.442	-0.26798	0.117395
Liquidity risk	0.289091	0.214067	1.35	0.178	-0.13243	0.710609
Financial crisis	0.091009	0.019649	4.63	0.000	0.052319	0.129699
Government ownership	0.011398	0.033143	0.34	0.731	-0.05386	0.076659
Bank size	0.023107	0.010227	2.26	0.025	0.00297	0.043244
_cons	0.331508	0.154052	2.15	0.032	0.028166	0.634851

Prob. >F	**0.000**
Adjusted R- square	**0.3149**

Table 5-22 Model (3)

OLS Regression Results

Corporate Governance and Risk Management with ROE

Conventional Banks Data

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	-0.00626	0.001845	-3.39	0.001	-0.00988	-0.00264
Non-executive board member	-0.0403	0.020239	-1.99	0.046	-0.07997	-0.00063
Gender diversity	0.009881	0.015804	0.63	0.532	-0.0211	0.040857
CEO turnover	-0.08079	0.039511	-2.04	0.041	-0.15823	-0.00335
Role duality	0.023276	0.031987	0.73	0.467	-0.03942	0.085969
Audit committee	0.020412	0.015346	1.33	0.183	-0.00967	0.050489
Credit and investment committee	-0.0052	0.005405	-0.96	0.336	-0.0158	0.00539
Capital ratio	0.02256	0.051781	0.44	0.663	-0.07893	0.124048
Loan to deposit ratio	0.002482	0.005193	0.48	0.633	-0.0077	0.01266
Risk committee	-0.03487	0.013201	-2.64	0.008	-0.06075	-0.009
Non-performing loan	-0.1148	0.086359	-1.33	0.184	-0.28406	0.054465
Capital adequacy ration	0.048605	0.032074	1.52	0.13	-0.01426	0.111468
Credit risk	-0.78324	0.612242	-1.28	0.201	-1.98321	0.41673
Capital risk	-0.08551	0.057475	-1.49	0.137	-0.19816	0.027139
Liquidity risk	0.009198	0.0101	0.91	0.362	-0.0106	0.028993
Financial crisis	0.069151	0.017647	3.92	0.000	0.034565	0.103738
Government ownership	-0.02499	0.006545	-3.82	0.000	-0.03782	-0.01217
Bank size	0.017832	0.003016	5.91	0.000	0.011921	0.023742
_cons	0.056145	0.031769	1.77	0.077	-0.00612	0.118411
Prob. >F	**0.000**					
Adjusted R- square	**0.2477**					

As indicated in table 5-23 which shows the relationship between corporate governance and risk management with ROA, the adjusted R squared is 15.75% at 1% significance level. It

was found that the non-executive board member, CEO turnover, capital ratio, audit committee, LDR, credit risk, bank size, government ownership, and financial crisis are significantly associated with ROA. Regarding the role duality, board size, gender diversity, credit and investment committee, risk committee, capital adequacy ratio, non-performing loan, liquidity risk, capital risk, and bank type, all of them are not significantly associated with ROA in this model.

Table 5-23 Model (3) OLS Regression Results

Corporate Governance and Risk Management with ROA

All Banks Data

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	0.0000323	0.001037	0.03	0.975	-0.002	0.002068
Non-executive board member	-0.05652	0.013566	-4.17	0.000	-0.08315	-0.0299
Gender diversity	0.007445	0.004764	1.56	0.118	-0.00191	0.016795
CEO turnover	-0.02782	0.01035	-2.69	0.007	-0.04814	-0.00751
Role duality	0.010588	0.017877	0.59	0.554	-0.0245	0.045674
Audit committee	-0.01331	0.005753	-2.31	0.021	-0.0246	-0.00202
Credit and investment committee	-0.00489	0.003521	-1.39	0.165	-0.0118	0.002023
Capital ratio	0.051087	0.024577	2.08	0.038	0.00285	0.099324
Loan to deposit ratio	0.003491	0.001645	2.12	0.034	0.000263	0.006719
Risk committee	0.002246	0.003827	0.59	0.558	-0.00527	0.009757
Non-performing loan	0.02834	0.030627	0.93	0.355	-0.03177	0.08845
Capital adequacy ration	0.021642	0.016438	1.32	0.188	-0.01062	0.053904
Credit risk	-0.13078	0.071376	-1.83	0.067	-0.27087	0.009303
Capital risk	-0.02452	0.031667	-0.77	0.439	-0.08667	0.03763
Liquidity risk	0.004854	0.005895	0.82	0.41	-0.00671	0.016423
Bank type	-0.00509	0.003976	-1.28	0.201	-0.0129	0.002712
Financial crisis	0.02182	0.003311	6.59	0.000	0.015321	0.028319
Government ownership	-0.01486	0.003036	-4.89	0.000	-0.02082	-0.0089
Bank size	0.005163	0.001405	3.68	0.000	0.002406	0.007919
_cons	0.013818	0.018286	0.76	0.45	-0.02207	0.049707
Prob. >F	**0.000**					
Adjusted R- square	**0.1575**					

Regarding table 5-24 and table 5-25, it was noted that the adjusted R squared is 26.13% and 18.05% respectively. As shown in the tables, the board size, non-executive board member, risk committee, financial crisis, and bank size are significantly associated with ROA in Islamic banks and Conventional banks. It was found that the role duality, gender diversity, credit and investment committee, capital ratio, NPL, LDR, credit risk, capital risk, and liquidity risk are insignificantly associated with ROA in both type of banks; Islamic and Conventional banks. In Conventional banks, the CEO turnover, capital adequacy ratio, and government ownership are significantly associated with ROA and vice versa in Islamic banks. The audit committee in Islamic banks is significantly associated with ROA, and insignificant in Conventional banks.

Table 5-24 Model (3)

OLS Regression Results

Corporate Governance and Risk Management with ROA
Islamic Banks

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	0.006251	0.003107	2.01	0.044	0.000162	0.01234
Non-executive board member	-0.29608	0.070617	-4.19	0.000	-0.43449	-0.15767
Gender diversity	0.022096	0.031914	0.69	0.489	-0.04045	0.084646
CEO turnover	-0.01385	0.018255	-0.76	0.448	-0.04963	0.021929
Role duality	0.023337	0.022358	1.04	0.297	-0.02048	0.067159
Audit committee	-0.03625	0.013974	-2.59	0.009	-0.06364	-0.00886
Credit and investment committee	-0.00939	0.012098	-0.78	0.438	-0.0331	0.01432
Capital ratio	0.111433	0.08943	1.25	0.213	-0.06385	0.286713
Loan to deposit ratio	0.016246	0.014285	1.14	0.255	-0.01175	0.044243
Risk committee	0.025506	0.015361	1.66	0.097	-0.0046	0.055613
Non-performing loan	0.005795	0.038598	0.15	0.881	-0.06985	0.081445
Capital adequacy ration	-0.01397	0.090912	-0.15	0.878	-0.19215	0.16422
Credit risk	-0.04024	0.185754	-0.22	0.829	-0.40431	0.323833
Capital risk	-0.0423	0.033191	-1.27	0.203	-0.10735	0.022756
Liquidity risk	0.090196	0.065439	1.38	0.168	-0.03806	0.218453
Financial crisis	0.037843	0.009749	3.88	0.000	0.018736	0.05695
Government ownership	0.025025	0.0223	1.12	0.262	-0.01868	0.068733
Bank size	0.007169	0.003822	1.88	0.061	-0.00032	0.014659
_cons	0.129461	0.076707	1.69	0.091	-0.02088	0.279804
Prob. >F	**0.000**					

Adjusted R- square	0.2613

Table 5-25 Model (3)

OLS Regression Results

Corporate Governance and Risk Management with ROA

Conventional Banks

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	-0.00187	0.000777	-2.41	0.016	-0.0034	-0.00035
Non-executive board member	-0.01789	0.00965	-1.85	0.064	-0.03684	0.00106
Gender diversity	0.004539	0.005241	0.87	0.387	-0.00575	0.014832
CEO turnover	-0.02481	0.013142	-1.89	0.06	-0.05062	0.001002
Role duality	0.0059	0.006159	0.96	0.338	-0.0062	0.017995
Audit committee	0.001144	0.00299	0.38	0.702	-0.00473	0.007016
Credit and investment committee	-0.00071	0.003117	-0.23	0.819	-0.00684	0.005407
Capital ratio	0.000526	0.019591	0.03	0.979	-0.03795	0.039
Loan to deposit ratio	0.001428	0.001325	1.08	0.281	-0.00117	0.00403
Risk committee	-0.00861	0.003	-2.87	0.004	-0.0145	-0.00271
Non-performing loan	0.005407	0.030415	0.18	0.859	-0.05433	0.06514
Capital adequacy ration	0.027258	0.015629	1.74	0.082	-0.00344	0.057953
Credit risk	-0.18294	0.118146	-1.55	0.122	-0.41497	0.049087
Capital risk	0.029036	0.024384	1.19	0.234	-0.01885	0.076925
Liquidity risk	0.004391	0.003827	1.15	0.252	-0.00313	0.011907
Financial crisis	0.014704	0.002603	5.65	0.000	0.009593	0.019816
Government ownership	-0.00874	0.002996	-2.92	0.004	-0.01462	-0.00285
Bank size	0.004666	0.001638	2.85	0.005	0.001449	0.007884
_cons	-0.0001	0.014058	-0.01	0.994	-0.02771	0.027505
Prob. >F	**0.000**					
Adjusted R- square	**0.1805**					

5.5.4 OLS results for regression model (4)

As mentioned in the methodology chapter, model (4) will investigate the association between corporate governance and risk management measured by NPL. This section discusses the results of the OLS test for model (4). There are three tables from 5-26 to 5-28 showing this association as follows:

As presented in table 5-26, the adjusted R squared is 15.22% at 1% significance level. It was found that the board size, role duality, and risk committee are associated negatively and significantly with NPL at 5% significant level. In addition, capital ratio and gender diversity are associated negatively and significantly with NPL at 10% significant level. Furthermore, the credit and investment committee is positively and significantly associated with NPL at 5% significant level. Loan to deposit ratio is negatively and significantly associated at 1% significance level. The audit committee is associated positively and significantly at 1% significance level. In addition, there is no significant association between NPL and both non-executive board member and CEO turnover at any level of significance. Interestingly, two of the control variables; bank type and financial crisis are not significantly associated with the NPL, but the other two variables; government ownership and bank size are significantly associated with NPL at 1% significance level

Table 5-26 Model (4)

OLS Regression Results

Corporate Governance with Risk Management NPL

All Banks Data

NPL	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	-0.0048	0.002271	-2.11	0.035	-0.00925	-0.00034
Non-executive board member	0.026591	0.033906	0.78	0.433	-0.03995	0.093136
Gender diversity	-0.02709	0.013989	-1.94	0.053	-0.05454	0.000369
CEO- turnover	-0.00062	0.015058	-0.04	0.967	-0.03017	0.028932
Role duality	-0.05258	0.021815	-2.41	0.016	-0.09539	-0.00976
Audit committee	0.056992	0.012844	4.44	0.000	0.031785	0.0822
Credit and investment committee	0.019804	0.008978	2.21	0.028	0.002184	0.037424
Capital ratio	-0.03424	0.019168	-1.79	0.074	-0.07186	0.003381
Loan to deposit ratio	-0.02152	0.004593	-4.69	0.000	-0.03053	-0.01251
Risk committee	-0.02458	0.011652	-2.11	0.035	-0.04744	-0.00171
Bank type	0.001333	0.009416	0.14	0.887	-0.01715	0.019813
Financial crisis	-0.00496	0.00846	-0.59	0.558	-0.02156	0.011647
Government ownership	0.039124	0.011226	3.49	0.001	0.017091	0.061158
Bank size	-0.02279	0.002179	-10.46	0.000	-0.02707	-0.01851

_cons	0.28404	0.040531	7.01	0.000	0.204491	0.363588
Prob. >F	**0.000**					
Adjusted R- squared	**0.1522**					

As presented in table 5-27 and table 5-28, the adjusted R squared is 17.98% and 30.76% at 1% significance level. It was found that the gender diversity, bank size are significantly associated with NPL in both Islamic banks and Conventional banks. Interestingly, the association direction between bank size and NPL is negative in both Islamic banks and Conventional banks, which means the larger the bank size, the lower NPL and better risk management. In addition, there is no significant association between NPL and both non-executive board member and CEO turnover at any level of significance in both of Islamic banks and Conventional banks. The capital ratio, credit and investment committee in Islamic banks are significant with NPL, and vice versa in Conventional banks. Furthermore, it was found that the board size, role duality, audit committee, risk committee, LDR, government ownership, and financial crisis are significantly associated with NPL in Conventional banks, and vice versa in Islamic banks.

Table 5-27 Model (4)

OLS Regression Results

Corporate Governance with Risk Management NPL
Islamic Banks

NPL	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	-0.00459	0.006278	-0.73	0.465	-0.01696	0.007766
Non-executive board member	-0.13349	0.113732	-1.17	0.242	-0.35742	0.090435
Gender diversity	-0.11724	0.04552	-2.58	0.011	-0.20687	-0.02762
CEO- turnover	-0.01465	0.03509	-0.42	0.677	-0.08373	0.054443
Role duality	-0.01274	0.053029	-0.24	0.810	-0.11715	0.091664
Audit committee	0.000188	0.018196	0.01	0.992	-0.03564	0.036015
Credit and investment committee	0.103107	0.022366	4.61	0.000	0.05907	0.147144
Capital ratio	-0.13428	0.041533	-3.23	0.001	-0.21606	-0.05251
Loan to deposit ratio	0.036696	0.058866	0.62	0.534	-0.07921	0.152599
Risk committee	0.004594	0.021369	0.21	0.830	-0.03748	0.046669
Financial crisis	0.018825	0.014933	1.26	0.209	-0.01058	0.048227

Government ownership	-0.04003	0.037132	-1.08	0.282	-0.11314	0.033082
Bank size	-0.01077	0.003502	-3.08	0.02	-0.01767	-0.00388
_cons	0.278265	0.148388	1.88	0.062	-0.0139	0.57043
Prob. >F	**0.000**					
R- squared	**0.1798**					

Table 5-28 Model (4)

OLS Regression Results

Corporate Governance with Risk Management NPL

Conventional Banks

NPL	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Board size	-0.0071	0.001106	-6.43	0.000	-0.00927	-0.00494
Non-executive board member	0.025882	0.035387	0.73	0.465	-0.04348	0.09524
Gender diversity	-0.0187	0.00474	-3.94	0.000	-0.02799	-0.00941
CEO- turnover	0.004519	0.013838	0.33	0.744	-0.0226	0.03164
Role duality	-0.03287	0.012234	-2.69	0.007	-0.05684	-0.00889
Audit committee	0.060633	0.005554	10.92	0.000	0.049747	0.071518
Credit and investment committee	-0.00736	0.009007	-0.82	0.414	-0.02501	0.010292
Capital ratio	0.021155	0.040582	0.52	0.602	-0.05838	0.100694
Loan to deposit ratio	-0.03002	0.002587	-11.6	0.000	-0.03509	-0.02495
Risk committee	-0.03172	0.005121	-6.19	0.000	-0.04176	-0.02168
Financial crisis	-0.0184	0.008075	-2.28	0.023	-0.03422	-0.00257
Government ownership	0.044111	0.008083	5.46	0.000	0.028269	0.059954
Bank size	-0.02598	0.00175	-14.84	0.000	-0.02941	-0.02254
_cons	0.349572	0.038749	9.02	0.000	0.273626	0.425519
Prob. >F	**0.000**					
Adjusted R- squared	**0.3076**					

5.6 Discussion of statistical results

This section discusses the statistical results to identify the determinants of association between corporate governance and risk management and bank performance by testing the hypotheses of the current study. The following discussion will show the results of the four models as follows; once showing the data for all banks, , and then a comparison between the results of Islamic banks and conventional banks. Furthermore, as mentioned in the following

sub-sections, both of bivariate and multivariate results are consistent in number of associations, and they are not consistent in other number of associations. In such case of disagreement, this study will rely on the results of multivariate results because the multivariate test is more reliable than the bivariate, and the multivariate test take in consideration number of variables which is not allowed under the bivariate test.

5.6.1 Discussion of results of model (1)

5.6.1/1 Results of association between corporate governance and bank performance ROE for all banks data

Ten independent variables related to corporate governance have been investigated in the current study using bivariate and multivariate analyses. A summary of the results of the statistical employed techniques is presented in Table 5-29.

Board size. As per the result, there is agreement between the bivariate and multivariate test, whereas the association between the board size and ROE is insignificant, which means that the variation in the ROE in GCC banking sector cannot be explained by the number of the board members. The result is consistent with Belkhir (2009), who found no significant relationship between board size and firm performance. The results are also in line with Zulkafli and Samad (2007); their findings suggest no significant relationship between the board size and performance measures (e.g. return on assets and Tobin's Q).

Furthermore, the results are inconsistent with the evidence from previous studies in different counties, such as; Bennedsen et al. (2004), who concluded that there is a negative association between board size and bank performance. Shakir (2008) found that the board size has a consistent negative relationship with Tobin's Q in all regressions, and in most instances is statistically significant too. In addition, the results are inconsistent with Adams and Mehran (2005); Dwivedi and Jain (2005); Lipton and Lorsch (1992); Jensen, 1993; Kyereboah-Coleman and Biekpe (2006); Mak and Kusnadi (2005); Sanda et al. (2003); Durgavanshi (2014), Fanta et al. (2013); Stepanova et al. (2012); Rachdi and Ameur (2011); Hoque and Muradoglu (2013). In disagreement with the result, Mollah and Zaman (2015) found that the effect of board size on the performance of Islamic banks is overall negative.

Non-executive board member. Both bivariate and multivariate analyses indicate that the Non-executive board member is significant variable. As can be seen in the table 5-29, there is agreement among statistical techniques about the negative significant association of non-executive board member with bank performance measured by ROE at 99% confidence level. This means that the percentage of non-executive board members is negatively affecting the ROE, for example, the higher the percentage of non-executive board members the lower ROE and vice-versa. As per the result, the executive directors could positively affect the bank performance, as they can provide a more in-depth understanding and better information on which the board may base its decisions.

This result is consistent with Adams and Ferreira (2007), who found that more executive directors might positively affect the quality of information that reaches the board and enhance performance. Similarly, the result agrees with Busta (2007) UK, who found a negative correlation between the non-executive board member and performance. In the same line with the result, Pathan and Faff (2012) found that the independent directors decrease bank performance. This conclusion comes in conformity with Hoque and Muradoglu (2013), who found that the percentage of independent directors in the board has a negative and significant coefficient with performance measured by (annual stock market return and ROA). In general and similar to this study conclusion, Erkens et al. (2012) found that firms with independent boards experienced worse stock returns during the crisis.

On the other hand, the result disagrees with Al-Hawary (2011), who found that the percentage of non-executive directors had a statistically significant positive effect on performance. Furthermore and inconsistent with the result, Adams (2012) shows that banks with more independent board members performed worse during the crisis; this finding is consistent with Beltratti and Stulz (2012). For non-banks, Hermalin and Weisbach (1991) and Bhagat and Black (2002) find no significant relation between the percentage of outside directors and firm value.

Gender diversity. As seen from the table, the bivariate analysis indicated that the association between the gender diversity and bank performance measured by ROE is negative and significant at 5%. However, the multivariate analysis found that the association between the gender diversity and ROE is insignificant at any significant level, which means that the

existence of female members on the board cannot explain the variation in the ROE in the GCC banking sector. This result reflects the culture of GCC countries, whereas the female members on the board are not playing advanced roles in which they can positively affect the performance, unlike females in western countries.

This result is consistent with Wachudi and Mboya (2012) who concluded that board gender diversity has no significant effect on the performance of banks. In the same line, Hoque and Muradoglu (2013) concluded that the existence of female directors on the board does not add value to the board. Inconsistent with the results, Stepanova et al. (2012) found that there is a positive relationship between gender diversity and performance, which is due to female directors providing banks with better monitoring which leads to better performance.

Furthermore and disagree with the result, Low et al. (2015) who concluded that increasing numbers of female directors on the board has a positive effect on firm performance, as measured by ROE. García-Mecaa et al. (2015), found that female member on the board increases bank performance, while national diversity inhibits it. Adams and Ferreira (2009) and Ahern and Dittmar (2012) noted that there is a negative relationship between female gender in the board and profitability. The interpretation of this result suggests that female directors engage in excessive monitoring that decreases shareholder value (Almazan and Suarez (2003); Adams and Ferreira (2007)). In relation to investment, females make poorer decisions, as they face greater obstacles compared to men in obtaining information about investment projects (Bharat et al. (2009)).

CEO-turnover. Both bivariate and multivariate analyses indicate that the replacement of CEO is a significant variable at 1% significance level, with negative direction. As per the result, the non-replacement of CEO is significantly associated with lower bank performance measured by ROE. This result can be explained by stating that the non-replacement of CEO during the year is related to lower ROE. On the other hand, the replacement of CEO during the year is related to better performance, this result is explained in that the new CEO being more active and motivated to achieve the bank's goals and objectives. Furthermore, the new CEO is coming from an outside environment with different knowledge and experience that is necessary to enhance and develop bank performance.

In line with the results, there is a group of literature that found that there are significant positive changes in firm performance when CEO departures were followed by the appointment of a new CEO from outside the firm, Borokhovich et al. (1996), Farrell and Whidbee (2003) or Huson et al. (2004). Furthermore, Hermalin and Weisbach (2001) and Huson et al. (2004) concluded that the CEO departure from his position might be due to retirement or movement to an external position. As a result, the departures are not a sign of poor performance, and consequently, firms' future performance is expected to show smaller variations when compared with unexpected departures.

On the other hand, the result is inconsistent with a group of previous literature, which found that the CEO-turnover is negatively affecting the bank performance. The board replaces a poorly performing CEO to enhance and develop the firm's performance, Huson et al. (2001); Hermalin and Weisbach (2001). The improvements of shareholders' wealth and business operations follow CEO-turnover (Denis and Denis 1995; Huson et al. 2004).

Role duality. As per the results indicated in the table, the bivariate analysis indicated that the association between the role duality and bank performance measured by ROE is negative and significant at 5%. However, the multivariate analysis found that the association between the role duality and ROE is insignificant, which means that the change in role duality cannot explain the changes in ROE.

The multivariate result is consistent with (Durgavanshi 2014) who found that the separation of board chairman and CEO does not have a statistically significant effect on the financial performance. In line with this result, Hoque and Muradoglu (2013) who concluded that there is role duality in 49% of the sample, and the duality is not significant for the stock market return and consequently bank performance.

Furthermore and inconsistence with the results, Al-Hawary (2011) found that the combination between the two positions of chairman and executive manager in one individual has had a positive effect on bank performance, as role duality may be attributed to the family ownership which characterizes Jordanian banks. In addition, role duality enables the CEO to act rapidly and may provide strong leadership (Brickley et al., 1997). Furthermore, role duality creates a strong individual power base, which could affect the effective control exercised by the board

(e.g. Donaldson and Davis (1991); Jensen and Meckling (1976); Fama and Jensen (1983); Whittington 1993).

Audit committee. As indicated in table 5-29, the audit committee is insignificantly associated with bank performance measured by ROE. As per the result, the existence of audit committee not affect the ROE significantly. The result can be explained by stating that the audit committee in the GCC banking sector still does not play the efficient and effectiveness role in handling of internal control weaknesses and risk areas, and ensuring the reliability of its financial reporting.

Consistent with the result, Durgavanshi (2014) who found that there is no significant relationship between the existence of an audit committee and both Return on Equity ROE and Operational Self Sufficiency (OSS). In line with the result, Kajola (2008) who investigated the relationship between the audit committee and the performance and concluded that the audit committees occupied by a majority of outside members have no influence on the firm's performance. In agreement with the result, Agrawal and Chadha (2005) reported evidence indicating that the independence of the audit committee members has no effect on the probability of earnings restatement.

Inconsistent with the result, Klein (2002) reported a negative correlation between earnings management and audit committee independence. In agreement with this conclusion, Fanta et al. (2013), found that the existence of an audit committee in the board had a statistically significant negative effect on bank performance. Similarly, Anderson et al. (2004), found that fully independent audit committees are associated with a significantly lower cost of debt financing.

Credit and investment committee. Both bivariate and multivariate analyses indicate that the credit and investment committee is negatively and significantly associated with the ROE at (1% and 5% significant level respectively). As per the result, the existence of such a committee significantly affects the bank performance by a lower ROE percentage. In addition, this committee does not play an effective role in maximizing the bank's return. As per the review of GCC banks' annual reports, it was noted that 539 out of 900 observations have established a "credit and investment committee" to play an important role as a control tool,

and carry out one or more functions. These functions include approving extension or renewal of credit facilities, granting temporary excesses to customers with credit facilities approved by the board, approving early repayments of facilities, monitoring the performance and quality of the Group's credit portfolio; and overseeing the administration and effectiveness of and compliance with, the credit policies through the review of such processes, reports and other information as it deems appropriate. Based on the above, this variable will be used as a proxy for corporate governance, whereas this result could be used by other researchers in future studies for comparison.

Capital ratio. As seen from the table, the bivariate analysis indicated that the association between the capital ratio and bank performance measured by ROE is negative and significant at 1%. However, the multivariate analysis found that the association between the capital ratio and ROE is insignificant. Relying on the multivariate result, there is no significant association between capital ratio and ROE, which means that the changes in capital ratio cannot explain the variation in the ROE in the GCC banking sector.

Loan to deposit ratio (LDR). The multivariate analyses indicate that the loan to deposit ratio is positively and significantly associated with the ROE at 10% significance level. This result could be explained in that banks with effective management can keep the LDR and bank returns on high level, however the ineffective management cannot keep control over the ROE to be in high level at the same time cannot promote their loans to investors. The result disagree with Fanta et al. (2013) who found that the loan to deposits ratio does not have statistical and significant relationship with bank performance.

Risk committee. As indicated in the table, the bivariate analysis indicated that the association between the risk committee and bank performance measured by ROE is significant at 1%. However, the multivariate analysis found that the association between the risk committee and ROE is insignificant, which means that the risk committee cannot explain the variation in the ROE in the GCC banking sector. This result can be explained by stating that the concept of risk management in the GCC banking sector is not matured enough to affect the performance. Inconsistent with the multivariate result, Battaglia and Gallo (2015) who found that there is a positive relationship between the size of the risk committee and ROE and ROA and suggests

that, over the period 2007–2011, banks with a larger risk committee perform better in terms of profitability.

Furthermore and consistent with the interpretation, Mongiardino and Plath (2010) who found that the risk governance in large banks seems to have improved only to a limited extent despite the increased regulatory pressure induced by the credit crisis. In addition, they concluded that the better banking risk governance needs to have at least a dedicated board-level risk committee, and the majority should be independent. Furthermore, they found that there were only a small number of banks to follow best practices in 2007. Even though most large banks had a dedicated risk committee, most of them met very infrequently.

Furthermore and in line with the result, Aebi et al. (2012) found that merely having a risk committee does not necessarily help banks' crisis performance. However, having a more dedicated committee that meets more frequently and is larger seems to positively affect the banks' performance in the crisis.

Bank type. Both bivariate and multivariate analyses indicate that the bank type is significantly associated with bank performance at 1% significance level with negative direction. The result suggest that the conventional banks were significantly associated with lower performance. Which means that conventional banks in GCC need to exert more efforts to enhance their performance and increase their returns by attracting more customers and investors to their products.

Inconsistence with the result, Johnes et al. (2014) who compare the performance of Islamic and conventional banks prior to, during and immediately after the 2008 financial crisis (2004-2009) and found no significant difference in mean between conventional and Islamic banks when efficiency is measured, relative to a common frontier. Furthermore and not in correspondence with us, Amba and Almukharreq (2013) found that the financial crisis had a negative impact on profitability of both Islamic and conventional banks, but the Islamic banks were more profitable than conventional banks during the financial crisis although not statistically significant. Furthermore, Siraj and Pillai (2012) investigated the differences in the growth of performance indicators of conventional banks and Islamic banks in the GCC region. The study revealed that Islamic banks are more equity financed than conventional banks. In addition, conventional banks have growth in revenue during the period, but could

not achieve improved profitability due to higher provisions towards credit losses and impairment losses.

Financial crisis. As per the result indicated in the table, there is disagreement between bivariate and multivariate analyses, whereas the bivariate analysis indicated that the association between the financial crisis and performance measured by ROE is negative and significant at 1%. However, the multivariate analysis indicates that the association between the financial crisis and ROE is positive and significant, at 1% significance level. The results suggest that the years before the crisis are more significant and related to higher return on equity. This result is in harmony with the idea that the performance before the crisis should be better than after the crisis, because banks take some time to recover after a crisis.

Generally, there is agreement with Aebi et al. (2012), who concluded that for the banks to be better prepared to face the financial crisis, they have to significantly improve the quality and profile of their corporate governance and risk management function. Furthermore and in line with this study, Amba and Almukharreq (2013) found that the financial crisis had a negative impact on profitability of both Islamic and conventional banks, but the Islamic banks were more profitable than conventional banks during the financial crisis although not statistically significant.

Government ownership. As per the result indicated in the table, the bivariate analysis indicated that the association between the government ownership and bank performance measured by ROE is insignificant. However, the multivariate analysis indicated that that the association between government ownership and ROE is negative and significant at 1% significance level. The results suggest that the non-government banks are significantly associated with lower return on equity. This result comes in match with the idea that the performance of banks owned by government is better than that of banks owned by non-government in their performance. Furthermore this result highlights that the non-government banks need to develop and enhance their performance.

Inconsistence with the result, Farazi et al. (2011) who found that state banks are significantly less profitable than private banks in the non-GCC region. This result seems to be due to a combination of policy mandates and operational inefficiencies. In addition, La Porta et al. (2002) show that higher government ownership of banks is associated with slower subsequent

financial development and GDP growth. Barth et al. (2007) find similar results in a study focused on banking regulation. However, Yeiati et al. (2007) revisit La Porta et al. (2002) by using more recent data, better estimation techniques, and additional controls, and show that the evidence that states that bank prevalence leads to lower growth and financial development is not strong. Two recent papers (Korner and Schnabel (2010) and Andrianova et al. (2010)) reach similar conclusions. They find a negative relationship between a high fraction of public ownership in the banking system and growth when financial development and the quality of political institutions are low, conditions that tend to prevail in developing countries.

However, similar to Levy-Yeyati et al. (2007), they do not find a negative impact of public ownership and growth in developed countries. They stress that the quality of institutions and governance are important in studying the impact of public ownership on growth.

Bank size. The result revealed that there is agreement between both of bivariate and multivariate analyses, whereas bank size is positively and significantly associated with bank performance measured by ROE at 1% significance level. The results suggest that the larger the bank size the higher ROE, and the smaller the bank size the lower the ROE. The result can be explained by stating that the higher bank return on equity is likely to be due to economies of scale and larger market share related to the larger banks. Furthermore, the result can be explained by stating that the banks with large size have huge structure and have the ability to nominate a very good qualified and experienced staff; this staff has the required knowledge and experience in handling and managing assets and risks.

The result is consistent with Fanta et al. (2013) who found that the bank size had a statistically significant positive effect on bank performance measured using ROE, implying that large banks enjoy better profits than smaller banks. This benefit is likely to be due to economies of scale and larger market share possessed by the larger banks. Furthermore, the result in compliance with the results of Tomar et al. (2012). Similar to the above, Bertay et al. (2013) found that banks with large absolute size tended to be more profitable, as indicated by the return on assets.

Inconsistent with the results, Al-Hawary, (2011) found that there is no statistical significant effect in Tobin's Q ($p = 0.796$).

Table 5-29

Model (1) Summary of Results

Corporate Governance with ROE

All Banks Data

Independent Variables	Bivariate analysis			OLS
	Pearson	T-test	Mann Whitney	
Board size				
Non-executive board member	(-) **			(-) ***
Gender diversity			(-) **	
CEO- turnover		(+) ***	(-) ***	(-) ***
Role duality		(+) *	(-) **	
Audit committee		(+) *		
Credit and investment committee		(+) ***	(-) ***	(-) **
Capital ratio	(-) ***			
Loan to deposit ratio				(+)*
Risk committee		(+)***	(-) ***	
Bank type		(+)***	(-) ***	(-) ***
Financial crisis		(-) ***	(-) ***	(+)***
Government ownership				(-) ***
Bank size	(+)***			(+)***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).

*Correlation is significant at the 0.10 level (2-tailed).

5.6.1/2 Results of association between corporate governance and bank performance ROE for Islamic banks and conventional banks

As per table 5-30, which shows a comparison between the results of Islamic banks and Conventional banks, the results will be as follow:

Board size, it was insignificantly associated with ROE in both Islamic banks and conventional banks. In general, the result agrees with Belkhir (2009) and Zulkafli and Samad (2007), who concluded that there is an insignificant relationship between board size and firm

performance. Inconsistent with the result, Mollah and Zaman (2015) found that the effect of board size on the performance of Islamic banks is overall negative.

Non-executive board member, as seen from table 5-30, in Islamic banks there is a negative and significant association between the percentage of non-executive board members and ROE; it means that the higher the percentage of non-executive board members, the less ROE and vice-versa. On the other hand, it was concluded that in Islamic banks the executive directors could positively affect the bank performance, as they have a greater understanding about the business and better information on which the board may base its decisions. Regarding the Conventional banks, this relationship was insignificant. In general this result gives us an indication that the non-executive directors in Islamic banks and Conventional banks in the GCC need to be more dedicated and qualified in order to affect the performance positively. Mollah and Zaman (2015) are in agreement with the results, whereas they found that the effect of board independence on the performance of Islamic banks is overall negative.

Gender diversity, as seen from table 5-30, in both Islamic banks and Conventional banks, the association between the gender diversity and ROE is insignificant at any significant level, which means that the nominating of female members in the board cannot explain the variation in ROE.

CEO-turnover, as per table 5-30, the replacement of the CEO is insignificant in Islamic banks. However, the association is negative and significant with ROE in Conventional banks, which means the replacement of the CEO is significantly associated with better bank performance measured by ROE.

Role duality, audit committee and LDR, as seen from table 5-30, the association between role duality, audit committee, and LDR with ROE is insignificant in both Islamic banks and Conventional banks. This means that the role duality and the existence of an audit committee and LDR cannot explain the changes in ROE in the overall GCC banking sector.

Credit and investment committee, as shown in table 5-30, credit and investment committee is negatively and significantly associated with the ROE in Islamic banks and insignificant in Conventional banks. There is an indication from the result that the existence of this committee in the GCC banking sector is not matured enough to enhance and develop the ROE. In

addition, in Islamic banks, this committee is not playing an effective role in maximizing the bank's return.

Capital ratio, as shown in table 5-30, in Islamic banks there is a positive and significant association between capital ratio and ROE, which means that the higher percentage of capital ratio is related to better bank performance measured by ROE. However, this relationship is insignificant in Conventional banks.

Financial crisis, as seen from table 5-30, the association between the financial crisis and ROE is positive and significant at 1% significance level in both of Islamic banks and Conventional banks. The results suggest that years before the crisis are more significant and related to higher ROE. This results in accordance with the idea that the performance before the crisis should have been better than after the crisis because banks took some time to recover after the crisis in the entire GCC banking sector.

Government ownership, from table 5-30, the association between government ownership and ROE is negative and significant at 1% significance level in both Islamic banks and Conventional banks. This result suggests that banks owned by non-government are more significant and related to lower return on equity in the GCC banks. This result comes in agreement with the idea that the performance of banks owned by government is better than that of banks owned by non-government.

Bank size, from table 5-30, the bank size is positively and significantly associated with bank performance measured by ROE at 1% significance level in all GCC banks. The results suggest that the larger the bank size, the higher the ROE and the smaller the bank size, the lower the ROE.

Table 5-30

Model (1): Summary of Results

Corporate Governance with ROE

(All Banks Data- Islamic Banks – conventional Banks)

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size			
Non-executive board member	(-) ***	(-) ***	
Gender diversity			
CEO- turnover	(-) ***		(-) **
Role duality			
Audit committee			
Credit and investment committee	(-) **	(-) **	
Capital ratio		(+) *	
Loan to deposit ratio (LDR)	(+)*		
Risk committee			(-) ***
Bank type	(-) ***	--------	--------
Financial crisis	(+)***	(+) ***	(+) ***
Government ownership	(-) ***	(-) ***	(-) ***
Bank size	(+)***	(+) ***	(+) ***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).

*Correlation is significant at the 0.10 level (2-tailed).

The hypothesis test results based on the statistical results of Model (1) of the association between corporate governance and bank performance measured by ROE will be as follow;

H1.1	*There is significant association between role duality and ROE*	*Rejected*
H1.2	*There is insignificant association between non-executive board member and ROE*	*Rejected*
H1.3	*There is insignificant association between gender diversity and ROE*	*accepted*

H1.4	*There is significant association between* board size *and ROE*	*Rejected*
H1.5	*There is significant association between* CEO-turnover *and ROE*	*Accepted*
H1.6	*There is insignificant association between* audit committee *and ROE*	*Accepted*
H1.7	*There is significant association between* risk committee *and ROE*	*Rejected*
H1.8	*There is significant association between* credit and investment committee *and ROE*	*Accepted*
H1.9	*There is significant association between* capital ratio *and ROE*	*Rejected*
H1.10	*There is significant association between* (LDR) *and ROE*	*Accepted*

5.6.1/3 Results association between corporate governance and bank performance ROA for (all banks data – Islamic banks – conventional banks)

As per table 5-31, which shows a comparison between the results of Islamic banks and Conventional banks, the results will be as follow:

Board size, from table 5-31 it was concluded that the board size was insignificantly associated with ROA in Islamic banks. However, it was negative and significant with ROA in conventional banks. This result can be explained by stating that in conventional banks the smaller board size is more focused, and related to better bank performance ROA. In general, this result is inconsistent with Lai and Choi (2014) who concluded that there is a statistically insignificant relationship between ROA and board sizes. Furthermore, this result disagrees with Belkhir (2009) and Zulkafli and Samad (2007) who concluded that there is an insignificant relationship between board size and firm performance.

Non-executive board member, as per table 5-31 there is a negative significant association of non-executive board members with bank performance measured by ROA in both Islamic banks and Conventional banks. This result can be explained by stating that the higher the percentage of non-executive board members, the less ROA and vice-versa. As per the result, the executive directors could positively affect the bank performance, as they have a greater understanding and better information on which the board may base its decisions.

The result is consistent with Adams and Ferreira (2007) who found that more executive directors might positively affect the quality of information that reaches the board and enhances performance. Similarly, the result agrees with Busta (2007) UK who found a negative correlation between the non-executive board member and performance. In line with this result, Hoque and Muradoglu (2013), found that the percentage of independent directors in the board has a negative and significant coefficient with performance measured by ROA. On the other hand, the result disagrees with Al-Hawary (2011), who found that the percentage of non-executive directors had a statistically significant positive effect on performance. Furthermore and inconsistent with the result, Adams (2012) shows that banks with more independent board members performed worse during the crisis; this finding is consistent with Beltratti and Stulz (2012).

Gender diversity, as seen from the table 5-31, it was found that the association between the existence of female member on the board and ROA is insignificant in both Islamic banks and Conventional banks, which means that nominating male or female members in the board of all type of banks cannot explain the variation in the ROA in the GCC banking sector. This result agrees with Wachudi and Mboya (2012), who concluded that board gender diversity is insignificant with the performance of banks. In the same line, Hoque and Muradoglu (2013), concluded that gender diversity does not add any value to the board. Furthermore, and disagreeing with this result, there is a negative relationship between the presence of the female gender in the board and profitability (Adams and Ferreira (2009); Ahern and Dittmar (2012)). In addition and inconsistent with the result, García-Mecaa et al. (2015), found that gender diversity increases bank performance, while national diversity inhibits it.

CEO-turnover, from the table 5-31, it was noted that in Islamic banks there is no significant association with ROA. However, in Conventional banks the CEO-turnover is a significant variable with negative direction. The result can be explained by stating that in conventional banks the board my replace the CEO if the board feel that the current CEO cannot achieve the target and enhance the bank performance, as per the result the new CEO may be more active and motivated to achieve the bank's goals and objectives.

Borokhovich et al. (1996), Farrell and Whidbee (2003) or Huson et al. (2004) agree with the results in Conventional banks, whereas they noted that there are significant positive changes

in firm performance when CEO departures were followed by the appointment of a new CEO from outside the firm.
Huson et al. (2001); Hermalin and Weisbach (2001) concluded that the CEO-turnover negatively affects the bank performance.

Role duality, as per the results indicated in the table 5-31, the association between the role duality and ROA is insignificant in Islamic banks and Conventional banks, which means that the duality or the separation between the two positions of chairman and CEO are not an issue and insignificant with bank performance measured by ROA. Agreeing with these results, Durgavanshi (2014) found that the separation of board chairman and CEO does not have a statistically significant effect on the financial performance. Furthermore and in consistence with the results, Al-Hawary (2011) found that the combination between the two positions of chairman and executive manager in one person has had a positive effect on bank performance.

Audit committee, as indicated in table 5-31 the audit committee is insignificantly associated with bank performance measured by ROA in Conventional banks. However, it is negative and significant in Islamic banks. The result in Conventional banks can be explained through stating that the existence of an audit committee will not significantly affect the ROA because the audit committee in Conventional banks still does not play the efficient and effective role of handling the internal control, risks, and governance. Furthermore, in Islamic banks the existence of an audit committee adversely affects the ROA.

Credit and investment committee, as indicated in table 5-31, in both Islamic banks and Conventional banks there is an insignificant association between this committee and ROA. In addition this committee is not playing an effective role in maximizing the bank's return. Based on this result, the role of this committee should be enhanced in order to assist the banks in achieving their goals.

Capital ratio, as seen from the table 5-31, the capital ratio is positively and significantly associated with bank performance measured by ROA in Islamic banks and Conventional banks of the GCC. This means the higher the Capital ratio, the better the bank ROA.

Loan to deposit ratio (LDR), as mentioned in table 5-31, the LDR is insignificantly associated with ROA in both Islamic banks and Conventional banks. This result disagrees

with Fanta et al. (2013), who found that the loan to deposits ratio does not have a statistically significant effect on performance.

Risk committee, as indicated in table 5-31, in Islamic banks, there is a positive and significant association between risk committee and ROA, which means that the existence of this committee in Islamic banks is related to better ROA. On the other hand, in Conventional banks there is a negative and significant association between risk committee and ROA, which means the existence of a risk committee affects the ROA adversely.

Financial crisis, from the table 5-31, there is a positive and significant association between the crisis and ROA. This result comes in correspondence with the idea that the performance before the crisis should be better than after the crisis, because banks take some time to recover after a crisis. In agreement with us, Amba and Almukharreq (2013) found that the financial crisis had a negative impact on profitability of both Islamic and conventional banks, but the Islamic banks were more profitable than conventional banks during the financial crisis.

Government ownership, as mentioned in table 5-31, in Islamic banks there is a positive and significant association between the ownership and ROA, which means that the banks owned by non-government are related to higher ROA. Regarding the Conventional banks, there is significant association between the government ownership and ROA and it can be explained by stating that the banks owned by government are associated with better ROA.

Bank size, as per table 5-31 there is complete agreement between Islamic banks and Conventional banks in that there is a positive and significant association between bank size and ROA. This results suggest that the larger the bank size, the higher the ROA and the smaller the bank size, the lower the ROA.

In addition, the result indicated that the bigger banks have huge structures and have the ability to nominate a highly qualified and experienced staff; this staff have the required knowledge and experience in handling and managing assets and risks.

The result is consistent with Fanta et al. (2013), who found that the bank size had a statistically significant positive effect on bank performance measured using ROE, implying that large banks enjoy better profits than smaller banks. This benefit is likely to be due to economies of scale and larger market share possessed by the larger banks. Furthermore, the result in line

with the results of Tomar et al. (2012). Similar to the above, Bertay, et al. (2013) found that banks with large absolute size tend to be more profitable as indicated by the ROA.

Table 5-31

Model (1): summary of Results

Corporate governance with ROA

(All banks Data- Islamic banks –Conventional Banks)

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size			(-) **
Non-executive board member	(-) ***	(-) ***	(-) **
Gender diversity	(+) *		
CEO- turnover	(-) **		(-) *
Role duality			
Audit committee	(-) **	(-) **	
Credit and investment committee			
Capital ratio	(+) ***	(+) ***	(+) ***
Loan to deposit ratio (LDR)	(+)*		
Risk committee		(+) **	(-) ***
Bank type		--------	--------
Financial crisis	(+)***	(+) ***	(+) ***
Government ownership	(-) ***	(+) *	(-) ***
Bank size	(+)***	(+) ***	(+) **

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).
*Correlation is significant at the 0.10 level (2-tailed).

From the above discussion, the legitimacy and stakeholder theory can explain the relationship between corporate governance proxied by board size, NEBM, gender diversity, CEO-turnover, role duality, audit committee credit and investment committee, capital ratio, LDR

and risk committee and bank performance. Furthermore, as per the legitimacy theory, banks owned by government are significantly associated with better ROE.

The hypothesis test results based on the statistical results of Model (1) of the association between corporate governance and bank performance measured by ROA will be as follow:

H1.1	*There is significant association between role duality and ROA*	Rejected
H1.2	*There is insignificant association between the non-executive board member and ROA*	Rejected
H1.3	*There is insignificant association between* Gender diversity *and ROA*	Rejected
H1.4	*There is significant association between* board size *and ROA*	Rejected
H1.5	*There is significant association between* CEO-turnover *and ROA*	Accepted
H1.6	*There is insignificant association between* audit committee *and ROA*	Rejected
H1.7	*There is significant association between* risk committee *and ROA*	Rejected
H1.8	*There is significant association between* credit and investment committee *and ROA*	Rejected
H1.9	*There is significant association between* capital ratio *and ROA*	Accepted
H1.10	*There is significant association between* LDR *and ROA*	Accepted

5.6.2/1 Model (2): results of association between risk management and bank performance measured by ROE for all banks data

Five independent variables related to risk management have been investigated in the current study using bivariate and multivariate analyses. A summary of the results of the statistical employed techniques is presented in Table 5-32.

Non-performing loan (NPL), as mentioned in the table, the bivariate analysis indicated that the association between the non-performing loan and bank performance measured by ROE is significant at 1%. However, the multivariate analysis found that the association between the non-performing loan and ROE is insignificant at any significant level, which means that the variation in ROE cannot be explained by the changes in non-performing loan in the GCC banking sector.

In consistence with this result, Helhel (2015) investigated the impact of bank-specific and macroeconomic determinants on profitability of 14 private and commercial banks in Georgia for the period from (2009 - 2013) by panel data analysis, and found that the association between the non-performing loan and bank performance measured by ROE is statistically insignificant.

Inconsistent with the result, Vatansever and Hepşen (2013) found that the return on equity positively and significantly affect the NPL ratio. In addition, Epure and Lafuente (2012) found that non-performing loans negatively affect the efficiency and return on assets.

Capital adequacy ratio, both of bivariate and multivariate analyses, indicate that the CAR is significantly associated with bank performance measured by ROE at (1% and 10% significant level respectively) with different direction. The results suggest that the CAR is in positive and significant association with ROE, which means that the higher the CAR percentage, the higher the ROE. This association between CAR and ROE can be explained by stating that the GCC banking sector maintains control over the CAR percentage as per Basel I and II instructions to keep it on suitable level, in order to assess the bank's ability to pay its liabilities and meet any risks which may be incurred in the future. In addition, it was concluded that banks that keep this percentage higher than the required level are associated positively with higher ROE.

The result is consistent with Epure and Lafuente (2015) found that the capital adequacy ratio positively affects the net interest margin. This supports the notion that incurring monitoring costs and having higher levels of capitalization may enhance performance. Furthermore, Bateni et al. (2014) found that there is a positive and significant association between return on equity ROE and capital adequacy ratio (CAR).

Disagreeing with the result, Navapan and Tripe (2003), who found that there is a negative and significant association between CAR and ROE. In addition, Büyükşalvarcı and Abdioğlu, (2011) investigated the determinants of Turkish banks' capital adequacy ratio and its effects on financial positions of banks covered by the study for the period (2006 – 2010), and found that the return on equity has a negative and significant effect on CAR.

Credit risk, as seen from the table, bivariate analysis indicated that the association between the credit risk and bank performance measured by ROE is negative and significant at 1%. However, the multivariate analysis found that the association between the credit risk and ROE is insignificant, which means that the variation in the ROE in the GCC banking sector cannot be explained by the change in credit risk.

Consistent and in line with the result, Sayedi (2014) found that credit risk has an insignificant and negative effect on profitability. In addition, banks should ensure that they continue to maintain a low level of credit risk in order to increase the profitability; this is because the insignificant decline in credit risk has a negative effect on the profitability of banks.

Inconsistent with the result, Hakim and Neamie (2001) examined the relationship between credit risk and bank's performance of Egypt and Lebanon bank in 1990s. Using data for banks from the two countries over the period 1993-1999, they found that credit risk is positively associated with profitability as a measurement of bank performance. In addition and not in line with the result, Rogers (2008), found that credit risk has a negative relationship with financial performance. This is in line with extant finance literature which highlights that, it is probable that when risky lending increases the payback declines. This in turn negatively affects commercial banks' earnings. Similarly, the coefficient on credit risk is significant at 10% level, indicating that banks with higher credit risk are less efficient (Jiang et al. 2012). Furthermore, Aduda and Gitonga (2011) found that there is an effect of credit risk management on profitability at a reasonable level. In addition, Tabari, et al. (2013) found that there is a negative and significant association between credit risk and bank performance, which means that the credit risk will cause the performance of the bank to weaken.

Capital risk, as mentioned in the table, bivariate analysis indicated that the association between the capital risk and bank performance measured by ROE is negative and significant at 1%. However, the multivariate analysis found that the association between the capital risk

and ROE is insignificant, which means that the variation in the ROE in the GCC banking sector cannot be explained by the change in capital risk. Generally and consistent with the result, Tsorhe, et al. (2011), found that the board strength (as a corporate governance proxy) does not have a significant impact on capital risk and subsequently bank performance. This result comes in correspondence with (Aboagye and Otieku 2010), who concluded that an index that captures the state of corporate governance, outreach to clients, dependence on subsidies and use of technology is not statistically associated with their financial performance.

Liquidity risk, the result revealed complete agreement between both bivariate and multivariate analyses, whereas the association between liquidity risk and bank performance measured by ROE is insignificant. This result means that the variation in the ROE in the GCC banking sector cannot be explained by the change in liquidity risk.

Inconsistent with the result, Tabari, et al. (2013) found that there is a negative and significant association between liquidity risk and bank performance, which means that the liquidity risk will cause the performance of the bank to weaken. In addition, Berger (1995) calculated the liquidity risk of a bank through the ratio of cash asset to total asset in order to study the performance of a bank. In his research, he found that there is a positive relationship between liquidity risk of bank and return on total asset. Furthermore, in the banking sector, liquidity risk has an opposite effect on profitability. Some studies such as Molyneux and Thornton (1992) and Barth et al. (2003) supported the positive effect of risk on profitability; while some studies such as Bourke (1989) and Kosmidou et al. (2005) believed in its negative effect.

Bank type, both bivariate and multivariate analyses indicate that the bank type is significantly associated with bank performance at 1% significance level. The result suggest that the conventional banks were significantly associated with lower performance. Which means that conventional banks in GCC need to exert more efforts to enhance their performance and increase their returns by attracting more customers and investors to their products.

In contrast with the result, Johnes et al. (2014) compare the performance of Islamic and conventional banks prior to, during and immediately after the 2008 financial crisis (2004-2009) and found no significant difference in mean between conventional and Islamic banks when efficiency is measured relative to a common frontier. Furthermore and not corresponding with us, Amba and Almukharreq (2013) found that the financial crisis had a

negative impact on profitability of both Islamic and conventional banks although the Islamic banks were more profitable than conventional banks during the financial crisis, although not statistically significant. Furthermore, Siraj and Pillai (2012) investigated the differences in the growth of performance indicators of conventional banks and Islamic banks in the GCC region. The study revealed that Islamic banks are more equity financed than conventional banks. In addition, conventional banks have growth in revenue during the period, but could not achieve improved profitability due to higher provisions towards credit losses and impairment losses.

Financial crisis, as per the result indicated in the table, bivariate analysis indicated that the association between the financial crisis and performance measured by ROE is negative and significant at 1%. However, the multivariate analysis indicated that the association between the financial crisis and ROE is positive and significant at 1% significance level. The results suggest that the years before the crisis are more significant and related to the increase in return on equity. This result comes in line with the idea that the performance before the crisis should have been better than after the crisis, because banks take some time to recover after a crisis.

Generally, the result is agree with Aebi et al. (2012), who concluded that for the banks to be better prepared to face the financial crisis, they have to significantly improve the quality and profile of their corporate governance and risk management function. Furthermore and in line with us, Amba and Almukharreq (2013) found that the financial crisis had a negative impact on the profitability of both Islamic and conventional banks, but the Islamic banks were more profitable than conventional banks during the financial crisis although not statistically significant.

Government ownership, as per the result indicated in the table, bivariate analysis indicated that the association between the government ownership and bank performance measured by ROE is insignificant. However, the multivariate analysis indicated that the association between government ownership and ROE is negative and significant at 1% significance level. The results suggest that banks owned by non-government are more significant and related to lower return on equity.

Inconsistent with us, Farazi et al. (2011) found that state banks are significantly less profitable than private banks in the non-GCC region. This result seems to be due to a combination of policy mandates and operational inefficiencies. In addition, La Porta et al. (2002) show that higher government ownership of banks is associated with slower subsequent financial development and GDP growth. Barth et al. (2007) find similar results in a study focused on banking regulation. However, Yeiati et al. (2007) revisit La Porta et al. (2002) by using more recent data, better estimation techniques and additional controls, and show that the evidence that state bank prevalence leads to lower growth and financial development is not strong. Two recent papers (Korner and Schnabel (2010) and Andrianova et al. (2010)) reach similar conclusions. They find a negative relationship between a high fraction of public ownership in the banking system and growth when financial development and the quality of political institutions are low, conditions that tend to prevail in developing countries.
However, similar to Levy-Yeyati et al (2007), they do not find a negative impact of public ownership and growth in developed countries. They stress that the quality of institutions and governance are important in studying the impact of public ownership on growth.

Bank Size, the result revealed complete agreement between both bivariate and multivariate analyses that indicate that the bank size is positively and significantly associated with bank performance measured by ROE at 1% significance level. The results suggest that the larger bank size, the higher the ROE and the smaller the bank size, the lower the ROE.

The result is consistent with Fanta et al. (2013), who found that the bank size had a statistically significant positive effect on bank performance measured using ROE, implying that large banks enjoy better profits than smaller banks. This benefit is likely to be due to economies of scale and larger market share possessed by the larger banks. Furthermore, the result in correspondence with the results of Tomar et al. (2012). Similar to the above, Bertay, et al. (2013) found that banks with large absolute size tend to be more profitable, as indicated by the return on assets.

Inconsistent with the result, Al-Hawary, (2011) found that there is no statistical significant effect in Tobin's Q ($p = 0.796$).

Table 5-32 Model (2)
Summary of Results
Risk Management with ROE
All Bank Data

Independent Variables	Bivariate analysis			OLS
	Pearson	T-test	Mann	
Non-performing loan	(-)***			
Capital adequacy ratio	(-)***			(+)*
Credit risk	(-)***			
Capital risk	(-)***			
Liquidity risk				
Bank type		(+)***	(-) ***	(-) ***
Financial crisis		(-) ***	(-) ***	(+) ***
Government ownership				(-) ***
Bank size	(+)***			(+) ***

5.6.2/2 Model (2): Results of association between risk management and bank performance ROE for Islamic banks and conventional banks)

As per table 5-33, which shows a comparison between the results of Islamic banks and Conventional banks as follow:

Non-performing loan (NPL), as indicated in table 5-33, in Islamic banks the NPL is insignificant with ROE. However, in Conventional banks there is a negative and significant association between NPL and ROE which represents a healthy relationship; on the other hand, the lower the level of NPL, the higher the percentage of ROE. The result in conventional banks is consistent with Zhang et al. (2016), who concluded that an increase in the NPL negatively affects the bank performance.

Capital adequacy ratio (CAR), as per table 5-33, in both Islamic banks and Conventional banks the CAR is positively and significantly associated with ROE; this result means that the higher the CAR percentage, the Higher the ROE. This association between CAR and ROE in both Islamic and Conventional banks can be explained by stating that these banks maintain control over the CAR percentage as per Basel I and II instruction to keep it at a suitable level

(the minimum is 8 %) for stability purposes, and they simultaneously attempt to maximize their returns.

Furthermore, Bateni, et al. (2014) found that there is a positive and significant association between ROE and capital adequacy ratio (CAR). Büyükşalvarcı, A., and Abdioğlu, H. (2011) investigated the determinants of Turkish banks' capital adequacy ratio and its effects on financial positions of banks, and found that the ROE has a negative and significant effect on CAR.

Credit risk, as seen from table 5-33, the association in Conventional banks is better than in Islamic banks. It was noted that the association in Islamic banks with ROE is insignificant, while there is a negative and significant association with ROE which means that they should maintain the credit risk at a low level in order to increase the ROE.

Capital risk and liquidity risk, as per table 5-33, in both Islamic banks and Conventional banks, the association between capital risk and liquidity risk with ROE is insignificant, which means the changes in ROE cannot be explained by the changes in capital risk and liquidity risk.

Generally, and consistent with the result, Tsorhe, et al. (2011), found that the board strength (as a corporate governance proxy) does not have a significant impact on capital risk and consequently bank performance. This result comes in compliance with (Aboagye and Otieku 2010), who concluded that an index that captures the state of corporate governance, outreach to clients, dependence on subsidies and use of technology is not statistically associated with their financial performance. Furthermore, and in consistence with the result, Tabari, et al. (2013) found that there is a negative and significant association between liquidity risk and bank performance.

Financial crisis, as per the result indicated in table 5-33, in both Islamic and Conventional banks the association between the financial crisis and ROE is positive and significant at 1% significance level. The results suggest that the years before the crisis are related to the increase in ROE. This result comes in correspondence with the idea that the performance before the crisis should have been better than after the crisis, because banks take some time to recover after a crisis.

Government ownership, as seen in table 5-33, in both of Islamic banks and Conventional banks, the association between government ownership and ROE is significant. The results suggest that banks owned by non-government are associated with lower return on equity, on the other hand banks owned by government are related more to a higher return on equity. This result comes in agreement with the idea that the performance of banks owned by government is better than the performance of banks owned by non-government. This result reflects the strength and power of government banks in the GCC region.

Bank size, as per table 5-33, in both Islamic and Conventional banks, the bank size is positively and significantly associated with bank performance measured by ROE, at 1% significance level. The results suggest that the larger the bank size, the higher the ROE.

The result is consistent with Fanta et al. (2013), who found that the bank size had a statistically significant positive effect on bank performance measured using ROE, implying that large banks enjoy better profits than smaller banks. Similar to the above, Bertay, et al. (2013) found that banks with large absolute size tended to be more profitable as indicated by the return on assets.

Table 5-33 Model (2)
Summary of Results
Risk Management with ROE
(All Banks Data- Islamic Banks – Conventional Banks)

Independent Variables	OLS		
	All Banks	Islamic Banks	Conventional Banks
Non-performing loan			(-) **
Capital adequacy ratio	(+)*	(+)*	(+)*
Credit risk			(-) ***
Capital risk			
Liquidity risk			
Bank type	(-) ***	--------	--------
Financial crisis	(+) ***	(+) ***	(+) ***
Government ownership	(-) ***	(-) ***	(-) **

Bank size	(+) ***	(+) ***	(+) ***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed). *Correlation is significant at the 0.10 level (2-tailed).

From the above discussion, the requirements of central banks in GCC regarding number of ratios such as; NPL, CAR, credit risk, capital risk and liquidity risk can support the use of legitimacy and stakeholder theory in explaining the relationship between risk management and bank performance. Furthermore, as noted the GCC central banks have vital role in monitor and control the banks performance.

The hypothesis test results based on the statistical results of Model (2) of the association between risk management and bank performance measured by ROE will be as follow;

H2.1	*There is significant association between* NPL *and ROE*	Rejected
H2.2	*There is significant association between*Capital risk *and ROE*	Rejected
H2.3	*There is significant association between* Credit risk *and ROE*	Rejected
H2.4	*There is insignificant association between* CAR *and ROE*	Rejected
H2.5	*There is significant association between* liquidity risk *and ROE*	Rejected

5.6.2/3 Model (2): Results of association between risk management and bank performance ROA for Islamic banks and conventional banks

Table 5-34 will show the comparison between the results of Islamic banks and conventional banks as follow:

Non-performing loan (NPL), as indicated in table 5-34, in both Islamic banks and Conventional banks the NPL is insignificant with ROA. Inconsistent with the result, Zhang et al. (2016) concluded that an increase in the NPL negatively affected the bank performance.

Capital adequacy ratio, as per table 5-34, in both Islamic banks and Conventional banks the CAR is positively and significantly associated with ROA; this result means that the higher

the CAR the Higher the ROA. The association between CAR and ROA in both Islamic and Conventional banks can be explained by stating that all banks in the GCC region should maintain control over the CAR percentage as per Basel I and II instructions to keep it at a suitable level for stability purposes, and simultaneously attempt to maximize their returns.

Credit risk, as indicated in table 5-34, the association in Conventional banks is better than in Islamic banks. The association in Islamic banks with ROA is insignificant, while in Conventional banks, there is a negative and significant association with ROA which means that they should maintain the credit risk at a low level in order to increase the ROA.

Capital risk, as per table 5-34, in Islamic banks the association between capital risk and ROA is significant and negative, which means that in Islamic banks they need to keep the capital risk down to recognize higher ROA. On the other hand, in Non- Islamic banks the association is positive and significant, which means in order to recognize higher ROA they will be exposed to higher capital risk.

Financial crisis, as per the result indicated in table 5-34, in both Islamic and Conventional banks the association between the financial crisis and ROA is positive and significant at 1% significance level. The result of this study suggest that the years before the crisis are related to the increase in ROA. This result comes in agreement with the idea that the performance before the crisis should have been better than after the crisis, because banks take some time to recover after a crisis.

Government ownership, as indicated in table 5-34, in both Islamic banks and Conventional banks, the association between government ownership and ROA is significant. The results suggest that banks owned by government are related more to higher returns. This result comes in agreement with the idea that the performance of banks owned by government is better than the performance of banks owned by non-government. This result reflects the strength and power of government banks in the GCC region.

Bank Size, as per table 5-34, in Conventional banks the bank size is positively and significantly associated with bank performance measured by ROA at 1% significance level. However, in Islamic banks it is insignificant.

Table 5-34 Model (2)
Summary of Results
Risk Management and ROA

(All Banks Data- Islamic Banks – Conventional Banks)

Independent Variables	OLS		
	All banks Data	Islamic Banks	Conventional Banks
Non-performing loan			
Capital adequacy ratio	(+) ***	(+) **	(+) **
Credit risk			(-) ***
Capital risk		(-) *	(+) ***
Liquidity risk		(+) *	
Bank type	(-) *		
Financial crisis	(+) ***	(+) ***	(+) ***
Government ownership	(-) ***	(-) ***	(-) **
Bank size	(+) ***		(+) ***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).*Correlation is significant at the 0.10 level (2-tailed).

The hypothesis test results based on the statistical results of Model (2) of the association between risk management and bank performance measured by ROA will be as follow:

H2.1	*There is significant association between* NPL *and bank performance measured by ROA*	Rejected
H2.2	*There is significant association between* Capital risk *and bank performance measured by ROA*	Rejected
H2.3	*There is significant association between* Credit risk *and bank performance measured by ROA*	Rejected
H2.4	*There is insignificant association between* CAR *and bank performance measured by ROA*	Rejected
H2.5	*There is significant association between* liquidity risk *and bank performance measured by ROA*	Rejected

5.6.3/1 Model (3): implication of both corporate governance and risk management on bank performance ROE for all banks data

Ten independent variables related to corporate governance and five independent variables related to risk management have been investigated in the current study, to investigate the association of applying both corporate governance and risk management on bank performance measured by ROE, using bivariate and multivariate analyses. A summary of the results is presented in table 5-35.

Board size, as mentioned in the table, there is agreement between the bivariate and multivariate tests, whereas the association between the board size and ROE is insignificant, which means that the variation in the ROE in the GCC banking sector cannot be explained by the number of the board members. The result is consistent with Belkhir (2009), who found no significant relationship between board size and firm performance. The results are also in line with Zulkafli and Samad (2007); their findings suggest no significant relationship between the board size and performance measures (e.g. return on assets and Tobin's Q).

Furthermore, the results are inconsistent with the evidence from prior studies in different counties, such as; Bennedsen et al. (2004), who concluded that there is a negative association between board size and bank performance. Shakir, R. (2008) found that the board size has a consistent negative relationship with Tobin's Q in all regressions, and in most instances is statistically significant too. In addition, the results are in consistence with Adams and Mehran (2005); Dwivedi and Jain (2005); Lipton and Lorsch (1992); Jensen, 1993; Coleman & Biekpe (2006); Mak and Kusnadi (2005); Sanda et al. (2003); Durgavanshi (2014), Fanta et al. (2013); Stepanova et al. (2012); Rachdi and Ameur (2011); Hoque and Muradoglu (2013).

Non-executive board member, both bivariate and multivariate analyses indicate that the Non-executive board member is a significant variable. As can be seen in the table 5-35, there is agreement among statistical techniques about the negative significant association of non-executive board member with bank performance, measured by ROE at a confidence level of 99%. This means that the percentage of non-executive board members is negatively affecting the ROE, for example, the higher the percentage of non-executive board members, the less ROE and vice versa. As per the result, the executive directors could positively affect the bank

performance, as they can provide more in-depth understanding and better information on which the board may base its decisions.

The result is consistent with Adams and Ferreira (2007) who found that more executive directors might positively affect the quality of information that reaches the board and enhance performance. Similarly, the result agrees with Busta I. (2007) UK, who found a negative correlation between the non-executive board members and performance. In the same line with the result, Pathan and Faff (2012) found that the independent directors decreased bank performance. This conclusion comes in conformity with Hoque and Muradoglu (2013), who found that the percentage of independent directors in the board has a negative and significant coefficient with performance measured by (annual stock market return and ROA). In general and similar to this study conclusion, Erkens et al. (2012) found that firms with independent boards experienced worse stock returns during the crisis.

On the other hand, the results disagree with Al-Hawary (2011), who found that the percentage of non-executive directors had a statistically significant positive effect on performance. Furthermore and inconsistent with the result, Adams (2012) shows that banks with more independent board members performed worse during the crisis; this finding is consistent with Beltratti and Stulz (2012). For non-banks, Hermalin and Weisbach (1991) and Bhagat and Black (2002) find no significant relationship between the percentage of outside directors and firm value.

Gender diversity, as seen from the table, multivariate analysis found that the association between the gender diversity and ROE is insignificant at any significant level, which means that the existence of female members on the board cannot explain the variation in the ROE in the GCC banking sector. This result reflects the culture of GCC countries, in which the females there do not playing effective and efficient roles in GCC.

The result is consistent with Wachudi and Mboya (2012) who concluded that board gender diversity has no significant effect on the performance of banks. In the same tone, Hoque and Muradoglu (2013), concluded that the gender diversity (the existence of female directors) does not add any value to the board. In consistence with the results, Stepanova et al. (2012) found that there is a positive relationship between gender diversity and performance; this is

due to female directors provide banks with better monitoring, which leads to better performance.

Furthermore and disagreeing with the result, Low, D. et al. (2015) found that increasing the numbers of female directors on the board has a positive effect on firm performance, as measured by return on equity ROE. Inconsistent with the result, Gulamhussena and Santa (2015) who found that the presence and percentage of female directors in boardrooms has a positive influence on performance. In addition, they noted that there is a negative relationship between the presence of women in boardrooms and risk-taking. In addition, there is a negative relationship between the female gender in the board and profitability (Adams and Ferreira (2009); Ahern and Dittmar (2012)). The interpretation of this result suggests that female directors engage in excessive monitoring that decreases shareholder value (Almazan and Suarez, 2003); Adams and Ferreira (2007)). In relation to investment, females make poorer decisions as they face greater obstacles as opposed to men in obtaining information about investment projects (Bharat et al. (2009)).

CEO-turnover, both bivariate and multivariate analyses indicate that the replacement of the CEO is significantly associated with better bank performance measured by ROE at 1 % significant level. This result can be explained by stating that when banks faces financial troubles because of CEOs who cannot achieve banks' goals and objectives, the boards should think about replacing those CEOs with new CEOs. The new CEO is more active and motivated to achieve the bank's goals and objectives. Furthermore, the new CEO is coming from an exterior environment with different knowledge and experience that is necessary to enhance and develop the bank performance.

In line with the results, there is a group of literature that found that there are significant positive changes in firm performance when CEO departures were followed by the appointment of a new CEO from outside the firm, Borokhovich et al. (1996), Farrell and Whidbee (2003) or Huson *et al.* (2004). Furthermore, Hermalin and Weisbach (2001) and Huson *et al.* (2004) concluded that the CEO's departure from his position might be due to retirement or movement to an external position. As a result, the departures are not a sign of poor performance, and consequently, firms' future performance is expected to show smaller variations when compared with unexpected departures.

On the other hand, the result is inconsistent with a group of previous literature, which found that the CEO-turnover is negatively affecting the bank performance. The board replaces a poorly performing CEO to enhance and develop the firm's performance, Huson et al. (2001); Hermalin and Weisbach (2001). The improvements of shareholders' wealth and business operations follow CEO-turnover (Denis and Denis 1995; Huson et al. 2004).

Role duality, as per the results indicated in the table, both bivariate and multivariate analyses indicate that the role duality is a significant variable at (5% and 10% significant level respectively). As per the result, the role duality is negatively and significantly associated with bank performance measured by ROE. This result means that the duality between the two positions of chairperson and CEO is more significant and related to the high percentage of ROE. The result can be explained by stating that when one person is the CEO and the chairperson simultaneously, then he/she has the power to take decisions easier and faster, concurrently, he/she has deep understanding and experience about the bank's operation.

Furthermore and consistently with the results, (Al-Hawary, S. 2011) found that the combination between the two positions of chairman and executive manager in one individual has had a positive effect on bank performance; role duality may be attributed to the family ownership which characterizes Jordanian banks. In addition, role duality enables the CEO to act rapidly and may provide strong leadership (Brickley et al., 1997). Furthermore, role duality creates a strong individual power base, which could affect the effective control exercised by the board (e.g. Donaldson and Davis, 1991; Jensen and Meckling, 1976; Fama and Jensen, 1983; Whittington, 1993).

On the other hand, the result is inconsistent with (Durgavanshi 2014) who found that the separation of board chairman and CEO does not have a statistically significant effect on the financial performance. Furthermore and not in line with the result, Hoque and Muradoglu (2013) concluded that there is role duality in 49% of the sample, and the duality is not significant for the stock market return regressions and then bank performance.

Audit committee, as indicated in table 5-35 both tests indicate that the audit committee is insignificantly associated with bank performance measured by ROE at any significant level. As per the result, whether the audit committee exists or not, it will not affect the ROE due to the insignificant relationship between the two variables. The result can be explained by

asserting that the audit committee in the GCC banking sector is not sufficiently matured and still does not play an efficient and effective role in handling the internal control weaknesses, risk issues, and ensuring the reliability of its financial reporting.

Consistent with the result, Durgavanshi (2014) who found that there is no significant relationship between the existence of an audit committee and both Return on Equity ROE and Operational Self Sufficiency (OSS). In the same line of the result, Kajola (2008) investigated the relationship between the audit committee and the two performance measures, and concluded that the audit committees being occupied by a majority of outside members has no influence on the firm's performance. Agreeing with us, Agrawal and Chadha (2005) reported evidence indicating that the independence of the audit committee members has no effect on the probability of earnings restatement.

Inconsistently with the result, Klein (2002) reports a negative correlation between earnings management and audit committee independence. In agreement with this conclusion, Fanta et al. (2013), found that the existence of an audit committee in the board had a statistically significant negative effect on bank performance. Similarly, Anderson, et al. (2004), found that fully independent audit committees were associated with a significantly lower cost of debt financing.

Credit and investment committee, both bivariate and multivariate analyses indicate that the credit and investment committee is significantly associated with the ROE at (1% and 10% significant level respectively) with negative direction. As per the result, the existence of such a committee is related to the decrease in ROE. This result may be explained by stating that this committee within the GCC banking sector is still not playing an efficient and effective role in maximizing the banks' return. Furthermore, in recent years, the majority of GCC banks established credit and investment committees to work as a control tool, in order to carry out several functions. These include approving extension or renewal of credit facilities, granting temporary excesses to customers with credit facilities approved by the Board, approving early repayments of facilities, monitoring the performance and quality of the Group's credit portfolio and overseeing the administration and effectiveness of and compliance with the credit policies through the review of such processes, reports and other information as it deems

appropriate. Based on the above, this variable will be used in this study as a proxy for corporate governance, whereas this result could be used in future studies for comparison.

Capital ratio, as per the results indicated in the table, bivariate analysis indicated that the association between the capital ratio and bank performance measured by ROE is negative and significant at 1%. However, the multivariate analysis indicated that the association between the capital ratio and ROE is insignificant. Relying on the multivariate result, the changes in ROE cannot be explained by variation in capital ratio.

Loan to deposit ratio LDR, as per the results indicated in the table, bivariate analysis indicated that the association between the LDR and bank performance measured by ROE is negative and significant at 1%. However, the multivariate analysis found that the association between the LDR and ROE is insignificant. Based on the multivariate result, the changes in ROE cannot be explained by variation in LDR.

The multivariate result is consistent with Fanta et al. (2013) who found that the loan to deposits ratio does not have a statistically significant effect on performance.

Risk committee, as indicated in the table, multivariate analysis found that the association between risk committee and ROE is insignificant, which means that the risk committee cannot explain the variation in the ROE in the GCC banking sector. This result can be explained by declaring that the concept of risk management through a dedicated risk committee in the GCC banking sector is not sufficiently matured to affect the performance.

This result is consistent with Mongiardino and Plath (2010) who found that the risk governance in large banks seems to have improved only to a limited extent, despite the increased regulatory pressure induced by the credit crisis. In addition, they concluded that the better banking risk governance needs to have at least a dedicated board-level risk committee, and the majority should be independent. Furthermore, they found that only a small number of banks observed best practices in 2007. Even though most large banks had a dedicated risk committee, most of them met very infrequently.

Furthermore and in line with the result, Aebi et al. (2012) who found that merely having a risk committee does not necessarily help banks' crisis performance. However, having a more

dedicated committee that meets more frequently and is larger seems to positively affect the banks' performance in the crisis.

Non-performing loan (NPL), as mentioned in the table, both bivariate and multivariate analyses indicate that the NPL is negatively and significantly associated with the ROE at 1% significance level. The results reflect the degree of management efficiency in the GCC banking sector in managing and controlling both NPL and ROE, because this negative association means that there is lower NPL (decrease in NPL) with higher ROE. In the case of efficient management, there is evidence that the management have the ability to keep the non-performing loans at a low level and maximize the bank return. Moreover, in the case of inefficient management, they cannot keep the NPL at a lower level and cannot maximize the banks return. The result is in line with Epure and Lafuente (2015) who found that non-performing loans negatively affect the efficiency and return on assets.

Inconsistent with the result, Helhel (2015) who investigated the impact of bank-specific and macroeconomic determinants on profitability of 14 private and commercial banks in Georgia for the period between (2009-2013) by panel data analysis, and found that the association between the non-performing loan and bank performance measured by ROE is statistically insignificant. In addition, Vatansever and Hepşen (2013) who found that the return on equity positively and significantly affected the NPL.

Capital adequacy ratio, as per the table, bivariate test indicates that the CAR is significantly associated with bank performance measured by ROE at (1%). However, multivariate analysis indicates that there is an insignificant relationship between CAR and ROE. The results suggest that the CAR is insignificantly associated with ROE, which means that the changes in ROE cannot be explained by CAR percentage.

The multivariate result is inconsistent with Navapan and Tripe (2003) who found that there is a negative and significant association between CAR and ROE. In addition, Epure and Lafuente (2015) found that the capital adequacy ratio positively affects the net interest margin. This supports the fact that incurring monitoring costs and having higher levels of capitalization may enhance performance. Furthermore, Bateni, et al. (2014) found that there is a positive and significant association between ROE and capital adequacy ratio. Disagreeing with the result, Büyükşalvarcı and Abdioğlu (2011) who investigated the determinants of

Turkish banks' capital adequacy ratio and its effects on the financial positions of banks covered by the study for the period (2006 – 2010) found that the return on equity has a negative and significant effect on CAR.

Credit risk, as seen in the table, there is agreement between the bivariate and multivariate tests whereas the both tests indicated that the association between the credit risk and bank performance measured by ROE is negative and significant at 1% significance level. The result can be explained by stating that the lower the percentage of credit risk, the higher the percentage of ROE and vice versa.

Interestingly, good management will maintain control over credit risk to keep it on the lowest level. At the same time, they will apply efforts to maximize the bank return. On the other hand, inefficient management cannot keep control over the percentage of credit risk,and they do not have the abilities and capabilities to achieve the maximum return on equity.

In correspondence with the result, Rogers (2008), found that credit risk has a negative relationship with financial performance. This is in line with extant finance literature which highlights that, it is probable that when risky lending increases the payback declines. This in turn negatively affects commercial banks' earnings. Similarly, the coefficient on credit risk is significant at 10% percent level of significance, indicating that banks with higher credit risk are less efficient (Jiang et al. 2012). Furthermore, Aduda and Gitonga (2011) found that there is an effect of credit risk management on profitability at a reasonable level. In addition, Tabari et al. (2013) found that there is a negative and significant association between credit risk and bank performance, which means that the credit risk will cause the performance of bank to be weaken.

Inconsistent with the result, Hakim and Neamie (2001) examined the relationship between credit risk and bank's performance of Egypt and Lebanon banks in 1990s. Using data for banks from the two countries over the period (1993-1999), they found that credit risk is positively associated with profitability as a measurement of bank performance. Furthermore and inconsistent with the result, Sayedi (2014) who found that credit risk has insignificant and negative effect on profitability. In addition, banks should ensure that they continue to maintain a low level of credit risk in order to increase the profitability; this is because the insignificant decline in credit risk has a negative effect on the profitability of banks.

Liquidity risk, as mentioned in the table, there is agreement between both bivariate and multivariate analysis whereas both of them indicate that the association between the liquidity risk and bank performance measured by ROE is insignificant. The results suggest that the change in ROE cannot be explained by the variance in liquidity risk in the GCC banking sector.

Inconsistent with the result, Tabari, et al. (2013) found that there is a negative and significant association between liquidity risk and bank performance, which means that the liquidity risk will cause the performance of the bank to weaken. Furthermore, in the banking sector, liquidity risk has an opposite effect on profitability. Additionally, Berger (1995) calculated the liquidity risk of a bank through the ratio of cash assets to total assets in order to study the performance of a bank. In his research, he found that there is a positive relationship between liquidity risk and bank performance measured by return on total assets. Some studies such as Molyneux & Thornton (1992) and Barth et al. (2003) supported the positive effect of risk on the profitability; while some studies such as Bourke (1989) and Kosmidou et al. (2005) believed in its negative effect.

Capital risk, as mentioned in the table, both bivariate and multivariate analyses indicate that the capital risk is negatively and significantly associated with the ROE at (1% and 5% significant level respectively). This result reflects the efficiency of the banking sector management, because when the bank has an efficient and effective management, this management will keep control over capital risk to maintain it at the lowest level while simultaneously applying efforts to maximize the bank return. On the other hand, inefficient management cannot keep control over the percentage of capital risk; at the same time, they do not have the capabilities to recognize the maximum return on equity.

Inconsistent with the result, Tsorhe, et al. (2011), found that the board strength (as a corporate governance proxy) does not have a significant impact on capital risk. This result comes in accord with (Aboagye and Otieku 2010) who concluded that an index that captures the state of corporate governance, outreach to clients, dependence on subsidies and use of technology is not statistically associated with their financial performance.

Bank type, both bivariate and multivariate analyses indicate that the bank type is significantly associated with bank performance at 1% significance level. This results suggest that conventional banks were significantly associated with bank performance by decreasing the ROE. As mentioned before management in conventional banks need to exert more efforts to develop and enhance the performance.

In contrast with the result, Johnes et al. (2014) who compared the performance of Islamic and conventional banks prior to, during and immediately after the 2008 financial crisis (2004-2009) and found no significant difference in mean between conventional and Islamic banks when efficiency is measured relative to a common frontier. Furthermore and not in line with the result, Amba and Almukharreq (2013) who found that the financial crisis had a negative impact on profitability of both Islamic and conventional banks, but the Islamic banks were more profitable than conventional banks during the financial crisis although not statistically significant. Furthermore, Siraj and Pillai (2012) investigated the differences in the growth of performance indicators of conventional banks and Islamic banks in the GCC region. The study revealed that Islamic banks are more equity financed than conventional banks. In addition, conventional banks have growth in revenue during the period, but could not achieve improved profitability due to higher provisions towards credit losses and impairment losses.

Financial crisis, as per the result indicated in the table, multivariate analysis indicates that that the association between the financial crisis and ROE is positive and significant at 1% significance level. The results suggest that the years before the crisis are more significant and related to the increase in return on equity. This result corresponds with the idea that the performance before the crisis should have been better than after the crisis because banks take some time to recover after a crisis.

Generally, the result in agreement with Aebi et al. (2012) who concluded that for the banks to be better prepared to face the financial crisis, they have to significantly improve the quality and profile of their corporate governance and risk management function. Furthermore and in line with us, Amba and Almukharreq (2013) found that the financial crisis had a negative impact on profitability of both Islamic and conventional banks although the Islamic banks were more profitable than conventional banks during the financial crisis, but not statistically significant.

Government ownership, as per the result indicated in the table, multivariate analysis indicates that the association between government ownership and ROE is significant at 1% significance level. The results suggest that banks owned by government are more significant and related to a higher return on equity. This result comes in agreement with the idea that the performance of banks owned by government is better than the performance of banks owned by non-government, because banks take some time to recover after a crisis. This result reflects the strength and power of government banks in the GCC region.

Inconsistent with the result, Farazi et al. (2011) found that state banks are significantly less profitable than private banks in the non-GCC region. This result seems to be due to a combination of policy mandates and operational inefficiencies. In addition, La Porta et al. (2002) showed that higher government ownership of banks is associated with slower subsequent financial development and GDP growth. Barth et al. (2007) find similar results in a study focused on banking regulation. However, Yeiati et al. (2007) revisit La Porta et al. (2002) by using more recent data, better estimation techniques, and additional controls, and show that the evidence that state bank prevalence leads to lower growth and financial development is not strong. Two recent papers (Korner and Schnabel (2010) and Andrianova et al. (2010)) reached similar conclusions. They find a negative relationship between a high fraction of public ownership in the banking system and growth when financial development and the quality of political institutions are low, conditions that tend to prevail in developing countries.

However, similar to Levy-Yeyati et al. (2007), they don't find a negative impact of public ownership and growth in developed countries. They stress that the quality of institutions and governance are important in studying the impact of public ownership on growth.

Bank size, the result revealed complete agreement between both bivariate and multivariate analysis that indicated that the bank size is positively and significantly associated with bank performance measured by ROE at 1% significance level. The results suggest that the larger the bank size the higher the ROE and the smaller the bank size the lower the ROE. The result can be explained by stating that the higher bank return is likely to be due to economies of scale and larger market share related to the larger banks. On the other hand, the bigger banks

have very big structures and the ability to nominate a very good qualified and experienced staff. This staff has the required knowledge in handling and managing assets and risks.

The result is consistent with Fanta et al. (2013) who found that the bank size had a statistically significant positive effect on bank performance measured using ROE, implying that large banks enjoy better profits than smaller banks. This benefit is likely to be due to economies of scale and larger market share possessed by the larger banks. Furthermore, this result in agreement with the results of Tomar et al. (2012). Similar to the above, Bertay, et al. (2013) found that banks with large absolute size tended to be more profitable as indicated by the return on assets.

Inconsistent with the result, Al-Hawary, (2011) found that there is no statistical significant effect in Tobin's Q (p =0.796).

Table 5-35 Model (3)
Summary of Results of CG and RM with ROE
For All Banks Data

Independent Variables	Bivariate analysis			OLS
	Pearson	T-test	Mann Whitney	
Board size				
Non-executive board member	(-) **			(-) ***
Gender diversity			(-) **	
CEO- turnover		(+)***	(-) ***	(-) ***
Role duality		(+)*	(-) **	(-)*
Audit committee		(+)*		
Credit and investment committee		(+)***	(-) ***	(-)*
Capital ratio	(-) ***			
Loan to deposit ratio				
Risk committee		(+)***	(-) ***	
Non-performing loan	(-)***			(-)***
Capital adequacy ratio	(-)***			
Credit risk	(-)***			(-)***
Capital risk	(-)***			(-)**

Liquidity risk				
Bank type		(+)***	(-) ***	(-) ***
Financial crisis		(-) ***	(-) ***	(+)***
Government ownership				(-)***
Bank size	(+)***			(+)***

5.6.3/2 Model (3): Implication of both of corporate governance and risk management on bank performance ROE for Islamic banks and conventional banks

Table 5-36 show the comparison between the results of Islamic banks and Conventional banks as follow:

Board size, as per table 5-36, in Islamic banks the association between the board size and ROE is insignificant, which means that the variation in the ROE in Islamic banks cannot be explained by the changes in board size. However, in Conventional banks there is a negative and significant association with ROE. The result in Conventional banks disagrees with Belkhir (2009) who found no significant relationship between board size and firm performance. Furthermore, there is agreement with Zulkafli and Samad (2007) who noted that no significant relationship exists between the board size and performance measures (e.g. return on assets and Tobin's Q). In agreement with the result, Shakir (2008) found that the board size has a consistent negative relationship with Tobin's Q in all regressions, and in most instances is statistically significant too.

Non-executive board member, table 5-36 presents that in both Islamic banks and Conventional banks there is a negative and significant association between non-executive board member and bank performance measured by ROE. This means that the high percentage of non-executive board members is negatively affecting the ROE; and as noted, the high percentage of non-executive board members is related to lower ROE and vice-versa. The result is consistent with Adams and Ferreira (2007) who found that more executive directors might positively affect the quality of information that reaches the board and enhance performance. Similarly, the results agree with Busta (2007) UK, who found a negative correlation between the non-executive board member and performance.

Gender diversity, as per table 5-36, the association between the existence of female on the board and ROE is insignificant at any significant level, which means that the existence of female members on the board cannot explain the variation in the ROE in the GCC banking sector.

CEO-turnover, from the table 5-36, in Islamic banks the CEO-turnover is insignificant; however, in Conventional banks the association was negative and significant. As per this result, the replacement of the CEO is significantly associated with better bank performance measured by ROE.

Role duality, as per the results indicated in table 5-36, in both Islamic banks and Conventional banks the association between the role duality and bank performance measured by ROE is insignificant. This result means that the duality or the separation between the two positions of chairman and CEO is insignificant with bank performance.

Audit committee, as indicated in table 5-36 the audit committee in all GCC banks is insignificantly associated with bank performance measured by ROE. The result can be explained in that the audit committee in the GCC banking sector still does not play an efficient and effective role in handling the issues of internal control weaknesses and risk areas.

Credit and investment committee, as per table 5-36, in Conventional banks the association with ROE is insignificant. Moreover, it was noted that in Islamic banks the association is negative and significant, which means that the existence of such a committee significantly affects the bank performance by decreasing the ROE. In addition, this committee is not playing an effective role in maximizing the bank's return.

Capital ratio, from table 5-36, in Conventional banks, the association between the capital ratio and bank performance measured by ROE is insignificant. However, in Islamic banks the association between capital ratio and ROE is positive and significant.

Loan to deposit ratio LDR, as seen from table 5-36, in both Islamic and Conventional banks the association between LDR and ROE is insignificant. The results suggest that the changes in ROE cannot be explained by the changes in LDR. Agreeing with the result, Fanta et al. (2013) found that the loan to deposits ratio does not have a statistically significant effect on performance.

Risk committee, as indicated in table 5-36, in Islamic banks the risk committee is insignificantly associated with ROE. In conventional banks, the association between the risk committee and bank performance measured by ROE is negative and significant. This result can be explained by stating that the concept of risk management in the GCC banking sector is not matured enough to affect the performance positively.

Non-performing loan (NPL), Credit risk, **Capital risk and Liquidity risk,** as indicated in table 5-36, all of those variables were insignificantly associated with ROE in both Islamic banks and Conventional banks. However, in general in the GCC banking sector and using the cumulative data, there is a negative and significant association between NPL, credit risk, and capital risk with ROE.

Capital adequacy ratio, as indicated in table 5-36, in Conventional banks the CAR is insignificantly associated with ROE. In Islamic banks, there is a negative and significant association with ROE.

Financial crisis, as per the result indicated in table 5-36, in both Islamic and Conventional banks the association between the financial crisis and ROE is positive and significant, at 1% significance level. The results suggest that the years before the crisis are related to the increase in ROE.

Government ownership, as seen in table 5-36, in Islamic banks the association between government ownership and ROE is insignificant. In Conventional banks, the association with ROE is negative and significant. The results suggest that conventional banks owned by government are related more to a higher return on equity.

Bank size, as per table 5-36, in both Islamic and Conventional banks, the bank size is positively and significantly associated with bank performance measured by ROE. The results suggest that the larger the bank size, the higher the ROE.

Table 5-36 Model (3):
Summary of Results of CG and RM with ROE for
(All Banks Data- Islamic Banks – Conventional Banks)

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size			(-) ***
Non-executive board member	(-) ***	(-) ***	(-) **
Gender diversity			
CEO- turnover	(-) ***		(-) **
Role duality	(-)*		
Audit committee			
Credit and investment committee	(-)*	(-) **	
Capital ratio		(+) **	
Loan to deposit ratio			
Risk committee			(-) ***
Non-performing loan	(-)***		
Capital adequacy ratio		(-)*	
Credit risk	(-)***		
Capital risk	(-)**		
Liquidity risk			
Bank type	(-) ***	--------	--------
Financial crisis	(+)***	(+) ***	(+) ***
Government ownership	(-)***		(-) ***
Bank size	(+)***	(+) **	(+) ***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).
*Correlation is significant at the 0.10 level (2-tailed).

5.6.3/3 Model (3): Implication of both of corporate governance and risk management on bank performance ROA for Islamic banks and conventional banks

Table 5-37 shows a comparison between the results of Islamic banks and Conventional banks as follow;

Board size, as per table 5-37, in Islamic banks the association between the board size and ROA is insignificant, which means that the variation in the ROA in Islamic banks cannot be explained by the changes in board size. However, in Conventional banks there is a negative and significant association with ROA. This result in Conventional banks disagrees with Belkhir (2009) who found no significant relationship between board size and firm performance.

Non-executive board member, from table 5-37, in both Islamic banks and Conventional banks there is a negative and significant association between non-executive board member and bank performance measured by ROA. This means that the high percentage of non-executive board members is negatively affecting the ROA; the high percentage of non-executive board members is related to lower ROA and vice-versa.

Gender diversity, as per table 5-37, the association between gender diversity and ROA is insignificant at any significant level, which means that nominating male or female members in the board cannot explain the variation in the ROA in the GCC banking sector.

CEO-turnover, from the table 5-37, in Islamic banks the CEO-turnover is insignificant. However, in Conventional banks the association was negative and significant. As per this result, the replacement of the CEO is significantly associated with better bank performance measured by ROA.

Role duality, as per the results indicated in table 5-37), in both Islamic banks and Conventional banks the association between the role duality and bank performance measured by ROA is insignificant, which means that the duality or the separation between the two position of chairman and CEO is not of consequence and insignificant with bank performance.

Audit committee, as indicated in table 5-37 the audit committee in Conventional banks is insignificantly associated with ROA, while in Islamic banks it is negative and significant. The results suggest that the audit committee in Islamic banks still does not play an efficient and effective role.

Credit and investment committee, as per table 5-37, in both Islamic banks and Conventional banks, the association with ROA is insignificant. The results suggest that this committee is not playing an effective role in maximizing the bank's return.

Capital ratio, loan to deposit ratio LDR, n**on-performing loan NPL, credit risk**, **capital risk and liquidity risk,** from table 5-37, in Islamic banks and Conventional banks, the association between the capital ratio, LDR, NPL, Credit risk, Capital risk and Liquidity risk with bank performance measured by ROA is insignificant.

Risk committee, as indicated in table 5-37, in Islamic banks the risk committee is positively and significantly associated with ROA which means that the existence of risk a committee is related to higher ROA. In conventional banks, the association between the risk committee and bank performance measured by ROA is negative and significant. The result can be explained by stating that the concept of risk management in conventional banks is not matured enough to affect the performance positively.

Capital adequacy ratio, as indicated in table 5-37, in Islamic banks the CAR is insignificantly associated with ROA. In Conventional banks the CAR is positively and significantly associated with ROA.

Financial crisis, as per the result indicated in table 5-37, in both Islamic and Conventional banks the association between the financial crisis and ROA is positive and significant at 1% significance level. The results suggest that the years before the crisis are related to the increase in ROA.

Government ownership, as mentioned in table 5-37, in Islamic banks the association between government ownership and ROA is insignificant. In Conventional banks, the association with ROA is negative and significant. The results suggest that conventional banks owned by government are related more to higher ROA.

Bank size, as per table 5-37, in both Islamic and Conventional banks, the bank size is positively and significantly associated with bank performance measured by ROA. The results suggest that the larger the bank size, the higher the ROA.

Table 5-37
Model (3): Summary of Results
CG and RM with ROA
(All Banks Data- Islamic Banks – Conventional Banks)

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size			(-) **
Non-executive board member	(-) ***	(-) ***	(-) *
Gender diversity			
CEO- turnover	(-) ***		(-) *
Role duality			
Audit committee	(-) **	(-) ***	
Credit and investment committee			
Capital ratio	(+) **		
Loan to deposit ratio	(+) **		
Risk committee		(+) *	(-) ***
Non-performing loan			
Capital adequacy ratio			(+) *
Credit risk	(-)*		
Capital risk			
Liquidity risk			
Bank type		--------	--------
Financial crisis	(+)***	(+) ***	(+) ***
Government ownership	(-)***		(-) ***
Bank size	(+)***	(+) *	(+) ***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).
*Correlation is significant at the 0.10 level (2-tailed).

5.6.4/1 Model (4) Results of association between corporate governance and risk management (NPL), for all banks data

Ten independent variables related to corporate governance have been investigated in the current study so as to investigate the association between corporate governance and risk management measured by NPL, using bivariate and multivariate analyses. In general, Lai and CHOI (2014) found that there is no statistical significant association between NPL and

corporate governance. As per the literature review, there are minor number of studies investigate the association between the corporate governance's independent variables and non-performing loan as a measure of risk management. The results of the study could be used in future research for benchmarking purposes. A summary of the results of the employed statistical techniques is presented in table 5-38

Board size, as indicated in the table, there is agreement between the bivariate and multivariate analysis, whereas the association between board size and NPL is negative and significant at 1% and 5% significant level. This negative relationship can be explained by stating that the higher the number of board members the lower the percentage of NPL, which means better risk management.

In line with this study's result, Surifah (2013) who found that there is a negative and significant association between board size and NPL, which means the larger the board size the lower the NPL and better risk management. Consistent with the result, Poudel and Hovey (2013) found that the association between board size and NPL is negative and significant, alternatively stated the bigger board size lead to lower NPL, which means better efficiency in the commercial banks.

Inconsistent with the result, Kumah et al. 2014 concluded that the board of directors is not directly responsible for risk management. Nyor and Mejabi (2013) found that board size as a corporate governance variable has no significant impact on non-performing loans of Nigerian deposit money banks. In addition, the agency theory assumes that a smaller board is recommended to minimize the agency cost, by effective control over the management, whereas larger boards might increase the number of potential interactions and conflicts among the group members (Yoshikawa & Phan, 2003). Furthermore, Lai and Choi (2014) found that the NPL does not have a statistically significant relationship with board sizes.

Non-executive board member, as indicated in the table there is agreement between the bivariate and multivariate analyses, whereas the association between non-executive board member and NPL is insignificant. This results suggest that the association between Non-executive board member and NPL is insignificant, which means that the change in NPL cannot be explained by the change in the percentage of non-executive board members. On the

other hand, both of the executive and non-executive directors in the GCC banking sector are not playing a significant role in reducing the (NPL), which means better risk management.

Gender diversity, as seen in the table, both bivariate and multivariate analyses indicate that the gender diversity is significantly associated with the NPL at (1% and 10% significant level respectively). This result means that the existence of female member on the board are more significantly associated with higher NPL in GCC banking sector. This result can be logically explained by stating that the females in the GCC region are still not mature enough in the business sphere due to the culture of the GCC region toward females, in addition to the above, males in this region are more experienced and powerful than females.

CEO-turnover, both bivariate and multivariate analyses indicate that the CEO-turnover is insignificant with NPL. As per the result, the CEO replacement is insignificantly associated with risk management measured by NPL. On the other hand, the change in NPL cannot be explained by variation in CEO-turnover.

Role duality, as per the results indicated in the table, there is agreement between the bivariate and multivariate analysis whereas the association between the role duality and risk management measured by NPL is negative and significant at 1% and 5%. The results suggest that the duality between the two positions (chairman – CEO) is more significantly associated with risk management by increasing NPL. On the other hand and as per the descriptive analysis, there are 865 observations out of 900 observations that have a separation which means that there is separation between the two positions in most of the observations, which is more associated with lower NPL. Furthermore, from the above-mentioned observations, there is a general trend in the GCC to split the two positions.

Audit committee, as indicated in table 5-38 bivariate analysis indicates that the audit committee is negatively and significantly associated with NPL. However, the multivariate analysis indicates that the association between the audit committee and NPL is positive and significant at 1% significance level. As per the multivariate results, the existence of an audit committee is significantly associated with higher NPL. As per the result, the audit committee in the GCC is not playing an effective and efficient role in in reducing the non-performing loans.

Inconsistent with this study's result, Poudel and Hovey (2013) who found that corporate governance variable (audit committee) has a significant negative relationship with NPL ratio.

Credit and investment committee, as indicated in table 5-38, there is disagreement between bivariate and multivariate analysis, whereas the bivariate analysis indicates that the credit and investment committee is negatively and significantly associated with NPL. However, the multivariate analysis indicates that the association between the credit and investment committee and NPL is positive and significant at 5% significant level. The results suggest that the existence of the committee is more significantly associated with NPL than the non-existence of the committee. As per this study's results, this committee in the GCC banking sector is not playing an effective and efficient role in reducing the non-performing loans.

Capital ratio, as indicated in table 5-38 bivariate analysis indicates that the capital ratio is positively and significantly associated with NPL. However, the multivariate analysis indicates that the association between the capital ratio and NPL is negative and significant at 10% significant level. The results suggest that the capital ratio is negative and significantly associated with NPL. Consistently with the result, Salas and Saurina (2002) who reveal that the capital ratio is statistically significant with non- performing loans.

Loan to deposit ratio, as indicated in table 5-38 bivariate analysis indicates that the LDR is insignificantly associated with NPL. However, the multivariate analysis indicates that the association between LDR and NPL is negative and significant, at 1% significance level. Based on the multivariate result, the higher the percentage of LDR, the lower the percentage of NPL. On the other hand, the results reflect the management efficiency in the GCC banking sector in managing and controlling both LDR and NPL, because this negative association means that there is higher LDR (increase in total loans) with lower non-performing loans. In this case, there is evidence that the management have the ability to keep the non-performing loans at a low level and vice versa.

Risk committee, as indicated in the table, there is agreement between the bivariate and multivariate analysis, whereas the association between the risk committee and NPL is negative and significant at (1% and 5% significant level respectively). On the other hand, the results refer to the fact that the existence of a risk committee is more significantly associated with lower NPL in the GCC banking sector. Here in this model, there is an evidence that the

risk committee is playing a very important and active role in the GCC banking sector in reducing the bad loans or the non-performing loans, which leads us to state that the existence of a risk committee is related to better risk management. In general, the result is consistent with Kumah et al. (2014) who concluded that only senior management and risk owners are directly responsible for risk management.

Bank type, multivariate analysis indicates that the bank type (Islamic – conventional) is insignificantly associated with risk management measured by NPL. The results of this study suggest that there is an insignificant association between bank type and NPL; this result means that the change in NPL is not affected significantly by bank type, whether Islamic or conventional.

Inconsistent with the result of this study, Kabir, M., at al. (2015) found that Islamic banks have significantly higher NPL than conventional banks, suggesting that Islamic banks have higher credit risk.

Financial crisis, both bivariate and multivariate analyses indicate that the financial crisis of 2008 is insignificantly associated with the NPL. The results suggest that the changes in NPL cannot be explained by the variance of crisis, whether before crisis or after crisis.

Government ownership, as indicated in the table, multivariate analysis found that the association between the banks owned by government and NPL is positive and significant, at 1% significance level which means that banks owned by government is significantly associated with lower NPL i.e. better risk management. In addition, the non-government banks do not have efficient tools and good corporate governance to keep the NPL at a low level, compared to government owned banks that have a good tools and better governance. As per the result, there is agreement with the other three models that the government ownership has better corporate governance and risk management compared with the non-government owned banks, which is reflected in higher ROE and lower NPL.

Inconsistently, Iannotta et al. (2007) and Berger et al. (2005) found that the reasons behind the poor performance of government owned banks are, for example, the poor loan quality (non–performing loans) and high insolvency risk.

Bank size, the result revealed complete agreement between both bivariate and multivariate analyses that indicate that the bank size is negatively and significantly associated with NPL at 1% significance level. The results suggest that the larger the bank size the lower the NPL which means that there is better risk management. In addition, the bigger banks have very big structures and have the ability to hire very qualified and experienced staff; this staff has the required knowledge in handling and managing the assets and risks. The result of this study is in agreement with Adnan et al. (2011), who found that there is a negative association between bank size and NPL at 5% significant level. In agreement with the result, Salas and Saurina (2002) found that bank size is significantly associated with non-performing loans. Hu et al. (2004) and Rajan and Dhal (2003) reported similar empirical evidence.

Table 5-38
Model (4): Summary of Results
Corporate Governance and Risk Management NPL
All Banks Data

Independent Variables	Bivariate analysis			OLS
	Pearson	T-test	Mann	
Board size	(-)***			(-)**
Non-executive board member				
Gender diversity			(-)***	(-)*
CEO- turnover				
Role duality			(-)***	(-)**
Audit committee		(-)***	(-)**	(+)***
Credit and investment committee		(-)***	(-)***	(+)**
Capital ratio	(+)***			(-)*
Loan to deposit ratio				(-)***
Risk committee		(-)***	(-)***	(-)**
Bank type			(-)*	
Financial crisis				
Government ownership				(+)***
Bank size	(-)***			(-)***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).
*Correlation is significant at the 0.10 level (2-tailed).

5.6.4/2 Model (4) Results of association between corporate governance and risk management NPL for Islamic banks and conventional banks

Table 5-39 presents a comparison between the results of Islamic banks and Conventional banks as follow;

Board size, as indicated in table 5-39, in Islamic banks the association between board size and NPL is insignificant. However, in Conventional banks there is a negative and significant association between board size and NPL. This negative and significant relationship can be explained by stating that the higher the number of board members, the lower the percentage of NPL, which means better risk management. In line with the result, Surifah (2013), found that there is a negative and significant association between board size and (NPL); in contradiction with this, Nyor and Mejabi (2013) found that board size as a corporate governance variable has no significant impact on the non-performing loans of Nigerian deposit money banks.

Non-executive board member, CEO-turnover, as mentioned in table 5-39, in both Islamic banks and Conventional banks the Non-executive board member and CEO-turnover is insignificantly associated with NPL. The results suggest that the changes in NPL cannot be explained by the changes in non-executive board member or CEO-turnover. On the other hand, both of executive and non-executive directors in the GCC banking sector are not playing a significant role in reducing the NPL.

Gender diversity, as seen from the table 5-39, in Islamic banks and Conventional banks the association between gender diversity and NPL is negative and significant, which means that the existence of female members in the board is more associated with higher NPL in the GCC banking sector.

Role duality, as per the results indicated in the table 5-39, in Islamic banks the association between role duality and NPL is insignificant. However, in Conventional banks, there is a negative and significant association with NPL. The results suggest that the duality between the two positions (chairman – CEO) is more significantly associated with risk management by increasing NPL.

Audit committee, as indicated in table 5-39, in Islamic banks there is an insignificant association with NPL. Furthermore, in conventional banks there is a positive and significant association with NPL; this result suggests that the existence of an audit committee is more significantly associated with higher NPL. As per this result, the audit committee in the GCC is not playing an effective and efficient role in reducing the NPL. Inconsistent with the result, Poudel and Hovey (2013), found that the audit committee has a significant negative relation with NPL.

Credit and investment committee, as indicated in table 5-39, in Conventional banks there is an insignificant association with NPL. In addition, in Islamic banks there is a positive and significant association with (NPL); this result suggests that the existence of the committee is more significantly associated with higher NPL.

Capital ratio, as indicated in table 5-39, in Conventional banks there is an insignificant association with (NPL), while in Islamic banks this association is negative and significant with NPL. Consistent with the result, Salas and Saurina (2002) reveal that capital ratio is statistically significant with non- performing loans.

Loan to deposit ratio LDR, as indicated in table 5-39 in Islamic banks there is an insignificant association with NPL. However, in Conventional banks it is negative and significant; this result suggests that the higher the percentage of LDR, the lower the percentage of NPL.

Risk committee, as indicated in the table 5-39, in Islamic banks there is an insignificant association with NPL. However, in Conventional banks it is negative and significant; based on this result, the existence of risk committee is more significantly associated with lower NPL in Conventional banks.

Financial crisis, as indicated in the table 5-39, in Islamic banks there is an insignificant association with NPL. However, in Conventional banks there is a negative and significant association with NPL. The results suggest that the years before the crisis are related to the decrease in NPL.

Government ownership, as indicated in the table 5-39, in this model the association in Islamic banks with NPL is insignificant. However, in Conventional banks it is positive and

significant, which means the non-government ownership is significantly associated with higher NPL. On the other hand, government banks are associated with a lower level of NPL, i.e. better risk management.

Bank Size, as indicated in the table 5-39, in both Islamic banks and Conventional banks the bank size is negatively and significantly associated with NPL. The results suggest that the larger the bank size the lower the NPL, which means that there is better risk management. In addition, the larger banks have very big structures and have the ability to hire a highly qualified and experienced staff; this staff has the required knowledge in handling and managing the assets and risks.

Table 5-39
Model (4): Summary of Results
Corporate Governance and Risk Management NPL
(All banks Data- Islamic Banks – Conventional Banks)

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size	(-)**		(-)***
Non-executive board member			
Gender diversity	(-)*	(-)**	(-) ***
CEO- turnover			
Role duality	(-)**		(-) ***
Audit committee	(+)***		(+) ***
Credit and investment committee	(+)**	(+) ***	
Capital ratio	(-)*	(-) ***	
Loan to deposit ratio	(-)***		(-) ***
Risk committee	(-)**		(-) ***
Bank type		--------	--------
Financial crisis			(-) **
Government ownership	(+)***		(+)***
Bank size	(-)***	(-) **	(-)***

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).
*Correlation is significant at the 0.10 level (2-tailed).

The hypothesis test results based on the statistical results of Model (4) of the association between corporate governance and risk management measured by NPL will be as follow:

H3.1	*There is significant association between role duality and risk management measured by NPL*	Accepted
H3.2	*There is significant association between the percentage of non-executive directors and risk management measured by (NPL)*	Rejected
H3.3	*There is significant association between* Gender diversity *and risk management measured by NPL*	Accepted
H3.4	*There is significant association between* board size *and risk management measured by (NPL)*	Accepted
H3.5	*There is significant association between* CEO-turnover *and risk management measured by (NPL)*	Rejected
H3.6	*There is significant association between* audit committee *and risk management measured by NPL*	Accepted
H3.7	*There is significant association between* risk committee *and risk management measured by (NPL)*	Accepted
H3.8	*There is significant association between* credit and investment committee *and risk management measured by (NPL)*	Accepted
H3.9	*There is significant association between* capital ratio *and risk management measured by (NPL)*	Accepted
H3.10	*There is significant association between* (LDR) *and risk management measured by NPL*	Accepted

From the above discussion of the results of this study, it can be noted that there are many agreements and disagreements with previous literature's results. Furthermore, based on the results, number of predefined hypothesis have been accepted and other number of hypothesis have been refused. As presented, it can be concluded that further investigation in the future should be done for the same region but in different period.

5.7 Conclusion

This chapter aimed to identify the determinants of corporate governance and risk management practices in the GCC banking sector. This chapter reports the empirical findings of the association between corporate governance and risk management and bank performance for the period from 2003 to 2012 (10 years).

In this study, two types of analyses have been employed, bivariate and multivariate tests to analyse the data of the current study. In order to test the relationships between the dependent variables and each of the continuous variables, the bivariate analysis have been used, correlation coefficients; parametric and non-parametric tests. Furthermore, T-test and Mann Whitney tests were used as parametric and non-parametric tests to test the correlation between the dependent variables and each of nominal independent variables (dummy variables). In addition, the multivariate analysis have been used based on the regression analyses. To identify the relevant statistical technique, the data was examined to validate the assumptions of the classical regression; regression diagnostic.

As mentioned at the top of this chapter, the R-squared (R2) of some models is low and as presented the low R-square are not always bad, and many important associations could be drawn from the dependent and independent variables.

In reference to the empirical section and based on the findings of **Model (1)**, the regression analysis has been ran to investigate the relationship between corporate governance's variables and ROE and ROA. As mentioned in table 5-40 Panel (A) and (B), there are a number of variables that have a similar relationship with ROE and ROA. In the data of both banks, Islamic banks and conventional banks, those variables are CEO-turnover, role duality, LDR, financial crisis, and bank size. However, the other variables of corporate governance and control variables have a different relationship with ROE and ROA in all types of banks.

Furthermore, in Islamic banks, there are a number of variables that have a similar relationship (insignificant association) with both ROE and ROA; those variables are board size, gender diversity, CEO-turnover, LDR, and role duality. In addition, the non-executive board members have a significant negative association with ROE and ROA. The capital ratio is positively and significantly associated with ROE and ROA.

In Conventional banks, it was found that there are several variables that have similar relationships with ROE and ROA as follows; gender diversity, role duality, audit committee, credit and investment committee, and LDR are insignificantly associated with ROE and ROA. In addition, the CEO-turnover and risk committee are significantly and negatively associated with ROE and ROA.

Table 5-40
Model (1)
Summary of Results

Panel A
Corporate Governance and ROE

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size			
Non-executive board member	(-) ***	(-) ***	
Gender diversity			
CEO- turnover	(-) ***		(-) **
Role duality			
Audit committee			
Credit and investment committee	(-) **	(-) **	
Capital ratio		(+) *	
Loan to deposit ratio (LDR)	(+)*		
Risk committee			(-) ***
Bank type	(-) ***	--------	--------
Financial crisis	(+)***	(+)	(+)
Government ownership	(-) ***	(-) ***	(-) ***
Bank size	(+)***	(+)	(+)

Panel B
Corporate governance ROA

Independent Variables	OLS		
	All Banks Data	Islamic Banks	Conventional Banks
Board size			(-) **
Non-executive board member	(-) ***	(-) ***	(-) **
Gender diversity	(+) *		
CEO- turnover	(-) **		(-) *
Role duality			
Audit committee	(-) **	(-) **	
Credit and investment committee			
Capital ratio	(+) ***	(+)	(+)
Loan to deposit ratio (LDR)	(+)*		
Risk committee		(+) **	(-)
Bank type		--------	-------
Financial crisis	(+)***	(+)	(+)
Government ownership	(-) ***	(+) *	(-) ***
Bank size	(+)***	(+)	(+) **

*** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed).*Correlation is significant at the 0.10 level (2-tailed).

In reference to the empirical section and based on the findings of **Model (2)** table 5-41 Panel (A) and (B), it was concluded that there are a number of variables which have the same relationship with ROE and ROA in the collective data of both Islamic banks and Conventional banks. Those variables are CAR and credit risk. Interestingly, in Islamic banks the capital risk and liquidity risk are insignificant with ROE; however, it was significant with ROA. Regarding the NPL, it was noted that the NPL is insignificant with ROE and ROA in Islamic

banks, however in Conventional banks, this association was significant with ROE and insignificant with ROA.

Regarding the control variables, both financial crisis and government ownership have the same association with ROE and ROA in Islamic banks and Conventional banks.

Table 5-41
Model (2)
Summary of Results

Panel (A)
Risk Management andROE

Independent Variables	OLS		
	All Banks	Islamic Banks	Conven. Banks
Non-performing loan			(-) **
Capital adequacy ratio	(+)*	(+)*	(+) *
Credit risk			(-) ***
Capital risk			
Liquidity risk			
Bank type	(-) ***	--------	--------
Financial crisis	(+) ***	(+) ***	(+) ***
Government ownership	(-) ***	(-) ***	(-) **
Bank size	(+) ***	(+) ***	(+) ***

Panel (A)
Risk Management and ROA

Independent Variables	OLS		
	All Banks	Islamic Banks	Conven. Banks
Non-performing loan			
Capital adequacy ratio	(+) ***	(+) **	(+) **
Credit risk			(-) ***
Capital risk		(-) *	(+) ***
Liquidity risk		(+) *	
Bank type	(-) *	--------	--------
Financial crisis	(+) ***	(+) ***	(+) ***
Government ownership	(-) ***	(-) ***	(-) **
Bank size	(+) ***		(+) ***

Based on the findings in the empirical section of **Model (3)** Table 5-42 panel A and B, it was concluded that there are a number of corporate governance and risk management variables which have the same association with ROE and ROA in both Islamic banks and Conventional banks. Those variables are; Board size, Non-executive board members, Gender diversity, CEO- turnover, Role duality, LDR, NPL, Credit risk, Capital risk, Liquidity risk, Financial crisis, Government ownership, and Bank size. Interestingly, the audit committee was

significant only with ROA in Islamic banks, while the credit and investment committee was significant only with ROE in Islamic banks.

Table 5-42
Model (3)
Summary of Results

Panel A
Corporate Governance and Risk Management with ROE

Independent Variables	OLS		
	All Banks	Islamic Banks	Conven. Banks
Board size			(-) ***
Non-executive board member	(-) ***	(-) ***	(-) **
Gender diversity			
CEO- turnover	(-) ***		(-) **
Role duality	(-)*		
Audit committee			
Credit and investment committee	(-)*	(-) **	
Capital ratio		(+) **	
Loan to deposit ratio			
Risk committee			(-) ***
Non-performing loan	(-)***		
Capital adequacy ratio		(-)*	
Credit risk	(-)***		
Capital risk	(-)**		
Liquidity risk			
Bank type	(-) ***	--------	--------
Financial crisis	(+)***	(+) ***	(+) ***
Government ownership	(-)***		(-) ***
Bank size	(+)***	(+) **	(+) ***

Panel B
Corporate Governance and Risk Management with ROA

Independent Variables	OLS		
	All Banks	Islamic Banks	Conven. Banks
Board size			(-) **
Non-executive board member	(-) ***	(-) ***	(-) *
Gender diversity			
CEO- turnover	(-) ***		(-) *
Role duality			
Audit committee	(-) **	(-) ***	
Credit and investment			
Capital ratio	(+) **		
Loan to deposit ratio	(+) **		
Risk committee		(+) *	(-) ***
Non-performing loan			
Capital adequacy ratio			(+) *
Credit risk	(-)*		
Capital risk			
Liquidity risk			
Bank type		--------	--------
Financial crisis	(+)***	(+) ***	(+) ***
Government ownership	(-)***		(-) ***
Bank size	(+)***	(+) *	(+) ***

In reference to the empirical section and based on the findings of **Model (4)** table 5-43 panel A and B, it was concluded that there are a number of corporate governance variables which have the same relationship with NPL in both Islamic banks and Conventional banks. These variables are; Non-executive board members, Gender diversity, CEO-turnover, and bank size. Furthermore, the Board size, Role duality, LDR, Risk committee, and financial crisis were negatively and significantly associated with NPL in conventional banks and insignificant in Islamic banks. Both audit committee and government ownership are positively and significantly associated with NPL in Conventional banks, and insignificant in Islamic banks.

As mentioned in this chapter, the legitimacy and stakeholder theory can explain the relationship between corporate governance proxied by: board size; NEBM; gender diversity; CEO-turnover; role duality; audit committee; credit and investment committee; capital ratio; LDR; risk committee and risk management: NPL bank performance: ROE; ROA. Furthermore, as per legitimacy theory, banks owned by government are significantly associated with better ROE.

The GCC central banks ply very important role in protecting the rights of all stakeholders by stating number of ratios such as NPL, CAR, credit risk, capital risk and liquidity risk. The central banks monitor the performance, this role of central banks could support the use of legitimacy and stakeholder theory in explaining the relationship between the three constructs.

In the current chapter, the regression analysis have been done for the four models, the results have been discussed and analysed to explore the relationship between the three constructs. Furthermore this chapter presented comparison between the results of Islamic and conventional banks. Chapter six will present the conclusion, implication, limitation and recommendations for future literature.

Chapter Six: Conclusions, Implication, Limitations and Recommendations for Future Research

6.1 Introduction

This chapter presents and summarizes the results and conclusion of this study, and presents the contribution, implications, limitations and recommendations for future research as well. This chapter starts with section 6.2 that defines and outlines the research questions and methodology. Section 6.3 summarizes the findings of the study. Section 6.4 outlines the research contributions. Implications of the study are presented in section 6.5. Limitations of the study are presented in section 6.6. Lastly, this chapter ends with section 6.7 that presents the recommendations for future research.

6.2 Research questions and methodology

During the past couple of decades, corporate governance and risk management have been heavily discussed, especially in the banking sector. Due to the importance of corporate governance and risk management, this study highlights the relationship between both of them and their effect on bank performance in the GCC banking sector. Furthermore, this study used a sample of 90 active banks from all GCC countries during the period from (2003-2012). This study aims to answer the following questions:

Q1. Does better corporate governance lead to better bank performance?

Q2. Does better risk management mean better bank performance?

Q3. Does better corporate governance and risk management lead to better bank performance?

Q4. Does better corporate governance lead to better risk management?

Empirically, this study answers the research questions by applying a regression analysis to investigate the association between corporate governance and risk management over the selected period. Moreover, the results have been analysed to outline the extent to which corporate governance and risk management affect the bank performance, and to which extent corporate governance affects risk management over time. In addition to the above, a number of hypothesis have been formulated based on the proposed theoretical framework and evidence from prior studies. The formulated hypotheses have been tested in the empirical

section using OLS regressions as a statistical method. The next section presents the findings of this study.

6.3 Findings of the study

The current study highlights the applicability of the political-economic approach; stakeholder theory and legitimacy theory to an understanding of the relationship between corporate governance, risk management and bank performance. Based on the selected sample, there is evidence supporting some of the predefined hypotheses, i.e. there is agreement between the hypotheses and the results. On the other hand, some of the results disagree with the hypotheses. Furthermore, the current study presents a comparison between the results of Islamic banks and conventional banks. This section will highlight the important findings that have been reached in chapter five as follows:

Model (1): corporate governance and bank performance

The regression analysis has been ran to investigate the relationship between the corporate governance variables and bank performance measured by ROE and ROA for all banks' data, Islamic banks and conventional banks. The highlighted findings as per table 5-40 is as follow;

- It was concluded that there is variation on the effect of bank performance measured by ROE and ROA with regard to the effect of CEO-turnover, role duality, LDR, financial crisis and bank size on ROE and ROA. Whereas, the CEO-turnover is insignificant with ROE and ROA in Islamic banks, however, it is negative and significant on both ROE and ROA in conventional banks.
- The role duality and LDR are insignificant with ROE and ROA in both Islamic and conventional banks.
- The financial crisis and bank size are positively significant with bank performance measured by ROE and ROA in both Islamic and conventional banks.
- In Islamic banks, it was noted that there are a number of variables that have a similar relationship (insignificant association) with bank performance, measured by both ROE and ROA; those variables are board size, gender diversity, CEO-turnover, LDR, and role duality.
- The non-executive board members have a significant and negative association with ROE and ROA.

- The capital ratio is positively and significantly associated with ROE and ROA.
- In Conventional banks, it was found that there are a number of variables that have a similar relationship with both ROE and ROA as follows; Gender diversity, role duality, audit committee, credit and investment committee, and LDR are insignificantly associated with ROE and ROA.
- The CEO-turnover and risk committee are significantly and negatively associated with ROE and ROA.

Model (2): risk management and bank performance

The regression analysis has been done to investigate the relationship between risk management's variables and bank performance measured by ROE and ROA for all banks data, Islamic banks and conventional banks. The highlighted findings as per table 5-41 is as follow;

- The CAR and credit risk have the same relationship with ROE and ROA in both banks' data, Islamic and Conventional banks, whereas CAR is positive and significant with performance in Islamic and conventional banks.
- Credit risk is insignificant with performance in Islamic banks, however, it is significant and negative with performance in conventional banks.
- Interestingly, in Islamic banks the capital risk and liquidity risk are insignificant with ROE; however, it was significant with ROA.
- Regarding the NPL, it was noted that the NPL is insignificant with ROE and ROA in Islamic banks; however in Conventional banks, this association was significant with ROE and insignificant with ROA.
- Regarding the control variables, both financial crisis and government ownership have the same association with ROE and ROA in Islamic banks and Conventional banks.

Model (3): corporate governance and risk management and bank performance

the regression analysis has been done investigate the relationship between both corporate governance and risk management's variables and bank performance measured by ROE and ROA for all banks' data, Islamic banks and conventional banks. The highlighted findings as per table 5-42 is as follow;

- It was concluded that there are a number of corporate governance and risk management variables that have the same association with ROE and ROA in both Islamic banks and Conventional banks, whereas, gender diversity, role duality, LDR, NPL, credit risk, capital risk and liquidity risk are insignificant with bank performance measured by ROE and ROA in both Islamic and conventional banks.
- In addition, the non-executive board member is negative and significant with bank performance measured by ROE and ROA in both Islamic and conventional banks.
- Financial crisis and Bank size are positive and significant with performance measured by ROE and ROA in both Islamic and conventional banks.
- Interestingly, the audit committee was significant only with ROA in Islamic banks, while the credit and investment committee was significant only with ROE in Islamic banks.

Model (4): corporate governance and risk management

The regression analysis has been used to investigate the effect of corporate governance on risk management measured by NPL for all banks' data, Islamic banks and conventional banks. The highlighted findings is as follow;

- It was concluded that there are a number of corporate governance variables which have the same relationship with NPL in both Islamic banks and Conventional banks; whereas non-executive board member and CEO- turnover are insignificant with risk management measured by NPL.
- In addition, gender diversity and bank size are negative and significant with risk management measured by NPL.
- Board size, Role duality, LDR, Risk committee, and financial crisis were negatively and significantly associated with risk management in conventional banks; those variables were insignificant with risk management in Islamic banks.
- Both of audit committee and government ownership are positively and significantly associated with risk management measured by NPL in Conventional banks, but this association was insignificant in Islamic banks.

Generally, in the current study there is variety in the results; some of the results support the predefined hypotheses, while other results were noted to disagree with the hypotheses. On the

other hand, the current study identifies the determinants of corporate governance and risk management and performance, and highlights that there is further need in the future to study and analyse this relationship (over a different period) in order confirm the results and find out the variation based on the maturity of the banking sector in the GCC region.

6.4 Contribution to knowledge

The results of the current study have significant contributions to the literature by comprehensively clarifying and analysing the current relationship between corporate governance and risk management and their implications on bank performance among the Islamic banks and conventional banks located in the GCC region. This would subsequently have significant implications to all stakeholders; policy makers, regulators, management, board of directors, CEOs and shareholders, to whom the findings provide important insights on the areas which need to be strengthened for more effective and efficient corporate governance and risk management.

Empirically**,** this study contributes to the corporate governance and risk management literature as follows:

1. As indicated in chapter three, due to the few number of studies in the area of corporate governance, risk management, and bank performance in the GCC banking sector, this study will fill the gap in literature by investigating and analysing the relationship between the above mentioned constructs, and providing new empirical evidence from the GCC region.
2. This study provides evidence that the independent variables of corporate governance and risk management vary in their impact on bank performance of both of Islamic and conventional banks in GCC banking sector.
3. The results of this study could be used as a benchmark for similar studies in other countries that have similar cultural and regulatory characteristics.
4. The conclusions of this study are consistent with GCC culture and the degree of maturity of the banking sector, as follows;
    - Gender diversity as a proxy variable for corporate governance, it was found that the existence of female members is insignificant with bank performance in both Islamic and Conventional banks. In addition, the existence of female members is

related to worse risk management represented in higher NPL; this result is consistent with the GCC culture and the fact that the women in this region need more time to acquire the experience and qualifications needed to become familiar with the business management sphere.

- This study concluded that the existence of committees belonging to the board is mostly associated with lower performance ROE and ROA or Higher NPL, and in some associations it was insignificant. This result gives us an indication that these committees still need time to be matured enough to affect the bank performance and risk management positively.
- Furthermore, in most of the results in Islamic banks and Conventional banks, the larger bank size is almost related to better bank performance and better risk management by higher ROE and ROA and Lower NPL. This result is consistent with many previous literature.
- The results in conventional banks refer to the fact that the banks owned by government are related more to better bank performance and better risk management. This result reflects the power of the GCC government in conventional banks in enhancing performance and risk management. On the other hand, the governments in the GCC in Islamic banks need some time to acquire the tools and experience required in managing such banks.

6.5 Implication of the study

There is a very important implication for this study on all stakeholders (government authorities, shareholders, board of directors, management, clients, central banks and investors….etc.). The banking sector's stakeholders may rely on some of the important results as follows:

- Most of the results referred to that the existence of executive directors in the board is associated with better bank performance. As per this result, the boards should hire executive directors who deeply understand the financial and the operational prospective.

- The boards of directors in the GCC banking sector (Islamic and conventional) should apply more efforts to enhance and maximize the role of audit committees in order to positively affect the bank performance.
- In addition to the above, the boards of directors in the GCC should give better opportunities to females in the boards, and give them enough time to be matured sufficiently, similar to females in western countries, to positively affect the performance. Furthermore and as per the results, females should be trained and experienced in dealing with risk management.
- There is a consensus that banks performance before the crisis was better than after the crisis, so boards and managements should be ready for crisis by maintaining tools and mechanisms that enable them to deal with the crisis' side effects.
- In addition, as per the results, the audit committees in both Islamic and conventional banks are not playing an effective role in risk management, therefore the boards of directors should take actions to maximize the benefits from audit committees in mitigating and controlling risks.
- In relation to the results, the association between credit risk and bank performance in conventional banks is significant and negative; however, it is insignificant in Islamic banks. The implication of this result is that this association is healthy in conventional banks and reflects the logical concept of the fact that effective risk management is related to better performance; however in Islamic banks, the management should play an advanced role in maintaining the credit risk at low levels and bank returns at high levels.

6.6 Limitations of the study

The current study has some limitations that need to be acknowledged and identified when assessing the results of the study. This section will present these limitations as follows:

1. The current study depends on a quantitative method in collecting and analysing data. Qualitative methods were not adopted in the current study. However, the use of qualitative techniques, such as interviews, questionnaire and case studies in addition to the quantitative approach may improve understanding of the issue of corporate governance and risk management.

2. In addition to the above, this study relies on secondary data as a main source for collecting data, Primary data may be a useful tool if it is accompanied by secondary data.
3. Furthermore the lake of qualitative information on the variables being used (such as the characteristics of female on the board) makes interpretation of the results are limited.
4. The current study relies on profitability as a proxy variable for bank performance; return on equity ROE and return on assets ROA. Furthermore, the NPL has been used only as a proxy for risk management. But as mentioned in chapter four there are so many variables could be used as a proxy for bank performance and risk management, if those variables were used in this study, the results could be more enriched and more interpreted. ies.

6.7 Recommendations for future research

As per practice and experience in this field, the following recommendations will be presented for future research:

1. The current study provides evidence that the determinants of bank performance in the GCC banking sector vary among the different independent variables. There was no single variable that could explain the changes in bank performance. This highlights that there is a need for more analysing of the three constructs, in different regions with different cultures and conditions.
2. For future research related to this topic, the researchers can select different types of performance; productivity, liquidity, marketability and human resources to use as a proxy for bank performance. They can additionally use another dependent variable as a proxy for risk management such as interest risk, market risk, off-balance risk, technology and operational risk, foreign exchange risk, country risk and insolvency risk.
3. For future research, the researchers can investigate the same relationships in the GCC banking sector but only after 2012, and make comparisons between the results to discover the maturity of corporate governance and risk management in this region.
4. The future research may employ different qualitative techniques such as questionnaire and interviews as much as possible.
5. The establishment of dedicated committees in the GCC banking sector has started during the last few years, which is why this study measured their existence. Future research can

develop different variables with more characteristic such as; number of meetings, qualification of members, member's experience, gender diversity and age.

References

1. Abdullah, W., Percy, M. and Stewart, J. (2015) "Determinants of voluntary corporate governance disclosure: Evidence from Islamic banks in the Southeast Asian and the GCC regions" *Journal of Contemporary Accounting & Economics, Volume 11, Issue 3, December 2015, Pages* 262–279
2. Abbott, L. J., Parker, S., & Peters, G. F. (2002) Audit committee characteristics and financial misstatement: A study of the efficacy of certain blue ribbon committee recommendations. *Available at SSRN* 319125.
3. Abd-Elsalam, O. H., & Weetman, P. (2003) Introducing International Accounting Standards to an emerging capital market: relative familiarity and language effect in Egypt. *Journal of International Accounting, Auditing and Taxation*, *12(1)*, 63-84.
4. Abdullah, H., & Valentine, B. (2009) Fundamental and ethics theories of corporate governance. *Middle Eastern Finance and Economics*, *4*(*4)*, 88-96.
5. Aboagye, A. Q., & Otieku, J. (2010) Are Ghanaian MFIs' performance associated with corporate governance?. *Corporate Governance: The International Journal of Business in Society*, *10(3)*, 307-320.
6. Adams, C. A., Hill, W. Y., & Roberts, C. B. (1998) Corporate social reporting practices in Western Europe: legitimating corporate behaviour?. *The British accounting review*, *30*(1), 1-21.
7. Adams R. B. (2012) Governance and the financial crisis. *International Review of Finance*, *12*(1), 7-38.
8. Adams, R. B., & Ferreira, D. (2009) Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2), 291-309.
9. Adams, R., and Ferreira, D. (2009) Ownership Structure, Voting, and Risk. *Oxford Journals Review of Financial Studies* Volume 28, Issue 2 Pp. 521-560.
10. Adams, R. B., & Mehran, H. (2005) Corporate performance, board structure and its determinants in the banking industry. In *EFA 2005 Moscow meetings*.
11. Adnan, M. A., Htay, S. N. N., Rashid, A., Majdi, H., Meera, M., & Kameel, A. (2011) A panel data analysis on the relationship between corporate governance and bank efficiency. *Journal of Accounting, Finance and Economics*, *1*(1), 1-15.

12. Aduda, J., & Gitonga, J. (2011) The relationship between credit risk management and profitability among the commercial banks in Kenya. *Journal of Modern Accounting and Auditing*, *7*(9), 934.
13. Aebi, V., Sabato, G., & Schmid, M. (2012) Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, *36*(12), 3213-3226.
14. Afifi, A., May, S., & Clark, V. A. (2003) Computer-aided multivariate analysis. *CRC Press.*
15. Agrawal, A., & Chadha, S. (2005) Corporate governance and accounting scandals. *Journal of Law and Economics*, *48*(2), 371-406.
16. Ahern, K. R., & Dittmar, A. K. (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *Quarterly Journal of Economics*, *127*(1), 137-197.
17. Ajlouni M. (2012) Islamic Banks: Legitimacy, Principles and Applications. Dar Al-Maseerah, Amman, Jordan, third Edition, the book in Arabic language.
18. Akerlof G. (1970) the market for "lemons": Quality uncertainty and the market mechanism (pp. 175-188). Macmillan Education UK.
19. Al-Hassan, A., Khamis, M. and Oulidi N. (2012) The GCC Banking Sector: Topography and Analysis. International Monetary Fund, WP/10/87
20. Al-Hawary S. (2011) The Effect of banks governance on banking performance of the Jordanian commercial banks: Tobin's Q Model" An Applied Study.*International Research Journal of Finance and Economics*, *71*, 35-45.
21. Al Karasneh, I., & Bolbol, A. (2006) Corporate Governance and Concentration in the Arab Banking Sector and Economic Growth: The Case of the GCC Countries'. In *IMF/AMF High-Level Seminar on Institutions and Economic Growth in the Arab Countries*.
22. Altunbas, Y., Liu, M. H., Molyneux, P., & Seth, R. (2000) Efficiency and risk in Japanese banking. *Journal of Banking & Finance*, *24*(10), 1605-1628.
23. Amba, M. S., & Almukharreq, F. (2013) Impact of the financial crisis on profitability of the Islamic banks vs conventional banks-evidence from GCC. *International Journal of Financial Research*, *4*(3), 83.

24. An, Y., Davey, H., & Eggleton, I. R. (2011) towards a comprehensive theoretical framework for voluntary IC disclosure. *Journal of Intellectual Capital*,*12*(4), 571-585.
25. Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2004) Board characteristics, accounting report integrity, and the cost of debt. *Journal of Accounting and Economics*, *37*(3), 315-342.
26. Andrianova, S., Demetriades, P., & Shortland, A. (2008) Government ownership of banks, institutions, and financial development. *Journal of Development Economics*, *85*(1), 218-252.
27. Angbazo L. (1997) Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking. *Journal of Banking & Finance*,*21*(1), 55-87.
28. Ariffin, N. M., & Kassim, S. H. (2011) Risk management practices and financial performance of Islamic banks: Malaysian evidence. In *8th International Conference on Islamic Economics and Finance* (pp. 19-21).
29. Arun, T. and Turner, J. (2002) Financial Sector Reform in Developing Countries: The Indian Experience, *The World Economy* 25/3, 429-445.
30. Avkiran N. K. (1995) A multivariate model of integrated model of branch performance and potential focusing on personal banking. *Unpublished PhD Dissertation, Victory University of Technology*.
31. Babatunde, O. A., & Olaitan, O. A. (2013) The Performance of Conventional and Islamic Banks in the United Kingdom: A Comparative Analysis. *Journal of Research in Economics and International Finance*, *2*(2), 29-38.
32. Bank Scope, https://bankscope.bvdinfo.com/version-2016720/home.serv?product=scope2006
33. Banker, R. D., Chang, H., & Lee, S. Y. (2010) Differential impact of Korean banking system reforms on bank productivity. *Journal of Banking & Finance*,*34*(7), 1450-1460.
34. Barros, C. P., Managi, S., & Matousek, R. (2012) The technical efficiency of the Japanese banks: non-radial directional performance measurement with undesirable output. *Omega*, *40*(1), 1-8.
35. Barth, J. R., Nolle, D. E., Phumiwasana, T., & Yago, G. (2003) A cross-country analysis of the bank supervisory framework and bank performance. *Financial Markets, Institutions & Instruments*, *12*(2), 67-120.

36. Barth, J. R., Caprio, G., & Levine, R. (2007) the microeconomic effects of different approaches to bank supervision. *The politics of financial development. Stanford University Press, California*.
37. Basel Committee on Banking Supervision, 2004. International convergence of capital measurement and capital standards: A revised framework. *PP.15 http://www.bis.org/publ/bcbs107.pdf, accessed 10 March 2015.*
38. Bashir A. (2000) Determinants of Profitability and Rates of Return Margins in Islamic Banks: Some Evidence from the Middle East, Grambling State University Mimeo.
39. Bassem B. S. (2009) Governance and performance of microfinance institutions in Mediterranean countries. *Journal of Business Economics and Management*, *10*(1), 31-43.
40. Battaglia, F., & Gallo, A. (2015) Risk governance and Asian bank performance: An empirical investigation over the financial crisis. *Emerging Markets Review*, *25*, 53-68.
41. Bateni, L., Vakilifard, H., & Asghari, F. (2014). The Influential Factors on Capital Adequacy Ratio in Iranian Banks. *International Journal of Economics and Finance*, *6*(11), 108.
42. Bedford N. M. (1973) *Extensions in accounting disclosure*. Prentice Hall.
43. Belkhir M. (2009) Board of directors' size and performance in the banking industry. *International Journal of Managerial Finance*, *5*(2), 201-221.
44. Beltratti, A., & Stulz, R. M. (2012) the credit crisis around the globe: Why did some banks perform better? *Journal of Financial Economics*, *105*(1), 1-17.
45. Bennedsen, M., Kongsted, H. C., & Nielsen, K. M. (2004) Board size effects in closely held corporations. *CAM Institute of Economics, University of Copenhagen Working Papers*, *25*.
46. Berger, A. N., Clarke, G. R., Cull, R., Klapper, L., and Udell, G. F. (2005) Corporate governance and bank performance: A joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership. *Journal of Banking & Finance*, *29*(8), 2179-2221.
47. Berger, A. N., Kick, T., and Schaeck, K. (2014) Executive board composition and bank risk taking. *Journal of Corporate Finance*, *28*, 48-65.

48. Berger A. N. (1995) the relationship between capital and earnings in banking. *Journal of Money, Credit and Banking*, *27*(2), 432-456.
49. Berger, A. N. and DeYoung, R. (1997) Problem loans and cost efficiency in commercial banks. *Journal of Banking & Finance*, *21*(6), 849-870.
50. Bernanke B. S. (1983) Non-monetary effects of the financial crisis in the propagation of the Great Depression.
51. Bertay, A. C., Demirgüç-Kunt, A., and Huizinga, H. (2013) Do we need big banks? Evidence on performance, strategy and market discipline. *Journal of Financial Intermediation*, *22*(4), 532-558.
52. Bhattacharyya, A., Lovell, C. K., and Sahay, P. (1997) The impact of liberalization on the productive efficiency of Indian commercial banks. *European Journal of Operational Research*, *98*(2), 332-345.
53. Boone, A. L., Field, L. C., Karpoff, J. M., and Raheja, C. G. (2007) The determinants of corporate board size and composition: An empirical analysis. *Journal of Financial Economics*, *85*(1), 66-101
54. Bornemann, S., Kick, T., Pfingsten, A. and Schertler, A. (2015) Earnings baths by CEOs during turnovers: empirical evidence from German savings banks. *Journal of Banking & Finance, Volume 53, April 2015, Pages 188-201*
55. Borokhovich, K. A., Parrino, R., & Trapani, T. (1996) Outside directors and CEO selection. *Journal of Financial and Quantitative Analysis*, *31*(03), 337-355.
56. Bourke P. (1989) Concentration and other determinants of bank profitability in Europe, North America and Australia. *Journal of Banking & Finance*, *13*(1), 65-79.
57. Brancato, C., Tonello, M., Hexter, E., and Newman, K. R. (2006) the role of US corporate boards in enterprise risk management. The Conference Board Research Report No.
58. Brickley, J. A., Coles, J. L., and Jarrell, G. (1997) Leadership structure: Separating the CEO and chairman of the board. *Journal of Corporate Finance*,*3*(3), 189-220.
59. Brogi M. (2008, June) Regulation, corporate governance and risk management in banks and insurance companies. In *18th AFIR Colloquium: Financial Risk in a Changing World*.

60. Brown, L. D., and Caylor, M. L. (2004) Corporate governance and firm performance. *Available at SSRN 586423*.
61. Büyüksalvarci, A., and Abdioglu, H. (2011) Determinants of capital adequacy ratio in Turkish Banks: A panel data analysis. *African Journal of Business Management*, *5*(27), 11199.
62. Carroll, A., and Buchholtz, A. (2006) *Business and society: Ethics and stakeholder management* (6th ed.). Mason, Ohio: Thompson
63. Charles, A., Darné, O., & Pop, A. (2015) Risk and ethical investment: Empirical evidence from Dow Jones Islamic indexes. *Research in International Business and Finance*, *35*, 33-56.
64. Chatfied, C., & Collins, A. J. (2013) *Introduction to multivariate analysis*. Springer.
65. Chen, J., Duh, R. R., Hsu, A. W. H., & Pan, C. M. (2015) Can Anglo-Saxon audit committee scheme improve earnings quality in non-Anglo-Saxon environments? *Journal of Contemporary Accounting & Economics, 11(1)*, 61-74.
66. Chen N. K. (2001) Bank net worth, asset prices and economic activity. *Journal of Monetary Economics*, *48*(2), 415-436.
67. Cheung, Y. L., Stouraitis, A., & Tan, W. (2010) Does the Quality of Corporate Governance Affect Firm Valuation and Risk? Evidence from a Corporate Governance Scorecard in Hong Kong*. *International Review of Finance*, *10*(4), 403-432.
68. Chiang, H. T., and Chia, F. (2005) An empirical study of corporate governance and corporate performance. *Journal of American Academy of Business*, *6*(1), 95-101.
69. Claessens, S., and Fan, J. P. (2002) Corporate governance in Asia: A survey. *International Review of finance*, *3*(2), 71-103.
70. Claessens S. (2006) Corporate governance and development. The World Bank Research Observer, 21(1), 91-122.
71. Coleman, A., and Biekpe, N. (2006) The relationship between board size, board composition, CEO duality and firm performance: Experience from Ghana. *Corporate Ownership and Control*, *4*(2), 114-122
72. Coles, J. L., Daniel, N. D., and Naveen, L. (2008) Boards: Does one size fit all? *Journal of financial economics*, *87*(2), 329-356

73. Conover, W. J., and Iman, R. L. (1981) Rank transformations as a bridge between parametric and nonparametric statistics. *The American Statistician*,*35*(3), 124-129.
74. Cornett, M. M., Guo, L., Khaksari, S., and Tehranian, H. (2003) The impact of corporate governance on performance differences in privately-owned versus state-owned banks: An international comparison. *Boston College Çalışma Tebliği*.
75. Craswell, A. T., and Taylor, S. L. (1992) Discretionary disclosure of reserves by oil and gas companies: an economic analysis. *Journal of Business Finance & Accounting*, *19*(2), 295-308.
76. Crowther, D., and Jatana, R. (2007) Agency theory: a cause of failure in corporate governance. *Corporate Social Responsibility: Theory and Practice with Case Studies*, 346.
77. Dahya, J., and McConnell, J. J. (2007) Board composition, corporate performance, and the Cadbury committee recommendation. *Journal of Financial and Quantitative Analysis*, *42*(03), 535-564
78. Damodar N. (2003) *Basic econometrics*. McGraw-Hill.
79. Davis, S. W., & Menon, K. (1987) The formation and termination of the cost accounting standards board: Legislative intervention in accounting standard-setting. *Journal of Accounting and Public Policy*, *6*(3), 185-207.
80. DeFond, M. L., Hann, R. N., and Hu, X. (2005) Does the market value financial expertise on audit committees of boards of directors? *Journal of Accounting Research*, *43*(2), 153-193.
81. Demb, A. and Neubauer, F.-F. (1992) the corporate board: confronting the paradoxes. New York and Oxford: *Oxford University Press. P.24*
82. Denis, D. J., and Denis, D. K. (1995) Performance changes following top management dismissals. *The Journal of Finance*, *50*(4), 1029-1057.
83. Denis, D. J., and Sarin, A. (1999) Ownership and board structures in publicly traded corporations. *Journal of Financial Economics*, *52*(2), 187-223
84. Doglas N. (1990). Institutions, Institutional Change and Economic Performance.
85. Donaldson, L., & Davis, J. H. (1991) Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*,*16*(1), 49-64.

86. Donaldson, T., & Preston, L. E. (1995) The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, *20*(1), 65-91.
87. Durgavanshi S. (2014) Impact of Corporate Governance Practices on Financial Performance of Microfinance Institutions in India. *http://dl.tufts.edu/catalog/tufts:sd.0000176*accessed 11 March 2015
88. Dwivedi, N., and Jain, A. K. (2005) Corporate governance and performance of Indian firms: The effect of board size and ownership. *Employee Responsibilities and Rights Journal*, *17*(3), 161-172
89. Eisenhardt K. M. (1989) Agency theory: An assessment and review. *Academy of management review*, *14*(1), 57-74.
90. Engheta, N., & Ziolkowski, R. W. (2005) A positive future for double-negative metamaterials. *IEEE Transactions on Microwave Theory and Techniques*,*53*(4), 1535-1556.
91. Epure, M., & Lafuente, E. (2015) Monitoring bank performance in the presence of risk. *Journal of Productivity Analysis*, *44*(3), 265-281.
92. Erkens, D. H., Hung, M., & Matos, P. (2012). Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide. *Journal of Corporate Finance*, *18*(2), 389-411.
93. Faccio, M., Lang, L. H., and Young, L. (2001) Dividends and expropriation. *American Economic Review*, 54-78
94. Fama, E. F., & Jensen, M. C. (1983) Separation of ownership and control. *The Journal of Law & Economics*, *26*(2), 301-325.
95. Fanta, A., Kemal, K., & Waka, Y. (2013) Corporate governance and impact on bank performance. *Journal of Finance and Accounting*, *1*(1), 19-26.
96. Farazi, S., Feyen, E., & Rocha, R. D. R. (2011) Bank ownership and performance in the Middle East and North Africa Region. *World Bank Policy Research Working Paper Series, Vol*.
97. Farrell, K. A., & Whidbee, D. A. (2003) Impact of firm performance expectations on CEO turnover and replacement decisions. *Journal of Accounting and Economics*, *36*(1), 165-196.

98. Farrell, K. A., & Hersch, P. L. (2005) Additions to corporate boards: the effect of gender. *Journal of Corporate finance*, *11*(1), 85-106
99. Freeman R. (1984) Strategic plafining, A Stakeholder Approach. *Pitman Publishing Inc*., Boston, US
100. Friedman, M., & Schwartz, A. J. (2008) *A monetary history of the United States, 1867-1960*. Princeton University Press.
101. Fritzer F. (2004) Financial Market Structure and Economic Growth: A Cross-Country Perspective. *Monetary Policy and the Economy, 2, pp. 72-87.*
102. García-Meca, E., García-Sánchez, I. M., & Martínez-Ferrero, J. (2015) Board diversity and its effects on bank performance: An international analysis. *Journal of Banking & Finance*, *53*, 202-214.
103. Ghazali, N. A. M., & Weetman, P. (2006) Perpetuating traditional influences: Voluntary disclosure in Malaysia following the economic crisis. *Journal of International Accounting, Auditing and Taxation*, *15*(2), 226-248.
104. Goodhart C. (2011) *The Basel Committee on Banking Supervision: a history of the early years 1974–1997*. PP.17 Cambridge University Press.
105. Gordon, L. A., Loeb, M. P., & Tseng, C. Y. (2009) Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting and Public Policy*, *28*(4), 301-327.
106. Groebner, D. F., Shannon, P. W., Fry, P. C., & Smith, K. D. (2011) *Business statistics: a decision making approach*. Prentice Hall/Pearson.
107. Gray, R., Kouhy, R., & Lavers, S. (1995) Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal*, *8*(2), 47-77.
108. Gray, R., Owen, D., & Adams, C. (1996) Accounting and Accountability: Changes and Challenges in Corporate Social and.
109. Gul, F. A., & Leung, S. (2004) Board leadership, outside directors' expertise and voluntary corporate disclosures. *Journal of Accounting and public Policy*,*23*(5), 351-379.
110. Gulamhussen, M. A., & Santa, S. F. (2015) Female directors in bank boardrooms and their influence on performance and risk-taking. *Global Finance Journal*, *28*, 10-23

111. Guthrie, J., & Parker, L. D. (1989) Corporate social reporting: a rebuttal of legitimacy theory. *Accounting and business research*, *19*(76), 343-352.
112. Hakim, S., & Neaime, S. (2001) Performance & Credit Risk in Banking: A Comparative Study for Egypt and Lebanon. Economic Research Forum for the Arab Countries, Iran & Turkey.
113. Haniffa, R. M., & Cooke, T. E. (2002) Culture, corporate governance and disclosure in Malaysian corporations. *Abacus*, *38*(3), 317-349.
114. Harris, M., & Raviv, A. (2008) A theory of board control and size. *Review of Financial Studies*, *21*(4), 1797-1832
115. Hartarska V. (2005). Governance and performance of microfinance institutions in Central and Eastern Europe and the newly independent states. *World development*, *33*(10), 1627-1643.
116. Hassan, M. K., and Bashir, A. H. M. (2003, December) Determinants of Islamic banking profitability. In *10th ERF Annual Conference, Morocco* (pp. 16-18).
117. Hassan, M., Unsal, O. and Tamer, H. (2016) Risk management and capital adequacy in Turkish participation and conventional banks. *Borsa Istanbul Review, Volume 16, Issue 2, June 2016, Pages 72-81*
118. Hassoune A. (2002) Islamic banks' profitability in an interest rate cycle. *International journal of Islamic financial services*, *4*(2), 1-13
119. Hayes, R., Mehran, H., & Schaefer, S. (2004) Board committee structures, ownership, and firm performance. In *Federal Reserve Bank of New York Finance Seminar Series, New York University, New York*.
120. Helhel Y. (2015) Evaluating the Performance of the Commercial Banks In Georgia. *Research Journal of Finance and Accounting*, *5*, 146-156.
121. Hermalin, B. E., and Weisbach, M. S. (1988). The determinants of board composition. *The RAND Journal of Economics*, 589-606
122. Hermalin, B. E., & Weisbach, M. S. (1991). The effects of board composition and direct incentives on firm performance. *Financial management*, 101-112
123. Hermalin, B. E., and Weisbach, M. S. (2001) *Boards of directors as an endogenously determined institution: A survey of the economic literature* (No. w8161). National Bureau of Economic Research.

124. Hill, C. W., & Jones, T. M. (1992) Stakeholder-agency theory. *Journal of Management Studies*, *29*(2), 131-154.

125. Hoque, H., & Muradoglu, G. (2013) Bank Boards, CEO Characteristics and Performance: Evidence from Large Global Banks During the Crisis.

126. Hsiao, H. C., Chang, H., Cianci, A. M., & Huang, L. H. (2010) First financial restructuring and operating efficiency: evidence from Taiwanese commercial banks. *Journal of Banking & Finance*, *34*(7), 1461-1471.

127. HU, J. L., Li, Y., & CHIU, Y. H. (2004) Ownership and nonperforming loans: Evidence from Taiwan's banks. *The Developing Economies*, *42*(3), 405-420.

128. Huang, J., and Kisgen, D. J. (2013) Gender and corporate finance: Are male executives overconfident relative to female executives? *Journal of Financial Economics*, *108*(3), 822-839

129. Huang, Y. S., & Wang, C. J. (2015) Corporate governance and risk-taking of Chinese firms: The role of board size. *International Review of Economics & Finance*, *37*, 96-113.

130. Hughes, J. P., & Mester, L. J. (1998) Bank capitalization and cost: Evidence of scale economies in risk management and signalling. *Review of Economics and Statistics*, *80*(2), 314-325.

131. Huson, M. R., Parrino, R., & Starks, L. T. (2001) Internal monitoring mechanisms and CEO turnover: A long-term perspective. *The Journal of Finance*, *56*(6), 2265-2297.

132. Huson, M. R., Malatesta, P. H., & Parrino, R. (2004) Managerial succession and firm performance. *Journal of Financial Economics*, *74*(2), 237-275.

133. Hutchenson, G., & Sofroniou, N. (1999) The multivariate social scientist.

134. Iannotta, G., Nocera, G., & Sironi, A. (2007) Ownership structure, risk and performance in the European banking industry. *Journal of Banking & Finance*,*31*(7), 2127-2149.

135. Iqbal, J., Strobl, S., & Vähämaa, S. (2015) Corporate governance and the systemic risk of financial institutions. *Journal of Economics and Business*, *82*, 42-61.

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

137. Jiang, C., Feng, G., & Zhang, J. (2012). Corporate governance and bank performance in China. *Journal of Chinese Economic and Business Studies*,*10*(2), 131-146

138. Johnes, J., Izzeldin, M., & Pappas, V. (2014) A comparison of performance of Islamic and conventional banks 2004–2009. *Journal of Economic Behaviour & Organization*, *103*, S93-S107.
139. Kabir, M. N., Worthington, A., & Gupta, R. (2015) Comparative credit risk in Islamic and conventional bank. *Pacific-Basin Finance Journal*, *34*, 327-353.
140. Kim, P. K., & Rasiah, D. (2010) Relationship between corporate governance and bank performance in Malaysia during the pre and post Asian financial crisis. *European Journal of Economics, Finance and Administrative Sciences*,*21*(1), 39-63.
141. Kim, P. K., Rasiah, D., & Tasnim, R. B. (2012) A review of corporate governance: ownership structure of domestic-owned banks in term of government connected ownership, and foreign ownership of commercial banks in Malaysia. *Journal of Organizational Management Studies*, *2012*, 1.
142. Kleffner, A. E., Lee, R. B., & McGannon, B. (2003) The effect of corporate governance on the use of enterprise risk management: evidence from Canada. *Risk Management and Insurance Review*, *6*(1), 53-73.
143. Klein A. (2002) Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, *33*(3), 375-400.
144. Kolsi, M. C., & Zehri, F. (2014) Islamic banks and conventional banks within the recent global financial crisis: empirical evidence from the GCC region. *International Journal of Financial Services Management*, *7*(3-4), 196-218.
145. Körner, T., & Schnabel, I. (2010) Public Ownership of Banks and Economic Growth-The Role of Heterogeneity.
146. Kosmidou, K., Tanna, S., & Pasiouras, F. (2005, June) Determinants of profitability of domestic UK commercial banks: panel evidence from the period 1995-2002. In *Money Macro and Finance (MMF) Research Group Conference*(Vol. 45, pp. 1-27).
147. Kumah, S., Sare, Y. A., & Bernard, B. (2014) Corporate governance and risk management in the banking sector of Ghana. *European Journal of Accounting Auditing and Finance Research*, *2*(2), 1-17.
148. Laeven, L., & Levine, R. (2006) Corporate governance, regulation, and bank risk taking. *World Bank Mimeo*.

149. Lai, P. F., & CHOI, O. N. (2014) Corporate Governance and Financial Performance of Bank in Asian Regions and Recommendations. *Asian Journal of Finance & Accounting*, *6*(2), 377-406.
150. Lang, M., & Lundholm, R. (1993) Cross-sectional determinants of analyst ratings of corporate disclosures. *Journal of Accounting Research*, 246-271.
151. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2002) Investor protection and corporate valuation. *Journal of Finance*, 1147-1170.
152. Linck, J. S., Netter, J. M., and Yang, T. (2008) The determinants of board structure. *Journal of Financial Economics*, *87*(2), 308-328
153. Lipton, M., & Lorsch, J. W. (1992) A modest proposal for improved corporate governance. *The business lawyer*, 59-77.
154. Llewellyn, D. T., & Sinha, R. (2000) Monitoring and control of banks: the role of regulation and corporate governance. *Corporate Governance in Banking and Finance. McGraw-Hill, New Delhi*.
155. Low, D. C., Roberts, H., & Whiting, R. H. (2015) Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal*, *35*, 381-401.
156. Mak, Y. T., and Kusnadi, Y. (2005) Size really matters: Further evidence on the negative relationship between board size and firm value. *Pacific-Basin Finance Journal*, *13*(3), 301-318
157. Mian, A. R., & Khwaja, A. I. (2004) Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Rent Provision in an Emerging Financial Market (December 2004)*.
158. Micco, A., Panizza, U., & Yañez, M. (2004) Bank ownership and performance. *IDB Working Paper* No. 429
159. Mili, M., Sahut, J. M., Trimeche, H., & Teulon, F. (2016) Determinants of the Capital Adequacy Ratio of Foreign Banks' Subsidiaries: The Role of Interbank Market and Regulation. *Research in International Business and Finance*.
160. Miller, S. M., & Noulas, A. G. (1997). Portfolio mix and large-bank profitability in the USA. *Applied Economics*, *29*(4), 505-512.

161. Mokni, R. B. S., Echchabi, A., & Rajhi, M. T. (2015) Risk Management Practiced Tools in the MENA Region: A Comparative Study between Islamic and Conventional Banks. *International Journal of Business*, *20*(3), 261
162. Mollah, S., & Zaman, M. (2015) Shari'ah supervision, corporate governance and performance: Conventional vs. Islamic banks. *Journal of Banking & Finance*, *58*, 418-435.
163. Molyneux, P., & Thornton, J. (1992) Determinants of European bank profitability: A note. *Journal of Banking & Finance*, *16*(6), 1173-1178.
164. Mongiardino, A., & Plath, C. (2010) Risk governance at large banks: Have any lessons been learned? *Journal of Risk Management in Financial Institutions*,*3*(2), 116-123.
165. Morris, R. D. (1987) Signalling, agency theory and accounting policy choice.*Accounting and business Research*, *18*(69), 47-56.
166. Mulyadi, M. S., & Anwar, Y. (2015) Corporate Governance, Earnings Management and Tax Management. *Procedia-Social and Behavioral Sciences*,*177*, 363-366.
167. Navapan, K., & Tripe, D. (2003, December) An exploration of the relationship between bank capital levels and return on equity. In *Proceeding of the 16th Australasian Finance and Bank. Conf.(AFBC'03). Palmerston North* (pp. 1-15).
168. Newman, P., & Sansing, R. (1993) Disclosure policies with multiple users. *Journal of Accounting Research*, 92-112.
169. Nguyen, B. D., and Nielsen, K. M. (2010) The value of independent directors: Evidence from sudden deaths. *Journal of Financial Economics*, *98*(3), 550-567
170. Nobanee, H., & Ellili, N. (2016) Corporate sustainability disclosure in annual reports: Evidence from UAE banks: Islamic versus conventional. *Renewable and Sustainable Energy Reviews*, *55*, 1336-1341.
171. Nocco, B. W., & Stulz, R. M. (2006) Enterprise risk management: theory and practice. *Journal of Applied Corporate Finance*, *18*(4), 8-20.
172. Nyor, T., and Mejabi, S. (2013) Impact of Corporate Governance on Non-Performing Loans of Nigerian Deposit Money Banks. *Journal of Business & Management,* Volume 2, Issue 3 (2013)

173. Oluwafemi, A., Israel, A. & Olugbenga, A. (2013) Corporate Governance and Firm Financial Performance: Do Ownership and Board Size Matter? *Academic Journal of Interdisciplinary Studies MCSER Publishing,* Rome-Italy Vol 2 No 3 November 2013
174. Owusu-Ansah S. (1998) The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies in Zimbabwe. *The International Journal of Accounting*, *33*(5), 605-631.
175. Pagach, D., & Warr, R. (2007) An empirical investigation of the characteristics of firms adopting enterprise risk management. *North Carolina State University working paper*.
176. Pan, M. (2014) Bank corporate governance and its performance during the crisis of 2007-2008: evidences from 74 banks in Europe.http://essay.utwente.nl/65352/1/bank%20corporate%20governance%20-final.pdf accessed 11 March 2015
177. Park, K. H., & Weber, W. L. (2006) A note on efficiency and productivity growth in the Korean banking industry, 1992–2002. *Journal of Banking & Finance*, *30*(8), 2371-2386.
178. Pathan, S., & Faff, R. (2013) Does board structure in banks really affect their performance? *Journal of Banking & Finance*, *37*(5), 1573-1589.
179. Peni, E., Smith, S., & Vähämaa, S. (2013) Bank corporate governance and real estate lending during the financial crisis. *Journal of Real Estate Research*,*35*(3), 313-343.
180. Poitevin, M. (1990) Strategic Financial Signalling. *Internal Journal of Industrial Organisation*, 8(4), 499-518.
181. Poudel, R. P., & Hovey, M. (2013) Corporate Governance and Efficiency in Nepalese Commercial Banks. *International Review of Business Research Papers* Vol. 9. No. 4. May 2013 Issue. Pp. 53 – 64
182. Pound J. (1993) Proxy Contest and the Efficiency of Shareholder Oversight. *American Economic Review*, Vol. 63, No. 2, pp. 134-139.
183. Quaresma, A., Pereira, R., & Dias, Á. (2014) Corporate Governance Practices in Listed Banks-Impact on Risk Management and Resulting Financial Performance. *Journal of Business and Economics, 5 (8), 1250.*
184. Rachdi, H., & Ameur, I. G. B. (2011) Board characteristics, performance and risk taking behaviour in Tunisian banks. *International Journal of Business and Management*, *6*(6), 88.

185. Rajan, R., & Dhal, S. C. (2003) Non-performing loans and terms of credit of public sector banks in India: An empirical assessment. *Occasional Papers*,*24*(3), 81-121.
186. Randeva, A., Portelli, J. and Schanz, K. (2014) "Enterprise risk management in the GCC – how Qatar is capturing the momentum" *Qatar Financial Centre Authority, Web: www.qfc.com.qa, last time accessed 15 March 2015*
187. Ravid, S. A., & Sarig, O. H. (1991) Financial signalling by committing to cash outflows. *Journal of Financial and Quantitative Analysis*, *26*(02), 165-180.
188. RI A. (2012) Risk management and corporate governance performance–empirical evidence from the Nigerian banking sector. *Ife Psycholog IA,* 20, 1.
189. Riahi-Belkaoui A., (2002) Accounting Theory. *Fourth Edition, Thomson, London.*
190. Rizk, R. R. (2006) Corporate social and environmental disclosure practices: an international comparison of UK, Indian and Egyptian corporations (Doctoral dissertation, University of Durham).
191. Rogers M. (2006) Corporate governance and financial performance of selected commercial banks in Uganda. *Makerere University Business School, Faculty of Commerce. East Africa: Kampala Uganda*.
192. Ryu, Kyeong Pyo, Shu Zhen Piao, and Doowoo Nami (2012) "A Comparative study between the Islamic and conventional banking systems and its implications. "*Scholarly J. Bus. Admin* 2.5 (2012): 48-54.
193. Salas, V., and Saurina, J. (2002) Credit risk in two institutional regimes: Spanish commercial and savings banks. *Journal of Financial Services Research*, *22*(3), 203-224.
194. Sanda, A., Mukaila A. and Garba, T (2003) Corporate Governance Mechanisms and Firm Financial Performance in Nigeria, Final Report Presented to the Biannual Research Workshop of the AERC, Nairobi, Kenya, 24-29
195. Sarbah, A., & Xiao, W. (2015) Good Corporate Governance Structures: A Must for Family Businesses. *Open Journal of Business and Management*, *3*(01), 40.
196. Sarens, G., & Christopher, J. (2010) The association between corporate governance guidelines and risk management and internal control practices: Evidence from a comparative study. *Managerial Auditing Journal*, *25*(4), 288-308.
197. Saunders, A., & Schumacher, L. (2000) The determinants of bank interest rate margins: an international study. *Journal of International Money and Finance*,*19*(6), 813-832.

198. Saunders, M., Lewis, P. and Thornhill, A. (2007) Research Methods for Business Students, 4th ed., Prentice Hall, London
199. Schneider M. (2002) A stakeholder model of organizational leadership. *Organization Science*, *13*(2), 209-220.
200. Schroeck G. (2002) Risk management and value creation in financial institutions (Vol. 155). John Wiley & Sons.
201. Shahid, H., Rehman, R., Niazi, G. K., & Raoof, A. (2010) Efficiencies comparison of Islamic and conventional banks of Pakistan. *International Research Journal of Finance and Economics*, *49*(9), 24-42.
202. Shakir R. (2008) Board size, board composition and property firm performance. *Pacific Rim Property Research Journal*, *14*(1), 1-16.
203. Shleifer, A., & Vishny, R. W. (1997) A survey of corporate governance. *The Journal of Finance*, *52*(2), 737-783.
204. Siraj, K. K., & Pillai, P. S. (2012) Comparative study on performance of Islamic banks and conventional banks in GCC region. *Journal of Applied Finance and Banking*, *2*(3), 123.
205. Smith, B., & Pierce, A. (2005) An investigation of the integrity of Internet financial reporting.
206. Smith, N., Smith, V., & Verner, M. (2006) Do women in top management affect firm performance? A panel study of 2,500 Danish firms. *International Journal of Productivity and Performance Management*, *55*(7), 569-593.
207. Spence M. (1973) Job market signalling. *The quarterly Journal of Economics*, 355-374.
208. Stepanova, A., Ivantsova, O., Stepanov, S., Vernikov, A. V., & Bokov, V. A. (2012) Role of Corporate Governance in Banking Sector: Evidence from all over the world. *Electronic Journal of Corporate Finance*, *4*(24), 80-86.
209. Sternberg E. (1997) The defects of stakeholder theory. *Corporate Governance: An International Review*, *5*(1), 3-10.
210. Stulz R. M. (2014) Governance, risk management, and risk-taking in banks (No. w20274). National Bureau of Economic Research.
211. Suchman M. C. (1995) Managing legitimacy: Strategic and institutional approaches. *Academy of management review*, *20*(3), 571-610.

212. Surifah (2013) Family Control, Board of Directors and Bank Performance in Indonesia. *American International Journal of Contemporary Research* Vol. 3 No. 6; June 2013
213. Tabachnick, B. G. (81). Fidel], LS (1996) Using multivariate statistics.
214. Tabari, N. A. Y., Ahmadi, M., & Emami, M. (2013) The effect of liquidity risk on the performance of commercial banks. *International Research Journal of Applied and Basic Sciences*, *4*(6), 1624-1631.
215. Tandelilin, E., Kaaro, H., & Mahadwartha, P. A. (2007) Corporate governance, risk management and bank performance: Does type of ownership matter. *EADN individual research grant project*, *34*.
216. Tomar, S., & Bino, A. (2012) Corporate Governance and Bank Performance: Evidence from Jordanian Banking Industry". *Jordan Journal of Business Administration*, *8*(2), 353-372.
217. Trochim, W., Marcus, S., Mâsse, L., Moser, R., and Weld, P. (2008) The Evaluation of Large Research Initiatives A Participatory Integrative Mixed-Methods Approach. *American Journal of Evaluation*, *29*(1), 8-28
218. Tsorhe, J. S., Aboagye, A. Q., & Kyereboah-Coleman, A. (2011) Corporate governance and bank risk management in Ghana. *University of Ghana Business School*.
219. Turnbull S. (1997) Corporate governance: its scope, concerns and theories. *Corporate Governance: An International Review*, *5*(4), 180-205.
220. Uwuigbe, O. R., & Fakile, A. S. (2012) The effects of board size on financial performance of banks: A study of listed banks in Nigeria. *International Journal of Economics and Finance*, *4*(2), 260.
221. Vatansever, M., & Hepsen, A. (2013) Determining impacts on non-performing loan ratio in turkey. *Journal of Finance and Investment Analysis*, *2*(4), 119-129.
222. Visentini G. (1997) Corporate governance: the case of banking. *PSL Quarterly Review*, *50*(200).
223. Vlachos C. (2001) An Empirical Investigation Of The Financial Disclosure Practices Of Cypriot And Greek Companies, *PhD thesis, Middlesex University.*
224. Wachudi, E. J., & Mboya, J. (2012) Effect of board gender diversity on the performance of commercial banks in Kenya. *European Scientific Journal*, *8*(7).

225. Wallace, R. O., Naser, K., & Mora, A. (1994) The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain. *Accounting and business research*, *25*(97), 41-53.
226. Wallace, R. O., & Naser, K. (1996) Firm-specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the stock exchange of Hong Kong. *Journal of Accounting and Public policy*, *14*(4), 311-368.
227. Wang, L. H., Lin, C. H., Fung, H. G., & Chen, H. M. (2015) Governance mechanisms and downside risk. *Pacific-Basin Finance Journal*, *35*, 485-498.
228. Wang, P. E. N. G., & Zhou, L. A. (2006) Auditor's choice by China's listed companies and its governance role. *China Accounting Review*, *2*, 88-98.
229. Waweru, N. M., Kamau, R. G., & Uliana, E. (2011) Audit committees and corporate governance in a developing country. *International Journal of Accounting, Auditing and Performance Evaluation*, *7*(4), 337-358.
230. Weisbach M. S. (1988) Outside directors and CEO turnover. *Journal of financial Economics*, *20*, 431-460
231. Whittington G. (1993) Corporate governance and the regulation of financial reporting. *Accounting and Business Research*, *23*(sup1), 311-319.
232. Ye W. (2009) Control Chain, Agency Conflicts and Auditor Choice [J].*Accounting Research*, *6*, 011.
233. Yeyati, E. L., Micco, A., Panizza, U., Detragiache, E., & Repetto, A. (2007) A Reappraisal of State-Owned Banks [with Comments]. *Economia*, *7*(2), 209-259.
234. Yoshikawa, T., & Phan, P. H. (2003) The performance implications of ownership-driven governance reform. *European Management Journal*, *21*(6), 698-706.
235. Yung M. F. (2009) The relationship between corporate governance and bank performance in Hong Kong (Doctoral dissertation, Auckland University of Technology).
236. Zagorchev, A., & Gao, L. (2015) Corporate governance and performance of financial institutions. *Journal of Economics and Business*, *82*, 17-41.
237. Zhang, D., Cai, J., Dickinson, D. G., & Kutan, A. M. (2016) Non-performing loans, moral hazard and regulation of the Chinese commercial banking system. *Journal of Banking & Finance*, *63*, 48-60.

238. Zulkafli, A. H., & Samad, F. A. (2007) Corporate governance and performance of banking firms: evidence from Asian emerging markets. *Advances in Financial Economics*, *12*(3), 49-74.

Appendix 1: List of 90 Banks (30 Islamic and 60 Conventional)

Islamic Banks			Conventional Banks		
Bank Name		Country	Bank Name		Country
1	Dubai Islamic Bank	UAE	1	Emirates NBD Bank	UAE
2	Emirates Islamic Bank	UAE	2	National Bank of Abu Dhabi	UAE
3	Sharjah Islamic Bank	UAE	3	Abu Dhabi Commercial Bank	UAE
4	Abu Dhabi Islamic Bank	UAE	4	First Gulf Bank	UAE
5	Noor Islamic Bank	UAE	5	Union National Bank	UAE
6	Al Hilal Bank	UAE	6	Mashreq Bank	UAE
7	Ajman Bank	UAE	7	Commercial Bank of Dubai	UAE
8	Al Rajhi Bank	SA	8	Bank of Sharjah	UAE
9	Islamic Development Bank	SA	9	National Bank of Fujairah	UAE
10	Al Inma bank	SA	10	Commercial Bank International	UAE
11	Bank Al Bilad	SA	11	Arab Bank for Investment & Foreign Trade-Al Masraf	UAE
12	Boubyan Bank (K.S.C)	Kuwait	12	National Bank of U.A.Q	UAE
13	Kuwait International Bank	Kuwait	13	Invest Bank	UAE
14	Al Baraka Islamic Bank	Bahrain	14	Emirates Investment Bank	UAE
15	Arcapita Bank B.S.C.	Bahrain	15	Credit Europe Bank (Dubai)	UAE
16	Al-Salam Bank -Bahrain	Bahrain	16	National Commercial Bank	SA
17	Bahrain Islamic Bank B.S.C.	Bahrain	17	Riyadh Bank	SA
18	Khaleeji Commercial Bank	Bahrain	18	Banque Saudi Fransi	SA
19	Gulf Finance House BSC	Bahrain	19	The Saudi British Bank	SA
20	Bank Al-Khair	Bahrain	20	Arab National Bank	SA
21	Elaf Bank	Bahrain	21	Saudi Hollandi Bank	SA
22	Seera Investment Bank	Bahrain	22	Bank Al-Jazira	SA
23	Venture Capital Bank	Bahrain	23	National Bank of Kuwait (K.S.C)	Kuwait
24	Global Banking Corporation	Bahrain	24	Burgan Bank (K.S.C)	Kuwait
25	Investors Bank	Bahrain	25	Gulf Bank (K.S.C)	Kuwait
26	Citi Islamic Investment Bank	Bahrain	26	Commercial Bank of Kuwait	Kuwait
27	Qatar Islamic Bank	Qatar	27	Al Ahli Bank of Kuwait (K.S.C)	Kuwait
28	Masraf AL Rayan	Qatar	28	Al Ahli United Bank	Kuwait
29	Al Khalij Commercial Bank	Qatar	29	The Industrial Bank of Kuwait (K.S.C)	Kuwait

30	Qatar International Islamic	Qatar	30	Ahli United Bank	Bahrain
			31	Arab Banking Corporation	Bahrain
			32	Gulf International Bank	Bahrain
			33	Bank of Bahrain and Kuwiat	Bahrain
			34	National Bank of Bahrain	Bahrain
			35	Ithmaar Bank	Bahrain
			36	Investcorp Bank	Bahrain
			37	BMI Bank BSC	Bahrain
			38	Future Bank B.S.C.	Bahrain
			39	United Gulf Bank (BSC) EC	Bahrain
			40	Alubaf Arab International Bank	Bahrain
			41	Bahrain Development Bank	Bahrain
			42	TAIB Bank B.S.C.	Bahrain
			43	Gulf One Investment Bank	Bahrain
			44	Addax Bank BSC	Bahrain
			45	BMB Investment Bank-Bahrain	Bahrain
			46	Bank Muscat SAOG	Oman
			47	National Bank of Oman SAOG	Oman
			48	HSBC Bank Oman	Oman
			49	Bank Dhofar SAOG	Oman
			50	Bank Sohar SAOG	Oman
			51	Oman Arab Bank SAOC	Oman
			52	Ahli Bank SAOG	Oman
			53	Oman Housing Bank	Oman
			54	Oman Development Bank	Oman
			55	Qatar National Bank	Qatar
			56	Commercial Bank	Qatar
			57	Doha Bank	Qatar
			58	International Bank of Qatar	Qatar
			59	AL Ahli Bank	Qatar
			60	Qatar Development Bank	Qatar

Appendix 2: Summary of previous studies

#	By	Objectives	Variables	Methods/Data Collection	Main Results
1	Peni et al. (2013), USA	The main objective of this study is to examine the association between bank corporate governance and real estate lending and loan losses during the period of financial crisis.	**Bank profitability Variables: will be measured by** return on assets ROA, **Corporate governance will be measured by** three variables as follows: **(1)** loans to total assets *(LOANTA)*, **(2)** loan losses to total assets *(LOSSTA)*, and **(3)** loan losses to real estate loans *(LOSSLN)*, **There are three different types of loans for real estate activities;** 1) Commercial loans, 2) Residential loans, 3) Construction and land development loans.	This study used a data on publicly traded bank holding companies during the period from (2006 to 2009) i.e. before during after the financial crisis. This study includes the S&P 1500 index and have number of forms of real estate lending.	**The results of this study indicated that:** **1)** Banks with good corporate governance is associated significantly with higher profitability during selected period. **2)** There are different levels of effects for the corporate governance on performance, and this effect is depend on the definition of the financial crisis duration. **3)** Banks with stronger corporate governance mechanism is associated significantly with lower amount of loan losses during the selected period, in

					addition, banks in sample are associated significantly with larger losses in 2009.
2	Uwuigbe and Fakile (2012), Nigeria	The main objective of this study is to examine the association between board size and bank performance, for this purpose they concentrate the sample on Nigeria listed banks.	The two constructs involved in this study are corporate governance represented by board size and bank Performance represented by return on equity ROE.	This study made use of secondary data and used a range of data drawn from the annual reports of the banks under review and also the Nigerian Stock Exchange Fact Book (2008). This data base contains detailed information on the financial performance of all listed companies in all segments in Nigeria. It also contains information on ownership pattern and board size which was useful for the analysis in this study. The regression analysis is used in analysing the impact of the corporate governance	**a)** This study concluded that there is a negative relationship between board size and bank financial performance in Nigeria. **b)** In addition, larger board is less effective than smaller boards because, increase in board's size occurs with increase in agency problems. **c)** Large board size leads to the free rider problem where most of the board members play a passive role in monitoring the firm. **d)** This study recommends a smaller board size (6 and 8) for better financial performance of banks in Nigeria. This will reduce the problem of free rider and enhance effective monitoring and decision-making.

				proxy (board size) on the performance of the listed banks.	
3	Epure, Lafuente (2015), Costa Rican	The main objective of this study is to examine the effects of corporate governance and different kind of risks on costa rican bank performance.	**Economic Performance Variables:** ROA, Return on assets. NIM, The net interest margin. **Risk Variables:** CAR, The capital adequacy ratio. NPL, For the non-performing loans ratio. **Corporate Governance Variables:** CEO turnover	Data come from the Costa Rican Central Bank, are publicly available, and comprise information for all banks operating in the industry during 1998-2007. The analysis consistently includes all three state-owned banks and the three mutual banks. The number of private banks decreased from 18 in 1998 to 11 in 2007. Finally, cooperative banks accounted for 25 between 1998 and 2003 and for 23 of the observations during 2004-2007. Thus, the	Results reveal that performance improvements follow regulatory changes and that risk explains differences in performance. Non-performing loans negatively affect efficiency and return on assets, whereas the capital adequacy ratio positively affects the net interest margin. This supports that incurring monitoring costs and having higher levels of capitalization may enhance performance. Finally, results confirm that appointing CEOs from outside the bank significantly improves performance, thus suggesting the potential benefits of new organizational practices.

				total analyzed sample comprises 454 firm-year observations.	
4	Berger et al. (2014), Germany	The main objective in this literature is to investigate the association between corporate governance measured by board composition such as; (gender diversity, age of directors, and their qualification) and risk management and their implication on performance.	a) The dependent variable is the ratio of return to risk-weighted assets (RORWA) as measure of performance. b) The three main explanatory variables are average board age, the share of female board members, and the share of board members with PhD. c) Ratio of Customer loans to total assets, and the ratio of Off-balance-sheet items to total assets. d) Capital adequacy ratio (CAR). e) Bank size is measured by Total assets.	This study used a sample from German central bank (Deutsche Bundesbank), and then match executives to banks. The advantage of this data sample is that it has a complete set of information about the main characteristics of executives such as; age, gender, and education, to construct indicators of the composition of the board of director during the period from 1994 to 2010 for 19,750 observations on 3,525 banks.	**First,** the decreases in average board age are robustly associated with increased bank risk taking. This effect is statistically and economically large. **Second,** female executives self-select into stable and well-capitalized banks. However, in the three years following the increase in female board representation, risk taking increases, although the change is economically marginal. **Third,** educational attainment, measured by the presence of executives with Ph.D.

				This study focus on managers, rather than non-executive directors.	
5	Kim et al. 2012, Malaysia	The main objective of this study is to investigate the association between corporate governance mechanism and bank performance in Malaysia	1) Capital adequacy ratio **CAR**, 2) Ownership structure **OWN**, 3) Capital Adequacy Ratio **CAR**, 4) Fixed Asset and Inventory to Capital **FAI**, 5) **ROE**, Return on Equity.	This study comprised of 4 private domestically – owned banks and 7 foreign-owned banks.	This study concluded that banks need to make changes in order to be globally standard and to be able to compete for stability profitability of the banking sector.
6	Aebi et al. 2011, Germany	The objective of this study is to investigate the association between corporate governance specially the risk governance and bank performance during the crisis of 2008. Furthermore this literature investigates the relationship between the existence of a	a) **Three Measures of bank performance:** **First**, the banks' buy-and-hold returns over the time period July 1, 2007, to December 31, 2008. **Second**, return on assets ROA. **Third**, return on equity ROE. b) **Corporate governance variables:**	**Empirical Analysis:** a) **Descriptive statistics:** measures bank crisis performance, corporate and risk governance variables, and the financial control variables within large sample including 372 bank observations. b) **Multivariate analysis:**	**This study** highlighted the importance of "risk governance" in banking sector. In addition, they referred to that banks to be better prepared to face the next financial crisis have to significantly improve the corporate governance system and enhance their risk management function. Also banks should have dedicated CRO position to handle all issues of risks and it should be on the same level of CEO, and

		Chief Risk Officer (CRO) on the board and the risk management related corporate governance mechanisms and bank performance.	**First**, The CRO is a member of the executive board (*CRO in executive board*). **Second**, the bank has a (*Risk committee*) **Third**, board size. **Fourth,** board independence as measured by the percentage of independent outside directors. **Fifth,** percentage of directors with experience (present or past). c) **Financial control variables:** **First,** the 18-month buy-and-hold returns over the time period July 1, 2005, to December 31, 2006. **Second**, ratio of deposits to total assets (*Deposits/assets*).	Depends on regressions of Buy-and-hold returnson alternative sets of corporate / risk governance variables, and control variables using the set of five hand-collected corporate governance variables with availability for all 372 sample banks along with Institutional shareholdingsand the seven control variables.	ideally both of them should be reporting to the board of directors.

7	Tsorhe et al. (2011), Ghana	This study used a sample from Ghanaian banking sector to investigate the association between corporate governance in banking sector and risk management measured by three main variables; (capital risk, credit risk and liquidity risk). They focused mainly in this literature on the overall health of the financial system of Ghanaian banks.	The variables are: **Capital Risk,** equity capital divided by total assets. **Credit Risk,** loan loss provision divided by total loans. **Liquidity Risk** of the fund, The explanatory variables are: **Board Strength**, value of board index. **Central Bank Regulation,** logarithm of the reserve fund. **Depositors' Influence,** loans divided by deposits. **Shareholders' Influence**, Total Equity divided by total loans. **Management Efficiency**, Operating expenses to total income. **Total Assets of Bank.**	This literature examined the association between corporate governance and the three variables of risk management, those variables are related to liquidity, credit and capital.	**This literature** got empirical evidence that the association between the board strength as a measurement for corporate governance and the three kinds of risks; capital risk, credit risk and liquidity risk is insignificant at any significance level, and the tendency is for stronger boards to impact these risks positively.

			Inflation and Central Bank Lending rate.		
8	Al-Hawary (2011), Jordanian	The main objective of this study is to investigate the association between bank governance measured by (board size, capital adequacy ratio, role duality, the concentration of ownership the existence of non-executive directors, and) on bank performance measured by Tobin's Q.	**The Main Variables** 1. Board Size 2. CEO-Chair Duality 3. Board Composition 4. Block Holders 5. Largest shareholder 6. Capital Adequacy 7. Return on Assets 8. Return on Equity 9. Assets 10. Leverage	In this paper, multiple-regression analysis has been used to investigate the association between independent variables and dependent variables, the bank size is the log of book value of assets), and leverage (debt to total equity). There is one multiple-regression analysis model is employed. Variance Inflation Factor (VIF) is used, and specified the allowed tolerance of each independent variable. This study used Pearson correlation coefficient to define if there is any	**The results of this study indicated that:** The association between corporate governance variables; (role duality, ownership concentration, existence of non-executive directors and capital adequacy ratio) and bank performance is significant. The corporations should work effectively to have a good corporate governance in order to affect the performance positively. Furthermore, cooperation and coordination should be there between both of private and public sectors to establish corporate governance mechanisms to enhance and develop the performance and risk management.

				multicollinearity issues between variables.	
9	Farazi et al. (2011), Middle East and North Africa	This study used a sample data from MENA banks during the period from 2001 to 2008. The main purpose of this study is to investigate the general trends of banks in MENA banking sector in termas of performance, and do comparison between state and private banks; domestic banks and foreign banks. It also examines the association between the listing of MENA banks and their performance.	**Dependent variables of this literature can be grouped into four main groups:** **First**, general profitability and interest-related factors: Return on Assets ROA, Net Interest Margin (NIM) and Return on Equity ROE to investigate the interest-related side of the business. **Second**, efficiency variables: total Overhead Costs to Assets, and Personnel Costs to Assets. **Third**, asset allocation: Securities to Assets ratio. **Fourth**, asset quality. In line with other empirical studies, this study used number of control variables total assets, non-interest	This study adopts a comprehensive bank-level empirical analysis to assess the association between bank ownership and performance in nine non-GCC MENA countries. In a second step they turn to bank-level multivariate panel regression analysis in order to analyze ownership while simultaneously controlling for various bank characteristics. Most of data are taken from Fitch's Bank scope database and include unconsolidated	**This study finds that:** state banks are significantly less profitable than private banks in the non-GCC region. In addition, Foreign banks have slightly higher interest margins and profit ratios relative to private domestic banks, but the differences are not significant. It also finds that listed banks are more profitable than non-listed banks, controlling for their smaller size and balance sheet structures. Listed banks have performed better than non-listed banks, and this may be due to the stricter governance standards and disclosure requirements imposed on these banks.

			income to total assets, deposits to assets and loans to assets.	statements of commercial banks in MENA. The sample roughly comprises 600 bank-year observations of about 120 banks in 9 countries for the period 2001-08.	
10	Sarens, Christopher, 2010, Belgium and Australia	The main objective of this literature is to test the extent of effective and efficient risk management as a corporate governance tool in Belgian banking sector, and there is any associated between both.	respondents were asked to evaluate the following four dimensions, representing four a) **dependent variables**: 1) Formalization of the risk management and internal control system. Within the company. **2)** Risk and control awareness. **3)** Development of internal controls. **4)** Risk management function. b) **Independent variable:**	**Data collection:** A questionnaire was developed, based upon literature and a review of the corporate governance guidelines in both countries. The target population consists (e.g. banks, insurance, and listed companies).	**Overall Conclusion**, it was found that the poor concentration on Belgian corporate governance mechanism in relation to risk management and internal control is associated with worse risk management and internal control systems in Belgian companies. In comparison with Australian firms, the Australian firms are more enhanced and developed. Both countries firms are not mandated to comply with corporate governance guidelines. Furthermore, in both countries, board of director or audit committees also are highly

			There was only one independent variable of interest (dummy variable) in this study: Country, indicating whether it was a Belgian (dummy = 1) or an Australian company (dummy = 2). Country was considered a proxy for the institutionalized corporate governance guidelines. c) **Control Variables:** - Finance = Company operates in the financial industry or not (0/1). - IC _ statement = Company provides an internal control statement in its annual report or not (0/1). - Industry _ complexity =the industry in which the company operates is highly complex or not (0/1).		recommended that they should review the corporate governance, risk management and internal control system guidelines regularly.

			- Company _ growth = Over the past two years, company growth was positive or not (0/1). - Firm _ size = Total assets are more than one billion or not (0/1). - Reporting _ levels = There are five or more reporting levels between top management and the lowest operating unit or not (0/1). - Operation _ countries = the company has one or more operating units in ten or more countries or not (0/1).		
11	Cheung et al. (2010), Hong Kong	This literature used a Hong Kong Data from SEC in purpose of investigating the association between corporate governance and the future firms' stock returns and future firms' risk.	**MTBV, CAR**, **IRISK, B, STDRET, CGI, ΔCGI, market firm Size, D/E, ROA, TOP 3, Family firm, Board size, BOUT ratio, Dummy HR, Firm Size, Debt Equity Ratio, ROA and Board size.**	Ownership structure data are obtained from annual reports. All data are processed according to the firm's fiscal date. Assessing the impact of corporate governance (proxy by the CGI) on	**Overall Conclusion**, the quality of corporate governance (as proxied by the level of the scores in the CGI) appears very significant in explaining future company returns and risk. Good corporate governance is associated with both higher stock returns and with lower unsystematic risk. Similarly, poor corporate governance is associated with

				future company stock performance and risk. This study measure future stock performance as the 12-month cumulative abnormal return adjusted by Fama-French (1993) three factor model in the fiscal year following the reading of the CGI or its change. and measure risk in three ways. First, as the B and the standard deviation of the residuals from a market model estimated with one fiscal year of daily stock returns. Second, as the standard deviation of daily stock returns calculated over one fiscal year.	both lower stock returns and higher unsystematic risk.

12	Kim, Rasiah 2010, Malaysia	This study attempts to identify and understand the differences between two types of banking ownership – the private domestic-owned banks and the foreign-owned banks in term of relationship between corporate governance and bank performance in the pre and post Asian financial crisis.	a) The main proxy for corporate governance is capital adequacy requirements (CAR). b) Other variables that are relevant to assess external corporate governance in banking are, Capital ratio (CR), cash claim on central bank (CCC), secondary reserve ratio (SRR), loan to deposits ratio (LDR), loan loss provisioning (LLP) and fixed assets and inventories to capital (FAI). c) Proxy for bank performance is Return on Equity ROE.	Two types of data analysis methods are used to analyze the sample data. First, descriptive and inferential statistical analysis. Second, regression model analysis. These techniques are used to examine the relationships among the governance mechanisms and performance of selected private domestically owned banks and foreign-owned banks, this research uses the simultaneous method as a method to analyze the selected sample data.	**The main Conclusion is that** there is a Positive and significant association between the corporate governance and bank performance in Malaysia. Empirical evidence also shows that there is a positive and significant foreign ownership and government-connected ownership variables as well as governance variables with different bank performance measures in foreign-owned banks and private domestically owned banks. Therefore, in the pre-crisis, foreign-owned banks had a better implementation of good corporate governance and had gained better performance than that of private domestically owned banks in Malaysia. Nonetheless, in the post crisis, private domestically owned banks had a better implementation of good corporate governance, and had gained better

				This research attempts to determine which types of bank ownership differ significantly on practices of corporate governance on bank performance in the pre and post financial crisis.	performance than that of foreign-owned banks.
13	Gordon et al. 2009, United States	The main point for this study is that the association between enterprise risk management and Performance is contingent upon the appropriate match between ERM and the following five factors affecting a firm: a) Environmental uncertainty, b) Industry competition, c) Firm size,	**Firm performance**: is measured in this study by the one-year excess stock market return to shareholders. **Environmental uncertainty (EU):** is defined as the change or variability in the organization's external environment. **Industry competition**: is measured as one minus the Herfindahl – Hirschman Index (1- HHI). **Firm complexity:** is associated with the number of business segments within a firm.	This study derives the functional relation between the ERMI (which is used as a proxy for a firm's ERM, and the five contingency factors for high performing firms. The high performing firms are defined as those with an excess return greater than 2%. In total there are 53 high performing firms.	The findings from this study confirm the argument that the ERM-firm performance relation is indeed contingent on the proper match between ERM and the mentioned five variables. The findings from the analyses suggest that the ERM Index (ERMI) is a reasonable (although not perfect) measure of the effectiveness of ERM.

		d) Firm complexity, e) And board of directors' monitoring**.**	**Firm size:** measured as the natural logarithm of average total assets. **Monitoring by Board of Directors:** measured by dividing the number of directors for each firm by the natural logarithm of sales ((number of directors)/ log (sales)). **The Enterprise Risk Management Index (ERMI):** Index is based on COSO's four objectives of ERM.	The coefficients for the five contingency factors are derived based on these high performing firms. In other words, the high performing firms are used as the ''best practice" (or benchmark) group of firms for deriving the relation between ERM and the five contingency variables.	
14	Christopher, Yung, 2009, Hong Kong	The main objective of this study is to examine the relationship between corporate governance, bank performance, while controlling for a number of firm specific factors that may affect bank performance.	a) **The measures of bank performance are:** Return on assets ROA, Return on equity ROE, Market-to-Book Ratio, Risk-adjusted return on capital (RAROC),	**The methodology:** The impact on bank performance from corporate governance policy may be subject to time lags. This study adopts the research method of Cordeiro and Veliyath (2003) in using panel methods to analyze	This study has found that banks with larger board size is associated with lower level of related-party loans and tend to have better performance. This finding reflect the importance of corporate governance in enhancing the bank performance. Furthermore, loans is considered very important to manage and control to

			Efficiency of interest management, Efficiency of non-interest management, and Cost efficiency ratio. b) **The measures of corporate governance are:** Size of board of directors, Level of loans from related-party. c) **Controlling variables:** Market share of debt. Bank's size in terms of assets.	the relationship between corporate governance and bank performance. The sample of companies consists of data for 23 banks from 2005 to 2007 giving a total sample size of 23*3 = 69 observations for every variable. There are two parts in the empirical analysis. First, Mean Equality Tests are used to assess if there are differences in performance between two different groups of banks (listed banks and non-listed banks). Secondly, Panel Regression methods are used to analyze the relationship between bank	have a good corporate governance system and achieve the best practice in Hong Kong banking sector. The high levels of related-party lending may deliver message to people outside that the corporate governance mechanism is poor and not effective, which may adversely affect the reputation of the bank.

				performance and corporate governance.	
15	Rogers, 2008, Uganda	This paper mainly was to explore the association between corporate governance and financial bank performance in the banking sector of Uganda.	**This study used the following variables;** **Trust Scale, Disclosure Scale, Financial Transparency Scale, Financial performance Scale.** Pearson correlation technique was used to explore the relationship between dependent variables and independent variables.	This study was conducted on the level of a cross-sectional. The main target for this study is to investigate the relationship between Corporate governance mechanism and financial performance in Uganda's banking sector. SPSS version 11.0 has been used in this study to analyse the data and do the descriptive analysis. Pearson's correlation statistical techniques were used to test and explore the relationship between dependent	The main conclusion of this thesis are; Conventional banks need to have an effective corporate governance mechanism especially the principle of timeliness of signalling and issuing the financial information to the market, and showing the details of Loan quality, which means that all aspects related to transparency and timeliness should not be ignored by such banks. Furthermore, results indicated that Corporate Governance in terms of transparency, trust and disclosure can predicts around 35 % of the change in financial performance of Commercial banks.

				variable and independent variables.	
16	Tandelilin,et al. May 2007	- Improving the understanding about corporate governance practices in Indonesian banking, and in what ways the banks can implement good corporate governance that aligns with bank performance. - Providing general indicators of corporate governance useful for both regulator and business people in making policies and decisions.	a) **Proxy Variables for Corporate Governance**: a) Capital Adequacy Ratio (CAR). b) Capital Ratio (CR). c) Cash Claim on Central Bank (CCC). d) Secondary Research Ratio (SRR). e) Loan to Deposit Ratio (LDR). f) Loan Loss Provisioning (LLP). g) Fixed Assets and Inventories to Capital (FAI). b) **Proxy Variables for Risk Management**: a) Value at Risk (VAR). b) Non- performing Loan Ratio NPL.	**secondary data:** The data are collected from Indonesian Banking Directory and quarterly banks' financial statements for the period of analysis 1999-2004. The research employs 51 banks that geographically operate in Indonesia. The sample consists of 25 private domestic-owned banks, four state-owned banks, 13 joint-venture-owned banks, and nine foreign-owned banks. **Primary Data:** The survey research method has been conducted based on primary data. The data	**The results can be concluded as follows:** a) Ownership structure has no significant effect on corporate governance. b) There is significant negative inter-relationship between risk management and bank performance. c) Corporate governance has significant and negative effect on risk management. d) Corporate governance has nonlinear effect on bank performance. e) Relationship between corporate governance and risk management is sensitive to type of bank ownership. The results are statistically robust for all types of bank ownership, except state-owned banks.

			c) Business Risk (BR). c) **Proxy Variables for Bank Performance**: a) Return on Equity ROE. b) Net Profit Margin (NPM).	were collected from Indonesian bankers (commissioners, directors, and managers) with cooperation with Risk Management Center Indonesia using questionnaires.	f) Relationship between corporate governance and bank performance is sensitive to different types of bank ownership.
17	Brogi (2008), Italy	The aim of this paper it to investigate the association between corporate governance of financial intermediaries represented by; board size and performance. The role of committees that which is related to risks in European financial system should take in consideration all type of governance tools.	This study will explore the relationship between Qualitative and quantitative principles of corporate governance in firms and their implication on performance. Firms with larger boards does not seem to have a negative implication on performance.	There are two different international samples of firms to do the investigation, the first is the largest European firms which represent the European top 100 index, the second type of sample is the top 40 European financial firms by market cap.	This study concluded that the policy makers and investors seems to give highly importance to the corporate governance mechanism. The there is an evidence on the association between board size and board composition and performance. Financial intermediaries firms seems to have larger boards compared to other companies, furthermore the board size does not seem to negatively affect performance.

18	Laeven and Levine, (2007), USA	This study examines the association between bank risk taking and; ownership structure, national laws and regulations and managerial shareholdings. In addition, it will try to add a new value on the concept of corporate governance in banking sector.	**The main variables are:** Z score, Equity volatility, Earnings volatility, Control, CF Managerial ownership, Large owner on management board, Wedge, High CF, Revenue growth, Too-big-to-fail, Loan loss provision ratio, Liquidity ratio, Size, State, Founder, Descendant, Founded, Legal origin, Religion, Restrict, Diversification, Capital, Official, Independence, DI, Per capita, income, Rights, Enforce, Corrupt, Law, Concentration, Country-average ROA, M&A activity.	The data sample of this study represent the 10 largest public banks. And Since number of countries have lower than 10 public banks, this yields information on a maximum number of 296 banks over 48 countries. This study focus on the comparison between the largest banks. Overall, the sample takes in consideration more than 80% of total system assets of banks.	This study indicated that large owners who have substantial rights to cash-flow tend to increase bank risk, Furthermore, the association between ownership structure and risk taking is depending on number of factors; large owner, investor protection laws, and rules and regulations.
19	Al Karasneh and Bolbol, 2006, Abu Dhabi, UAE	The main objective of this literature is to investigate the association between business growth and corporate governance mechanism and market	**RGDPG** = Real Gross Domestic Product Growth **Concentration** = Market structure measure, calculated by 3-bank asset concentration ratio and HHI index.	The banking data sample used in this analysis will cover 50 GCC banks during the period from 1995 to 2004, and the data also collected from	The main conclusion of this literature is that the good corporate governance in banking sector will help in the stability and growth of the whole financial system.

		concentration in GCC banking sector. Furthermore it will investigate the association between financial structure and economic growth, this will be done through analysing the impact of banking market concentration and growth level in GCC banking sector.	**Bank Development** = Credit to the private sector to GDP (Credit/GDP) as an indicator or measure of financial intermediation. **Bank Development * Bank Concentration** = Interaction variable to capture the variation of the effect of banking structure at different stages of financial development. **Control** = Control variables which include inflation and budget balance to GDP (BB/GDP). **I , k** = number of years and countries respectively.	the annual financial reports of the GCC Banks which are published by the IBS in Kuwait. The test was conducted using the regression analysis technique.	The good corporate governance is significantly associated with high competition in the GCC financial system as a whole. Reducing measures concentration may positively affect the growth in the GCC banking sector, this association will be appear clearly in UAE and Kuwait.
20	Cornett et al. (2003), Far east contries	This study examines how corporate governance via share ownership and the characteristics of a bank's shareholders can affect firm performance	**bank performance variables:** a) Profitability Indicators. b) Capital Adequacy Indicators. c) Asset Quality Indicators. d) Operating Efficiency Indicators.	This study examines financial data during the period from 1989 to 1998 for 16 Far East countries as follows; India, Bangladesh, China, Hong Kong, Malaysia,	This study concluded that state banks generally generate lower level of profitably and efficiency compared to private banks during the test period.

			e) Liquidity Risk Indicators. f) Growth Indicator. **Dependent Variables:** a) Operating pre-tax cash flows / Total assets. b) Net interest margin / Total assets. c) Core capital / total assets. d) Allowances for loan losses / Loans. e) Loan loss provisions / Loans. f) Noninterest expenses / Net operating income. g) Personnel expenses / Total assets. h) Fixed Assets/Total assets. i) Loans / Deposits. j) Core deposits / Total assets. k) Cash and marketable securities / Total assets.	Indonesia, Macau, Nepal, Pakistan, South Korea, Philippines, Singapore, Thailand, Sri Lanka, Taiwan and Vietnam). The data was gathered through Bank Scope. This database contains detailed information on the annual bank financial information.	This literature also noted that bank performance in both state and private banks deteriorated sharply. However, the deterioration in state bank performance was higher than that one in private banks.

21	Kleffner et al. 2003, Canada	This study tries to explore the extent of applying the concept of enterprise risk management (ERM) in Canadian firms. Furthermore it investigate the main principles and obstacles that are associated with the implementation of ERM. And what is the role of corporate governance guidelines related to ERM.	A number of factors may influence a company's decision regarding whether to adopt an ERM strategy. These include the **Toronto Stock Exchange (TSE) guidelines** for effective corporate governance and company characteristics such as industry, size, and how the risk management function is organized in the company. **ERM in Practice: United Grain Growers and British Columbia,** Two examples of organizations that have responded to the new guidelines by adopting an ERM approach are United Grain Growers (UGG) and the province of British Columbia (BC). **Company Characteristics,** In terms of company characteristics, size is one factor that Colquitt et al. (1999) found to be significant in	In order to determine the extent to which ERM is practiced in Canada, a survey'* was sent (in June 2001) to all companies listed as members in RIMS. The survey was sent to the individual who is primarily responsible for risk management in the company (The survey was sent to all Canadian Primary Deputies—the individual primarily responsible for risk management in the company).	**The conclusion is that**, the ERM is a concept that has drawn a great deal of attention in the trade press, yet conflicting evidence exists regarding what it means and how common it actually is. This study has provided evidence regarding the use of ERM in Canada and the impact of the TSE guidelines on companies' risk management strategies. Although ERM is still not widely practiced, evidence is clear that even those companies that have not adopted ERM are taking a more integrated approach to risk management than in the past.

			whether a company used integrated risk management tools.		
22	Lai, P. F., & CHOI, O. N. (2014), Asian Regions	The main objective of this literature is to investigate the association between corporate governance and financial performance in Asian region.	• Board sizes (BS). • The frequencies of board of directors meetings (*BM*). • Capital: Capital adequacy ratio (*CAR*). • Asset Size: Total Assets (*TA*). • Profitability: profit before tax / tier 1 capital (PTC). • Profitability: Return on average assets (ROAA): profit before tax/ average equity. • Asset Quality: Non-performing loan (NPL): non-performing loans / total loans	In this study, the data were collected from different bank in Asian regions such as Hong Kong and China. Furthermore, this data collected from updated annual report of each bank for the period from Year 2007-2012.	This study concluded that there is statistically significant relationship between Capital adequacy ratio and corporate governance. The NPL and ROA are not statistically significant with corporate governance. There is also statistically significant relationship between Capital adequacy ratio and board size. The association between NPL and ROA are not statistically significant with board sizes. Moreover, there is statistical significant association between ROA and board of director meetings. There is no statistical significant relationship between CAR, NPL with board meetings.

23	Durgavanshi (2014),	The objective of this paper is to investigate and discuss the effect of corporate governance mechanisms on financial performance of the Microfinance Institutions (MFIs) in India.	**Corporate Governance Variable:** • Independent Audit committee • Board Size • Banker in the board • International Director • Independent Director • MFI's age • Asset Size • CEO's Experience **Financial Performance** • OSS: (Operational self sufficiency; Operating revenue / (Financial Expense + Loan loss provision + operating expense) • Yield on gross portfolio • RoE	Data on financial ratios (RoE, OSS and Portfolio Yield) have been collected from www.mixmarket.org (an industry database) and partially from the rating reports for ratings conducted between 2009 to 2012. Data on board characteristics collected from annual reports, MFI firm's websites and rating reports.	The important results of this study is: the larger board is expected to negatively affect the return on equity ROE. In addition, it indicates that the separation of CEO and the board chairman does not have a statistically significant effect on the financial performance. Moreover, there is no significant relationship between the existence of audit committee and both Return on Equity ROE and Operational Self Sufficiency (OSS).
24	Fanta et al. (2013)	This study assessed the relationship between selected internal and external corporate governance mechanisms, and bank performance as	• ROE is the return on equity • ROA return on asset • BDSZ board size • AUDC existence of audit committee, dummy variable taking 1 if there is audit committee, and 0 otherwise.	The data of this study was obtained from two sources: Audited annual financial statements of the banks covering the period 2005 to 2011 were obtained from the National Bank of	The result of the two regression models are as follow: CAR as a proxy of external corporate governance has positive relationship with bank performance • The effect of CAR on ROE is non-linear due to government regulation. Hence, the negative effect of CAR on

		measured by ROE and ROA.	• CAR capital adequacy ratio year-end capital of the bank divided by year–end total risk-weighted assets. • LLP loan loss provision allowance for loan loss divided by year-end total loans. • CAR2 is the square of capital adequacy ratio. This study uses two control variables: • BKSZ is bank size measured as a log of the year-end total assets. • OWTP is ownership type with dummy variable taking 1 if the bank is a state-owned and 0 otherwise.	Ethiopia (NBE). Data on board characteristics is obtained from each bank in the study. The study included 9 commercial banks for 7 years (63 observations).	ROE is expected to turn in to positive when CAR increases to a certain level where the financial health of the bank improves. • The size of board of directors negatively affects the profitability, implying that the less the number of directors in the board, the better profitable a bank becomes. • The existence of audit committee in the board has adverse impact on the profitability. • The size of the bank is an important factor with a positive contribution to its profitability. • The profitability will be basically the same when the bank is owned by the state or by the private investors.

25	Hoque and Muradoglu (2013)	This study focused on the association between board composition and CEO incentives and how much they affect the bank performance	**Return:** Buy-and-hold returns on an annual basis. **ROAA:**Net Income divided by average book assets. **Board size.** **Duality.** **Independent directors.** **Female:** Percentage of female directors in the board. **CEO network:** Number of CEO network. **Log(size):**Size of the bank as measured by total assets.	This study collected bank data from Bankscope and used the largest 350 listed banks in Bankscope by asset size at the end of 2006.	This findings of this study will be as follows; Board size is negatively and significantly associated with stock market performance. The high percentage of the existence of independent directors is associated with lower returns. Role duality and gender diversity is insignificantly associated with stock market returns. The board size is significantly and negatively associated with the performance.
26	Jiang et al. (2012)	This paper examines the effects of corporate governance on bank performance in China over the period 1995-2008.	**CCB**: 1 if the bank is a regional city commercial bank and zero otherwise. **JSCB**: 1 if the bank is a national wide joint-stock commercial bank and zero otherwise. **SOCB**: 1 if the bank is a stateowned commercial bank (with majority state ownership) and zero otherwise. **FB**: 1 if the bank is a foreign bank (with majority foreign ownership) and zero otherwise. **For-Minority**: 1if the bank has foreign minority ownership	Data are collected from BankScope complemented by the Almanac of China's Finance and Banking (1986-2009). The sample includes 47 commercial banks operating in China for the period 1995-2008.	1. This study finds no significant difference in performance for banks with or without foreign minority ownership. 2. There is weak evidence that foreign banks (with majority foreign ownership) are more efficient than domestic banks. 3. Majority state ownership is associated with a rather low efficiency and SOCBs are the most unprofitable banks.

			regardless of its original ownership nature and zero otherwise. **LIST**: 1 if the bank is listed on a stock market and zero otherwise. **Capital risk:** is the natural logarithm of equity to total asset ratio. **Credit risk**: is the natural logarithm of loan loss reserve to gross loan ratio. **Market risk**: is the natural logarithm of interbank interest to interest on deposit. **Liquidity risk**: is the natural logarithm of gross loan to customer deposits ratio. **GDP**: is the natural logarithm of GDP growth rate.		4. Banks with more dispersed ownership structure are more efficient. 5. Moreover, all risks under consideration have significant adverse impacts on bank profitability except for: • Capital risk that has no significant impact. • Banks with higher credit risk, market risk and liquidity risk are more inefficient.
27	Oluwafemi et al. (2013) , Nigeria	This study examines the relationship between corporate governance and performance in Nigeria banking sector.	***performance:*** ROA: Return on Assets. ***Governance:*** BDS: Board of director size. BDC: number of outside directors divided by total number of directors. ***Control Variables*** SIZE: this is the size of the firm measured by the value of its asset base.	This study employs basically secondary data from the financial statements of some selected banks in Nigeria. The data covers the six years period from 2005 - 2010.	This study concludes that the need for increase in board size and decrease in board composition in order to increase the bank performance.

28	Quaresma et al. (2014)	This research aims to analyze the relation between the quality of corporate governance practices and the financial performance of international listed banks.	Corporate governance variables used are INDBD (Independence of the Board of Directors), INDPR (Independence of the President of the Board of Directors), SZBD (Size of the Board of Directors), VPC (Voting Power Concentration), and BvDep (Company's Shareholders Independence Indicator).	The data of this study comes from Bankscope and annual financial reports from 64 listed banks of 14 different countries. This study was for the period 2006 - 2009.	• This research provide evidence that better corporate governance is related to a more favorable rating as well as to an improved financial performance. • The size of the board of directors (SZBD) was negatively related to IL/GL ratio. • Statistically significant correlations were identified between shareholder independence indicator (BvDep) and Tier 1 Ratio.
29	Rachdi and Ameur (2011), Tunis	This study investigate the relationship among board characteristics; performance (Return on Assets and Return on Equity) and bank risk taking (Z-score).	**Performance:** • ROA (return on assets). • ROE (return on equity). **Bank risk**: Z-score of each bank. **Board size (BS):** The number of directors in the bank board. **Independent directors (INDIR):** percentage of total directors who are independent.	The sample examined in this paper consists of the largest banks in Tunisia over the period 1997-2006. The data is sourced from Tunis Stock Exchange.	• The small board size is associated with better performance and more risk-taking. • Lower CEO ownership is significantly related to lower performance in Tunisian banks, • Banks with increased charter value are significantly associated with lower ROA and ROE.

			CEO ownership (CEOWN): The percentage of the banks CEO's shareholdings. **Bank size (TA):** Total assets as at the end of each fiscal year.		