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Investigating the impact of various Corporate Governance Mechanisms on the Accounting Performance of Non-Financial Firms Listed on the Amman Stock Exchange

By

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Dedication

This thesis is dedicated to the spring of tenderness of my precious mother, who always urged me, supported me and wished me to get a doctorate degree In accounting major. But with a sad heart, she died before I graduated.

My father, who always encouraged me to complete doctoral degree - accounting major - where he was supporting me financially and morally.

My brothers and sisters for their continued support and encouragement in the last four years to complete different phases of the research.

My precious wife, and my dear sons and daughters for their continued support and encouragement, and for providing me with the appropriate opportunities to complete the thesis.

To all my friends and everyone who supported me to finish this thesis.

Ammar Z. Ramadan

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List of Abbreviations

AC	Audit Committee
AFM	Amman Financial Market
ASE	Amman Stock Exchange
BOD	Board of Directors
BSCS	Board Sub-Committees
BSE	Board Size
CAPX	Capital Expenditure
CBJ	Central Bank of Jordan
CEO	Chief Executive Officer
CEOD	CEO Duality
CG	Corporate Governance
CGI	Corporate Governance Index
CR	Current Ratio
EMH	Efficient Market Hypothesis
ECGI	European Corporate Governance Institute
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
FEAS	Federation of Euro-Asian Stock Exchanges
FSE	Firm Size
GDP	Gross Domestic Product
GLS	Generalised Least Squares
HKJ	Hashemite Kingdom of Jordan
IASs	International Accounting Standards
IFRSs	International Financial Reporting Standards
JACPA	Jordanian Association of Certified Public Accounting
JCGC	Jordanian Corporate Governance Code
JIB	Jordanian Investment Board
JSC	Jordanian Securities Commission
LEE	Leverage
LIY	Liquidity
MENA	Middle East and North Africa region
NC	Nomination Committee

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NEDs	Non-Executive Directors
OECD	Organisation for Economic Cooperation and Development
QIZ	Qualifying Industrial Zones
TOQ	Tobin's Q
RC	Remuneration Committee
ROA	Return on Assets
ROE	Return on Equity
R&D	Research and Development Expenditure
SD	Standard Deviation
SDC	Security Depository Centre
SGH	Sales Growth
UNDP	United Nations Development Programme
WFE	World Federation of Exchanges

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Abstract

There is a long history of corporate scandals and failure in accounting performance around the globe as a result of weak government mechanisms overseeing companies due to the absence of clear government laws and legislation governing the relationship between shareholders (owners, investors) and executive managers (internal management) in a firm. Weak government mechanisms reinforce the greed of the dominant and influential groups within the various companies. This weakens the accounting and financial performance of a firm and leads to it being unable to generate sufficient profits to satisfy its shareholders, as well as being unable to attract new investors or encourage them to invest within the firm.

As a result, various researchers are investigating the impact of corporate governance (CG) mechanisms on firm performance. The majority of the research regarding corporate governance and its impact on firm performance has been conducted in developed countries, especially in the US and UK. Relatively less evidence is available in the Middle East, particularly in Jordan. Thus, the aim of the current study is to investigate the impact of various corporate governance mechanisms on firm performance for Jordanian non-financial companies listed on the Amman Stock Exchange during the period 2012 – 2018. Different hypotheses have been generated through agency theory to explore the relationship between the corporate governance mechanisms and the accounting performance of Jordanian non-financial companies. Agency theory is employed because it explains the agency problems between the corporate manages and shareholders, which have a negative impact on the value maximisation objective. It has been claimed that various features of the board of directors' act as effective corporate governance mechanisms for solving the agency problem between corporate managers and shareholders.

This study uses multiple regression panel data analysis to analyse the data. A fixed effect model is used to investigate the impact of corporate governance mechanisms on firm performance. Secondary data is collected

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for 95 Jordanian non-financial companies listed on the Amman Stock Exchange. The data is collected from three different sources: the Amman Stock Exchange website, the annual reports of the selected companies and from the DataStream database.

A mixed set of results is observed from the empirical investigation. The findings of the study reveal a significant negative impact of board size on firm performance, which indicates that large board size tends to be inefficient due to poor coordination and communication. The findings of the study also reveal that non-executive directors (NEDs) have a significant negative impact on firm performance. The findings are not in line with the hypothesis generated from agency theory, which states that NEDs play a vital role on the board by monitoring the firm's performance and providing valuable suggestions to the executive directors, as they are experts in their field and have years of experience. However, CEO duality has a significant positive impact on firm performance, which reveals that Jordanian firms perform better if the roles of CEO and Chairman are performed by one individual. These findings are also inconsistent with the Jordanian CG code, which emphasises the separate of the role CEO and Chairman for implementing the strict check and improve the balance of the board of directors. The findings indicate that three board committees (audit, remuneration and nomination) have a significant positive impact on the firm performance. These findings are consistent with the empirical results and Jordanian CG code because establishment of board committees tends to streamline various business operations, which has a positive impact on firm performance.

A corporate governance (CG) index has been generated based on the Jordanian corporate governance code requirements. Compliance with the corporate governance index has been checked for the Jordanian non-financial firms. The findings indicate that the corporate governance index also has a positive and significant impact on firm performance.

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The findings of the current study will help the Jordanian regulators to amend the current Jordanian corporate governance code because the impact of different CG mechanisms on the firm performance has been checked through real data and statistical tests. Further, the findings can assist the Jordanian corporate boards and managers to improve their companies' corporate governance system by implementing the significant CG mechanisms that are explored by this study.

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Chapter 1 Introduction

1.1 Background of the study

This study investigated the impact of corporate governance (CG) on firm performance in Jordan. CG provides a mechanism to streamline the operating affairs of the business and help it to achieve the objective of shareholder wealth maximisation. Previous studies conducted by researchers shed light on the significance of the CG mechanisms and highlighted how CG mechanisms assisted in overcoming the agency problem faced by public limited companies around the globe (Shabbir and Padgett, 2008; El-Faitouri, 2014; Akbar et al., 2016; Alqatan and Hussainey, 2019; Al-Ahdal et al., 2020). The agency problem is the conflict of interest between the corporate managers and corporate investors in the case of public limited companies. It has resulted in the bankruptcy of various companies, such as Enron (2001), WorldCom (2003) and recently Carillion (2018), Patisserie Valerie (2019) and Thomas Cook (2019) (Kollewe, 2019).

Such conflicts can be overcome through effective management of the firm's affairs under the umbrella of corporate governance. Effective corporate governance ensures proper utilisation of the firm's resources, which increases investor confidence (Denis and Denis, 1994). The mechanism of corporate governance helps firms to manage internally and externally; first, it assists them in managing internal matters, and, secondly, it helps them respond to the external environment and external conditions (Gregory et al., 2005). Various researchers such as Rwegasira (2000), Nam et al. (2004) and Akbar et al. (2016) have reported in their studies that the mechanism of corporate governance protects a firm's assets from misuse by managers, which ensures safe and efficient decision making. Such measures help to utilise resources properly, which enhances the performance of the firm.

Although corporate governance phenomena are under investigation globally, the majority of the work has been carried out in Western countries which are developed nations, especially in the UK and US, and the Eastern point of

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view has not been greatly investigated. Only a few studies have been conducted that explore the impact of CG mechanisms and firm performance in Middle Eastern countries. Middle Eastern countries have a unique culture (the majority of the population are Muslim and follow the Islamic guidelines in daily life) and economic factors (financial markets (capital and money market) are not developed, and non-existence of bond market) that are different from Western developed economies. Researchers have adopted those CG mechanisms in their research that are implemented by the regulators in those countries. This study is focused on the CG mechanisms that are implemented by Jordanian regulators. Another unique feature of this study is that the impact of various CG mechanisms has been explored in a standalone and collective manner by generating a CG index based on the requirements of the Jordanian CG code.

During the 90s the Jordanian government made efforts to motivate investors to invest in Jordan. The government provided incentives to Jordanian citizens based overseas and to international investors to invest in Jordan by launching the Jordanian Economic Growth Stimulus Programme to achieve sustainable development and enhance the competitiveness of the economy (Kabariti, 2019). This initiative helped Jordan to integrate its economy with the world at the global level. Under this initiative, the capital markets of Jordan were liberalised, and CG mechanisms were restructured. In addition to this, an institutional framework was also developed, and new institutes were established. It helped to strengthen the regulatory environment and ensured transparency and accountability in financial matters. These institutes were the Securities Depository Centre (SDC), Jordanian Securities Commission (JSC) and Amman Stock Exchange (ASE). As a result of the above governmental efforts, the country's economic conditions improved, and the Jordanian capital markets flourished. The gross domestic product (GDP) of Jordan increased to 2.3% and per capita GDP rose to 2,909 Jordanian Dollars in 2018, which was the highest level it reached during 2014 to 2018 (Central Bank of Jordan, 2020).

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The main objective of this study is to investigate the impact of CG mechanisms on the firm performance of Jordanian non-financial listed companies on the ASE. Secondary data is collected for 95 non-financial companies for a period of six years ranging from 2012 to 2018. The study has adopted the CG mechanisms that were proposed by the Jordanian CG code 2011. Jordanian companies began to implement the requirements of the CG code 2011 in 2012. For this reason, the data is collected from 2012 to 2018. The focus of this study is also on non-financial companies because the reporting style of financial companies is different from that of non-financial companies. Various statistical tools, such as descriptive analysis, correlation and multiple regression analysis, are used to explore the impact of CG mechanisms on firm performance. This study will examine the effects of various CG mechanisms in a standalone and combined manner for the Jordanian companies, and it is the first study of its kind in the context of Jordan.

The study in hand is keen to identify and understand the existing literature about variables such as CG and organisational performance, particularly in Jordan. There is a visible literature gap that will be identified and answered by the current study to enhance the existing knowledge in this field of study. This study is equally essential for Jordanian corporate managers because they can implement significant CG mechanisms in improving their firms' performance. Empirical results have shown that the implementation of CG mechanisms is helping corporate managers to streamline their operating activities and enhancing accountability and transparency mechanisms. Effective operations, sound accountability and a transparent system enable firms to improve their performance (Mkheimer, 2018).

This study is beneficial for the regulators because regulators around the globe are continuously updating the CG mechanisms (European Corporate Governance Institute (ECGI), 2020). Jordanian regulators developed the first CG code for Jordanian banks in 2006, a CG code for Jordanian companies in 2007 and the CG code was updated in 2011. The outcomes of this study will help the regulators to understand the real impact of various CG

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mechanisms that are proposed by the Jordanian regulators through CG codes.

1.2 Theoretical framework adopted in the study

The theoretical framework is an essential and integral part of any given research design. It is quite necessary to understand the theoretical stances of every piece of research so that its visible contribution to the specific field of literature can be highlighted explicitly. The study in hand is based on agency theory, and the research questions and hypotheses are generated based on agency conflict. Agency theory deals with the conflicts of interest between principals and agents. In public companies, the shareholders are the principals who hire agents so that the agents can achieve the shareholders' wealth maximisation objectives. The managers of the company are the agents who need to work to achieve the shareholders' wealth maximisation objectives. Unfortunately, however, they work to achieve their own personal goals; this conflict of interest between managers and shareholders is known as an agency problem.

Therefore, the aim of this study, based on agency theory and agency conflict, is to explain the relationship between the CG mechanisms and their impact on the firm's financial performance. It is worth mentioning that agency theory and its associated hypotheses are tested, and this theory testing enriches the subject knowledge accordingly. Further details are provided in Chapter 2 of this thesis.

1.3 Research aim

This research aims to investigate the impact of corporate governance mechanisms on the firm performance for the non-financial Jordanian firms listed on the Amman Stock Exchange.

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1.4 Research objectives

The research aim is divided into the following objectives:

- To conduct a critical literature review in the field of corporate governance and firm performance

- To collect the secondary data for various CG mechanisms and firm performance for Jordanian non-financial firms from 2012 – 2018

- To analyse the data by using various statistical tools, such as descriptive analysis, correlation and multiple regression analysis

- To present the findings of the study and compare and contrast the results of the study with previous studies

- To provide a brief conclusion and recommendations in light of the analysis of this study

1.5 Research questions

The board of directors is a critical CG mechanism, and previous research has identified the independent director as a useful feature/character of the board of directors (Gillan, 2006; Liu and Fong, 2010; Alqatan and Jussainey, 2019). Aggarwal et al. (2011) and Akbar et al. (2016) have stated that the prime duty of board members is to protect the interests of investors and ensure that agents (managers) are performing their duties to maximise the wealth of shareholders. Thus, the framework of corporate governance provides strategic guidance which helps to monitor the performance of firms through the board (Organisation for Economic Cooperation and Development (OECD), 2004). The board of directors (BOD) also plays its role to minimise the conflicts between the agent and principals. Accordingly, the BOD keeps an eye on top management to ensure alignment between the managers and

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shareholders. This alignment will help to reduce the conflict and increase the firm's performance, ultimately protecting the interests of shareholders (Braendle, 2019). The BOD has a significant impact on the firm's performance, so the first research question of this study is:

Research question 1

How does the BOD (such as size, Chief Executive Officer (CEO) duality and Non-executive directors (NEDs)) show their impact on performance of a company in Jordan's non-financial listed firms

Board sub-committees can also help to increase the performance of the BOD (Vafeas, 1999). Companies usually tend to establish various committees which monitor the affairs related to audit (audit committee), remuneration (remuneration committee), and hiring for vacant posts at the board level (nomination committee). These sub-committees assist the board of directors (Chhaochharia and Grinstein, 2009; El-Faitouri, 2014). Anderson and Bizjak (2003) have stated that the remuneration committee helps to determine the compensation of executives working within the firm.

Generally, executives and independent directors of listed firms are nominated and controlled by the board (Vafeas, 1999). It can be very costly to decide on a collective nomination if the firm has a very disbursed ownership structure. Thus, the board undertakes the responsibility to nominate and appoint executives and independent directors for the firm. Selection of an appropriate person for an executive position is crucial for a firm and this job is performed by the nomination committee, which ensures the quality of nominations. Additionally, this nomination committee works as a separate unit from the managerial team, which ensures the selection of the most appropriate person for an executive role (Vafeas, 1999). On the other hand, if responsibility is delegated to the managerial team for the selection of executives, it will not ensure quality. It is possible that the executive directors would select another executive director based on their personal affiliations, which could protect their interests rather than those of the shareholders.

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Offering an attractive remuneration package to the executives will motivate them to act in the best interests of the shareholders and to align the interests of the shareholders with those of the managers. Anderson and Bizjak (2003) have stated that the board of directors delegates the task of designing wages and compensation to the remuneration committee. This committee also provides its consultancy role to the board regarding the payment to the executive directors. Vafeas (2003) and Akbar et al. (2016) have stated that the financial scandal around the globe at the start of the 21st century highlighted the need to implement regulations for strengthening the role of the compensation committee.

Young et al. (2008) and El-Faitouri (2014) have stated that the audit committee is a crucial part of a corporate governance system which helps to restrict managers from being involved in financial crimes while managing their firms' affairs. The fundamental function of an audit committee is to review the financial activities and evaluation of financial statements of the firm with the collaboration of internal and external auditors. Additionally, the audit committee also reviews internal controls to evaluate the performance of companies (Aggarwal et al., 2005; Yawson, 2006; Wulf, 2007). Thus, considering the significance of various board committees, the second research question of this study is:

Research question 2

Do the board committees have an impact on the firm performance and the organisation efficiency of non-financial listed Jordanian companies?

It is essential to mention that the committees such as audit, remuneration and nomination play a pivotal role in the performance of the firm. Furthermore, the investigation in the current study focuses on examining the impact of the level of compliance on corporate performance by adopting two approaches, by using a standalone corporate governance mechanism to

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investigate their effects on firm performance and by using the governance index. Various researchers have taken the index-based approach to quantify the impact of CG index on firm performance and found significant results (Adams, 2003; Padgett and Shabbir, 2008; El-Faitouri, 2014; Akbar et al., 2016). Hence, in line with considering the significance of using the governance index, so the third research question of this study is:

Research question 3

Does the corporate governance index (CGI) have an impact on the performance of the non-financial listed Jordanian organisations?

1.6 Rationale of the study

Firstly, this study might be helpful to enhance our understanding of reducing agency conflict by using different corporate governance mechanisms in the context of Jordanian non-financial companies. This investigation is dealing with non-financial listed firms and will provide essential insights to understand the behaviour of non-financial firms. These findings will enhance the existing body of knowledge in the field of CG and performance. Secondly, Jordan is a developing country. Thus, outcomes of this study could also help other developing nations with a similar background to Jordan in various aspects such as related to political, cultural, environmental and economic conditions, especially in the context of the Middle East and North Africa (MENA) region.

Thirdly, a significant improvement has been witnessed regarding the economic environment of Jordan and increasing listing of firms on the ASE from 2000 to 2016. Thus, this study seeks to provide help to understand firm performance through improvement in the economic environment. Hence, assessing the impact of foreign investment in Jordanian firms and its comparison with the other comparable MENA markets can also provide essential insights. This liberalisation has attracted a bulk of foreign investment in Jordan, and its capital market has a high ratio of attracting

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foreign investment around the globe (OECD, 2006). All the above-cited facts highlight the significance of the study, which motivated the researcher to carry out this study.

1.7 Definitions of the key terms

This section provides the definitions of the key terms used in the current study.

CEO duality is the hiring of one individual person for the two positions at the board level, such as CEO and Chairman of the company.

Executive directors (EDs) are the directors who manage the operating activities of the company, and they are responsible for achieving the shareholders' wealth maximisation objective.

Non-executive directors (NEDs) are the directors who are responsible for improving the governance system of the company by creating a sound monitoring system.

Corporate governance index is the index generated by the researcher based on the corporate governance requirements of the Jordanian corporate governance code 2011.

1.8 Thesis outline

Chapter one introduces the current study and explains its significance, along with providing the specific research questions with their potential insights.

Chapter two reviews the background of the Jordanian economy and its industrial sectors. It also provides the details of the country's financial and regulatory system. This chapter focuses on the theoretical background, and provides a review of existing literature in the area of corporate governance mechanisms and their features and firm performance.

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Chapter three deals with the data and its extraction sources used in this study. Sample selection criteria and details of variables from performance and corporate governance perspectives are also given in this chapter. The philosophical orientation, the methodology and statistical tests applied in this study will also be discussed in this chapter.

Chapter four deals with the results of this study. The results of the descriptive statistics are provided in the first section. The statistical inference has been drawn based on findings of the research. Results are effectively presented in tables so that interpretation can be made easily about the study interventions. The results are discussed and compared and contrasted with those of previous studies.

Chapter five of this thesis provides a conclusion along with different recommendations. The study findings are discussed in specific alignment to research questions set in the study. Research limitations and potential avenues for future research studies are also provided.

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1.9 summary

This chapter divided into eight sections, the first section shed light on the background of the study, the second section deals with the theoretical framework adopted in the study, as well as this section explained that the study in hand is based on agency theory, and the research questions and hypotheses are generated based on agency conflict, the third section deals with the aim of research which is to investigate the impact of corporate governance mechanisms on the firm performance for the non-financial Jordanian firms listed on the Amman Stock Exchange.

The fourth section clarify that the research aim divided into five objectives which are conduct a critical literature review in the field of corporate governance and firm performance; collect the secondary data for various CG mechanisms and firm performance for Jordanian non-financial firms from 2012 – 2018; analyse the data by using various statistical tools, such as descriptive analysis, correlation and multiple regression analysis; present the findings of the study and compare and contrast the results of the study with previous studies; provide a brief conclusion and recommendations in light of the analysis of this study.

The fifth section of this chapter deals with the research questions that the researcher developed to the study in hand, while the sixth section deals with the rational of the study. whereas the seventh section deals with the definitions of the key terms, the final section of this chapter deals with the Thesis outline.

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Chapter 2 Literature review

2.1 Jordanian economic sectors and Jordanian regulators

Being a small country, Jordan has limited natural resources from minerals with the majority of the country being a desert landscape. Jordan emerged as Transjordan in 1921, after the Arab revolt against the Ottoman Empire. Jordan's geographical position gives the country substantial strategic importance from political and economic perspectives. Jordan is situated at the crossroads of what the world's communities such as Christians, Jews and Muslims call the Holy Land. Knowles (2005) stated that The Hashemite Kingdom of Jordan (HKJ) has proved to be one of the world's most vulnerable countries to external political, economic and security events. From 1940, Jordan has remained under pressure due to a large variety of crises. Occupation of coastal parts of Palestine, the Iran-Iraq War, America's invasion of Iraq, the Arab Spring in 2011, all these factors have had an impact on the country's political and economic situation. The recent Syrian crisis has also hampered the steady pace of Jordan's economic growth.

Citizens of Jordan have an upper-middle income level, and their average per capita income was 4,330.3 USD in 2019 (The World Bank, 2020). Almost 80% of the population lives in urban areas. Thirty-eight per cent of the population is comprised of young people aged 14 or less, suggesting that Jordan is the youngest nation (The World Bank, 2018). The major exports of country are potash and phosphates. This scarcity is not limited with natural resources relevant to minerals; also there are limited water resources in Jordan which make Jordan low production related to agriculture products. Such scarcity of natural resources put pressure on Jordan status and due to these factors Jordan is placed at number 04 in poorest country according to water resources. Due to such hardships because of natural resources, almost 75% of jobs in Jordan are due to services sector. Thus 70% of Jordan's Gross Domestic Product (GDP) is produced through service sector (World Bank, 2018).

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Jordan faces many economic challenges, such as poverty, high unemployment and high inflation rate. The budget deficit is also a significant challenge for the Jordanian government. To tackle such issues and problems, King Abdullah II Bin Al Hussein of Jordan has introduced many economic reforms. These reforms are opening of the trade regime, privatisation of state-owned companies and reducing subsidies on various government-sponsored projects. Such efforts have attracted foreign direct investment, ultimately creating a pool of jobs for the Jordan people. Despite these efforts from the government of Jordan, global economic pressures have also depressed the country's economic growth (World Bank, 2018). However, government agencies are keen to address these issues and are continually working to resolve the problems.

In order to improve the living standards of the poor and middle class, the government introduced two economic relief packages during 2011. These two measures were considered as a budgetary supplement. However, during that time, Jordan's financial position was disturbed because the country had to use more expensive fuel for electricity generation as the supply of natural gas from Egypt was cut off due to attacks on the gas pipeline. Despite such pressures, the government was able to attract foreign direct investment (FDI) and aid from Gulf countries, which helped to ease the budgetary expenditures. However, the budget deficit remained at 10% of the Gross Domestic Product (GDP) despite such help (United Nations Development Programme (UNDP), 2017). This budgetary deficit was managed through assistance from the neighbouring countries during 2012. Also in 2012, the financial crisis hit globally; however, limited exposure to foreign capital markets helped Jordan to survive this global financial crisis. Jordan is not isolated from its neighbouring nations, and it has strong ties with its Gulf neighbours through trade, remittances, FDI and tourism. The Jordanian government is trying to make the utmost efforts to devise the best policies for achieving economic benefits. As a result of these efforts, the reliance on fuel-based electricity generation was shifted to nuclear power generation to tackle power shortfalls (OECD, 2013).

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By following methods of regional integration, Jordan has made itself vulnerable to various volatilities pertaining to political, economic and social aspects. After 2010, like other countries of the Middle East, Jordan also absorbed the aftershocks of various waves of disturbances, and such issues have had significant impacts on the country's economic status. The stronger citizen voice and accountability has also put pressure on Jordan's government. A general increase in the prices of commodities, an increase in import bills, a decrease in foreign remittances, and low tourism activities were observed in 2011 (OECD, 2013). Disturbance in the adjacent countries has also negatively affected Jordan's economy. Interruption of the natural gas supply from Egypt caused an additional $2.4 billion to the taxpayers because the government used costly fuels to generate electricity in 2012. However, such financial blows have not hampered Jordan's good governance policies, and the government of Jordan is spending heavily on the human development of its nation.

Jordan is spending a high proportion of its development budget on education, health, retirement benefits and social safety benefits; the country is spending more than 25% of its GDP consistently on the above sectors. In addition to this, Jordan provides gender parity to individuals across various public policies. During 2003, Jordan introduced a comprehensive modernisation programme across the country, aiming to change the education system to develop a knowledge-based economy (World Bank, 2018). Such policies pertaining to expenditure and improvement in the education system have helped Jordan to increase school enrolment, which is high compared to similar income-level nations. However, it is becoming difficult for the government to maintain the pace of development in the health and education sector because of the growing population rates.

During the last decade, Jordan has introduced critical reforms in various sectors, and it has made notable progress in the areas of education and health. This situation portrays a good picture of Jordan's Social, Education and Health systems. However, sound economic policies are needed to overcome the negative impacts of global crises. In addition to the above

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factors, the high unemployment rate and over-dependence on remittances are still significant economic problems for Jordan.

In 2011, the country went through the “Arab Spring revolutions” movement which forced the government to introduce political reforms along with economic governance. Jordan’s government tackled this movement through gradual improvements in the judicial system to improve public accountability; these changes were approved through parliament by constitutional amendments. To improve the economic situation, the government introduced austerity measures to ensure transparency and accountability in public matters. The government also focused on improvements in public sector development by introducing reforms in budget and debt management. Such measures have ensured a better economic future for Jordan at a gradual pace; additionally, these measures have provided a supportive regional and external environment (The World Bank, 2018). However, it is perceived that, in the future, Jordan will have to face fierce competition from its neighbouring countries because these countries are also attracting foreign investment. If the government overcomes the above challenge, then it would provide employment opportunities to the masses and thus reduce poverty.

Although businessmen across the world consider Jordan as the best place to invest in this region, due to the security and safety that Jordan enjoys unlike most of the region countries, nevertheless investment opportunities are not being utilized properly. The government provides equal opportunities to local and foreign investors due to the Investment Promotion Law of 1995. This law also provides guarantees against expropriation. The Investment Promotion Law of 1995 provides some incentives to investors such as exemption from customs duties and even tax holidays. In addition to this, investors can also obtain the benefits pertaining to the unrestricted transfer of capital and profits, as explained by the International Labour Organization (2013).

Jordan’s government has introduced disclosure regulations which bind public companies to disclose various financial information. These disclosure regulations ensure financial security. This disclosure is helping to develop

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the country's financial sector. These guidelines have been prepared to keep in mind the cultural dimensions of Jordan. Companies are bound to disclose board members' ownership and top management's salaries. Any concealment of a fact by companies results in penalties. At present, various penalties have been imposed on firms which have violated the disclosure regulations, ranging from charging of fines to stopping the firms from circulating on the ASE.

The popular movement that most of Jordan's neighbouring countries are witnessing, due to the poor economic and political environment in these countries makes the influx of refugee and emigration moving towards Jordan is high. This influx hampers the delivery of public services in the country and disturbs labour market conditions, posing a considerable threat to the economy. Despite these challenges, which are not easy to resolve apparently, Jordan has managed to maintain a steady pace of economic growth with visible presence. As per the report of The World Bank (2016) covering the economic perspectives of countries (Economic Monitoring Report), Jordan's GDP growth rate was 3.5% in 2015 and was expected to touch 3.9 % in 2016.

Although Jordan has limited resources as compared to its neighbouring nations, the contribution of services and goods exports in GDP in the year 2014 was more than 40%. Other significant contributors to the GDP are foreign remittances, Gulf subsidiaries and development grants that contribute up to 19% in GDP. The following shows the ease of doing business for the country with other allies explicitly (The World Bank, 2018).

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Table 2-1 Comparative analysis of economic indicators

Indicator (rank)	Jordan	MENA lowest	MENA best	Regional average	Global best
Starting a Business	106	173 (Kuwait)	32 (Oman)	119.05	1 (New Zealand)
Dealing with construction permits	109	157 (West Bank and Gaza)	4 (UAE)	91.48	1 (New Zealand)
Getting Electricity	48	172 (Djibouti)	4 (UAE)	97.19	1 (Korea, Rep.)
Registering Property	96	168 (Djibouti)	11(UAE)	91.71	1 (New Zealand)
Getting Credit	185	185 (Jordan)	82 (Saudi Arabia)	138.14	1 (New Zealand)
Protecting Minority investors	165	187 (Sudan)	9 (UAE)	127.62	1 (New Zealand*)
Paying Taxes	79	186 (Mauritania)	1 (UAE)	83.48	1 (UAE)
Trading across borders	50	184 (Sudan)	50 (Jordan)	128.67	1 (10 Economies*)
Enforcing Contracts	124	184 (Djibouti)	25 (UAE)	115.76	1 (Korea, Rep.)
Resolving Insolvency	142	161 (Syria)	58 (Tunisia)	129.43	1 (Finland)

Source Almustafa (2017)

2.1.1 Industry and services sector in Jordan

Jordan's industrial sector is comprised of manufacturing, construction, mining, and power. These four Jordanian industrial sectors contributed 26% to its GDP in 2014. During that time, almost 21% of Jordan's labour force was engaged in the industrial sector. The major industrial products of the industrial sector are potash, phosphates, pharmaceuticals, cement, clothing and fertilisers. The construction industry is the top industrial sector. This growing trend in the construction sector is supported by the US-Jordan Free Trade Agreement (FTA). This agreement between the US and Jordan indicates that Jordan is one of the most important markets for the US. However, the US has also engaged with other MENA countries through other trade agreements. The Agadir Agreement, with the EU, is one of a number of such contracts which have the potential to reap benefits for Arab countries. Jordan is also offering other attractive options to investors to start their business in the country. Jordan has skilled labour, which also attracts foreign investors to start their business in the country, and ultimately it will promote economic development (OECD, 2013).

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Although the availability of natural resources in Jordan is limited, the country's abundant reserves of potash and phosphates are contributing to the industrial production. Both potash and phosphates are used in the production of fertilisers and were worth almost $1bn in 2018. (Central Bank of Jordan, 2020). Furthermore, the textile sector is also a significant contributor to Jordan's economic development, and its net worth was almost $1.19 billion in 2017 (Central Bank of Jordan, 2020).

2.1.2 Telecom and IT

The telecommunication sector is also a major contributor to Jordan's GDP, and its share is 13.5% of the country's total GDP. During 2001, Jordan introduced telecom liberalisation which made the country's Information Technology (IT) sector the most developed in the Arab region. Three telecommunication companies are operating in Jordan and offering their services to the country's mobile phone users. Zain (Kuwait based) holds 39% of the market share, Orange (owned by France Telecoms) holds 36% and Umniah holds 25%. The competitive environment of the mobile sector has resulted in a price war to retain the market share (Zu'ubi, 2013).

The Information Technology Association (int@j) was established to prepare Jordan for the implementation of the latest technological advancements in the field of telecommunication. This association helps the country's telecommunication sector to compete with that of other countries. The improvements in the IT and telecommunication sector have played their part in enhancing Jordan's GDP by almost 14%. Keeping in mind the growth potential in the IT sector, the Jordanian government is keen to provide training opportunities for the workforce to reduce the unemployment rate (Zu'ubi, 2013).

2.1.3 Energy

Like other developing nations, Jordan also faces challenges in the energy sector. The demand for energy remains a major concern for the government.

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Lack of domestic investment in the energy sector has attracted $14 billion of foreign investment to meet the country's energy needs. This investment programme was aimed to reduce dependency on fuel imports by 2020. Additionally, it was aimed to increase the proportion of nuclear energy production by 60% by the end of 2035 (The World Bank, 2018).

Jordan's neighbours are rich in petroleum resources, but Jordan imports oil from its neighbours to meet its own energy needs. Jordan had offered oil supply routes to Iraq and, in return, purchased discounted oil from Iraq, but, after the US invasion of Iraq, the oil supply to Jordan was disrupted. After this invasion, Jordan shifted its primary and secondary sources through the port of Al Aqabah by using tankers. Currently, Saudi Arabia is the primary supplier of oil to Jordan, but oil is also imported from Kuwait and the United Arab Emirates (UAE) (Jordanian Ministry of Energy and Mineral Resources, 2013).

It was estimated that Jordan has average natural gas reserves of approximately 6 billion cm^3, but it is believed that natural gas reserves are much higher than this estimation. During 2003, 390 million cm^3 of natural gas was extracted and consumed in Jordan because it is a domestic source of energy. For this purpose, the primary source is the Risha gas field. This gas field is situated in the eastern part of the country. Arab Gas line is the primary pipeline which provides natural gas to Jordan from Egypt and passes underwater to Al Aqabah. This pipeline starts from Egypt and is linked to two major power stations. It provides approximately one billion cm^3 of natural gas per year to Jordan (Jordanian Ministry of Energy and Mineral Resources, 2013).

2.1.4 Transport

The transportation sector is considered vital for the economic development of Jordan. This sector provides almost 10% of the country's total GDP, which was approximately $2.14 billion in 2007. These statistics indicate the service-based economy of Jordan, and thus it is believed that the transportation

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sector holds a vital position in the country's economy. Due to such potential in this sector, the government of Jordan planned to revolutionise the transportation sector in 2008. For this purpose, a new national transport strategy was formulated and implemented to improve and modernise the transportation sector. Privatisation was also part of this policy. The uncertain situation and security crisis in Iraq promoted Jordan's transportation sector. Large numbers of tourists also use different modes of transportation. Jordan's government followed realistic measures to improve the transportation sector by relocating Aqaba's main port and developing a railway system. But the increasing trend in fuel prices hampered the development of the transportation sector by increasing the operational costs of transport. Despite these challenges, uncertainty in fuel prices also tends to offer a lucrative incentive to investors, motivating them to invest in transportation (Jordan Ministry of Transport, 2013).

2.1.5 Media and advertising

In the modern contemporary world, there is no doubt that the media plays a very critical role in setting the image (face) of any social entity such as Jordan. Media is considered to be one of the essential components of society, and has an impact on the people as well as the community. Although the state mainly influences Jordan's media, this sector has witnessed significant privatisation and liberalisation during the last few years. Data shows that, on average, almost $280 million was spent on advertisement in Jordan's media in 2017. Jordan Television (JTV) remains the sole broadcaster in the country, but other mediums are also available for the public to access information, such as blogs, websites and news portals. These growing mediums have the potential to attract investments.

Jordan's Media and Advertising Industry expanded by 260% between 2000 and 2017 (Jordan Media and Advertising, 2018). Jordan Media and Advertising (2013) stated that the majority of spending on advertisements was made by the telecoms sector during 2017, with 205 contributions. After the telecom sector, the banking and finance sector had the highest spending

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on advertising (12%), whilst the services, real estate and automotive industries spent 11%, 8% and 5% respectively. In order to obtain the best possible output from the media and advertising sector, Jordan needs a vocational training facility to explore its emerging potential in the specific industries.

2.2 Regulatory institution and CG development in Jordan

Jordan is representative of the mixed system of the Ottoman Empire (based on French law), British common law, and Islamic law. In the case of corporate governance mechanism, Jordan developed its corporate governance mechanism on an 'insider-oriented' corporate governance system. However, Jordan's government has been improving the country's legal and organisational structure. For this purpose, the government has introduced critical economic legislation, such as the Company Law (1997) and the New Securities Law (2002). These two frameworks provide necessary legislation regarding corporate governance roles and concepts to improve and enhance the country's investment climate.

The first decade of the 21st century has seen tremendous changes around the globe regarding liberalisation and globalisation. Being an emerging economy, Jordan's government assessed the country's worth and adopted various policies to cope with the emerging trends in the MENA region.

Various vital players implement economic reforms in Jordan, and out of these the corporate compliance authority is the key player. This authority follows company law to ensure economic reforms and developments by implementing corporate governance provisions. The Central Bank of Jordan (CBJ) issued a Director's Handbook of Corporate Governance in 2004. In addition to this, the Central Bank of Jordan is continuously exerting efforts to improve the country's corporate governance mechanism. Further, the Central Bank of Jordan is also performing to enhance the banking system through a Corporate Governance Code (Al-Amarneh, 2014).

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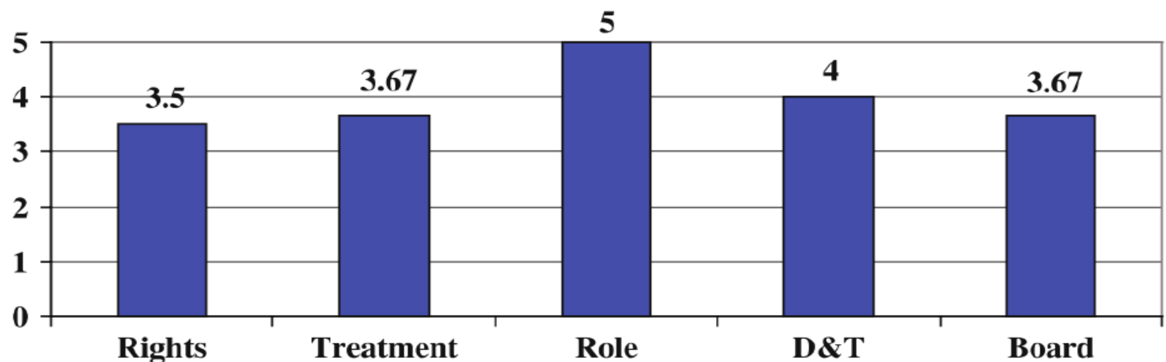
Developments in the mechanism of corporate governance are directly linked with the shareholders' rights. "In Jordan, shareholders enjoy a considerable right in terms of access to secure methods of registering a property, the strength of legal rights and legislation enforcement, getting credit from local banks and financial institutions, sell or transfer shares, obtaining relevant information or actions on a timely basis, and other firm activities like voting and board elections (World Bank, 2015)".The weighted average CG compliance score for the Jordanian CG code was 3.91. The code was compared with the subcategories of the OECD principles that are presented in Table 2-2 below.

Table 2-2 Jordan CG compliance with OECD principles



Source Almustafa (2017)

An assessment was made by Shanikat and Abbadi (2011) regarding the corporate governance of Jordan and its compliance with OECD principles. Key findings of their research indicate some interesting points, which are as follows:

- Shareholders can take part in the decision-making process, except in significant cases such as the sale of assets.
- Practically, shareholders are not treated as equal to managers, although regulatory authorities take action to control insider trading.
- Stakeholders have active roles and rights in the implementation of the corporate governance system because their rights are protected by Jordan's company laws and regulations.

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- Disclosure and transparency were observed to a large extent because Jordan's reporting standards follow the International Financial Reporting Standards (IFRSs) and International Accounting Standards (IASs).
- Boards largely fulfil their responsibilities, as these are extensively defined by law and regulation.

In the MENA region, the financial development of Jordan is comparatively high in comparison with other countries (see the below table). According to Creane et al. (2007), the government of Jordan has imposed minimal restrictions on the property rights. In addition to this, in Jordan the banking system is well developed and efficient as compared with other countries of the region. During the last few years, the government of Jordan has increased the efficiency of the banking sector through prudential measures and regulations. This has been ensured through the establishment of a corporate governance code for the banking sector that was implemented by the Jordanian banking industry in 2007.

For shareholding companies, the code of corporate governance was issued in 2008. Additionally, this code was supposed to help business firms to secure their rights. This code provides guidelines regarding various corporate governance issues such as board size and composition along with ownership structure. In an attempt to update guidelines regarding the corporate governance mechanism, the government of Jordan with the collaboration of market participants and the Ministry of Industry and Trade developed a new code in 2011. This new code specifies distributions of rights and responsibilities of various entities related to firms, such as shareholders, BODs, and top management. This new code also provides guidelines regarding effective decision-making processes in firms. Table 2-3 illustrates ownership and BOD structure from 2008 to 2014 of non-financial listed firms.

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Table 2-3 Ownership and board structure for Jordanian companies

	Obs	Mean	Median	SD	Min	Max
Government ownership	790	0.01	0.00	0.07	0.00	0.60
Family ownership	790	0.24	0.13	0.27	0.00	0.99
Foreign ownership	790	0.03	0.00	0.13	0.00	0.99
Institutional ownership	790	0.36	0.33	0.27	0.00	0.99
Concentration (Total)	790	0.61	0.64	0.23	0.06	0.99
Board size	790	8.22	8.00	2.38	3.00	14.00
Board independence	790	0.56	0.57	0.16	0.14	0.91
CEO-duality	790	0.20	0.00	0.40	0.00	1.00

Source Almustafa (2017)

Economic crises during 2008 have put many economies under pressure and caused the failure of many firms around the globe. Like other countries, Jordan has also attempted to enhance its financial security and improve its economic environment in response to these economic crises. Despite the war and instability in neighbouring countries, Jordan has maintained its steady economic growth during the last few years. This sustained economic growth has witnessed an increased volume of trade and market capitalisation, which has increased the number of firms listed on the Amman Stock Exchange (ASE) (ASE, 2012). This state of affairs shows that Jordan has been working continuously from 1990 to up till now to improve its economic liberalisation and corporate governance.

Various measures have been adopted by the Jordanian government in this regard to improve financial stability and create a better economic environment. One such measure was the establishment of the ASE to trade public securities. An additional criterion was the establishment of the Securities Depository Centre (SDC) to protect investors; further, the Jordan Security Commission (JSC) was established to keep control over the equity market. These measures have helped to ensure disclosure and transparency, which also protects investors. Although such practices have made Jordan an advanced country in terms of corporate governance in MENA countries, both the World Bank and the IMF (2004) assessed that

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corporate governance in Jordan was insufficient and it still needs to improvement (ROSC, 2004). These suggestions also endorsed the findings of Glaeser et al. (2001), regarding economic liberalization that tend to produce short-term economic growth in case of developing economies.

2.2.1 Jordanian capital market

Amman Financial Market (AFM) was set up in 1976, but it was restructured in 1994 to enhance its size, liquidity, disclosure of reliable information and transparency. Later, the AFM was replaced with three primary entities. These entities were the Amman Stock Exchange (ASE), Jordan Security Commission (JSC) and Securities Depository Centre (SDC). The ASE remained a well-developed and credible regulated market for many years with a market capitalisation of approximately US$5 billion. In addition to this, the ASE is an outstanding emerging stock exchange (Central Bank of Jordan, 2015).

Such developments in Jordan's financial system brought significant positive changes in the country, and the number of listed firms increased dramatically from 1999 to 2015. In 1999, only 152 firms were listed on the ASE whereas in 2015 there were 228 firms listed. The market capitalisation also increased remarkably during the same period. The average market capitalisation of listed companies in MENA countries was far less in comparison to that of Jordan (109%) during 1990 – 2014; for example, it was 34.34 in Egypt and 60.85 in Israel. Various research studies have shown that effective financial markets ensure economic growth and development in both a developed and a developing economy (Bayraktar, 2014).

The Jordanian capital market has played a vital role in the country's economic development. The country's financial sector has dominated the market along with the industrial sector that holds 41% market capitalisation. The service and insurance sector proportions are much less, at 8% and 2% respectively. The above statistics highlight that the ASE has performed far better than other financial markets in the MENA region. Statistical data has

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also pointed out that the investment of the public sector in various ASE companies is 18%, investment of individuals is 30%, and rest is invested by private institutional investors (Bayraktar, 2014)

Jordan's government is attracting overseas investors by allowing them to invest in different projects and they can start a public company by holding a 50% stake in it. Jordan has exempted the dividends income and capital gains from tax so overseas investors can invest in Jordanian financial markets. Such lucrative options have provided a competitive edge to the companies listed on the ASE. The three regulatory bodies, ASE, JSC and SDC, are currently involved in monitoring, regulating and supervising the country's financial affairs. With the implementation of the Securities Law (2002) and Accounting and Auditing Standards, the regulators have controlled the economic issues of the Jordanian corporate sector (Almustafa, 2017).

Table 2-4 ASE market performance

Year	No. of listed Co.	Market Cap. (JD Million)	Market Cap. as a% of the GDP	General Weighted Price Index (point)	Value Traded (JD million)
2005	201	26,667.10	326.6	8191.5	16,871.00
2006	227	21,078.20	233.9	5518.1	14,209.90
2007	245	29,214.20	289	7519.3	12,348.10
2008	262	25,406.30	216.7	6243.1	20,318.00
2009	272	22,526.90	149.6	5520.1	9,665.30
2010	277	21,858.20	122.7	5318	6,690.00
2011	247	19,272.70	102.7	4648.4	2,850.20
2012	243	19,141.50	93.5	4593.6	1,978.80
2013	240	18,233.49	83	4336.7	3,027.30
2014	236	18,082.62	75.8	4237.6	2,263.40
2015	228	17,984.67	70.7	4229.9	3,417.10

Source Almustafa (2017)

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2.2.2 Jordan Securities Commission (JSC)

The JSC was established in 1997 to regulate the capital market. This commission was established under the Securities Law No. 23 and it reports directly to the country's prime minister. The aim of establishing the JSC was to protect investors. Additionally, it was created to regulate the capital markets by implementing various accountability and transparency mechanisms. This commission also acts to protect the capital markets from potential financial crimes. In addition to the above, the JSC is performing its role in creating awareness about the operations of financial markets in Jordan so investors can take part in the country's economic activity (Jordan Securities Commission, 2020).

The JSC is run by a board and this board is comprised of five full-time commissioners. These commissioners have vast experience in the operations of the security market, and the Council of Ministers appoints them for five years. This board prepares laws to monitor and regulate the security market. Additionally, it also lays down regulatory instructions for the country's capital markets. The board also issues a licence to firms which offer different financial services and run mutual funds for their clients. This commission is also responsible for adopting the accounting standards which are introduced and implemented in Jordan (Jordan Securities Commission, 2020).

To keep an eye on recent developments at the international level, the JSC tends to foster its relationships and cooperation with both Arab and non-Arab regulatory bodies. Collaboration with other regulators has resulted in the exchange of ideas for enhancing the efficiency of Jordanian capital markets. However, the current government is continuously focusing on this opportunity to further capitalise it, following the mission of providing leadership to Jordan's corporate sector (Jordan Securities Commission, 2020).

The JSC has maintained its focus on attracting both local and overseas investors to the Jordanian capital markets to expanding the investor base. Various activities are targeted for this purpose, such as increasing public

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awareness through published material, delivering lectures and arranging visits of university students. The JSC, along with other stakeholders, is attempting to devise a mechanism for implementation of international corporate governance principles. It is also maintaining its collaboration with media and legislative authorities to protect investors in the capital market. The JSC also offers various training programmes internally and externally to increase the capabilities of its employees to safeguard the Jordanian capital markets (Jordan Securities Commission, 2020).

2.2.3 Amman Stock Exchange (ASE)

The ASE was established in 1999; it is a private institute and is responsible for managing the affairs of the security market in Jordan. The ASE holds administrative powers and has financial autonomy to regulate the trading of securities. The organisational structure of the ASE shows that it has seven members who act as the board of directors. It has 68 brokerage houses which facilitate the exchange of information with the board and monitor and report to the board. The ASE utilises regulatory and monitoring measures to ensure fairness and transparency in the securities market and protect the rights of investors. In addition to these measures, the Amman Stock Exchange has also issued various directives for the smooth running of the security market's operating affairs. The above mechanisms implemented by the ASE have provided a safe environment for investors in which they feel that their investment is safe. It also comes under the jurisdiction of the ASE to devise processes and methods to ensure transparent trading of securities on the stock market. The ASE also disseminates relevant information to all the key players of the security market to enhance the transparency and accountability within the security market (Amman Stock Exchange, 2020).

The Amman Stock Exchange and Jordan Securities Commission work closely to ensure proper implementation of local and international regulations for the smooth running of the market. These institutions also engage with other domestic and foreign regulators to improve the performance of the ASE

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and build close relations with other entities to adopt the latest developments in the field. The ASE is a member of and collaborates with the World Federation of Exchanges (WFE). Additionally, the ASE is also working as a member of the Federation of Euro-Asian Stock Exchanges (FEAS). These collaborations are helpful to encourage international investors to the ASE. The Finance Ministry is very keen and excited to launch investment-focused seminars and workshops to motivate investors by providing the required information and knowledge. This helps in boosting the morale of investors and overall facilitate investing in Jordan (Amman Stock Exchange, 2020).

2.2.4 Securities Depository Centre (SDC)

Jordan's SDC is a public utility institution, and it was established in 1997 under Securities Law No. 23 of 1997. The SDC, which has a legal personality with financial and administrative autonomy, commenced operation in May 1999 and is the only entity in Jordan that is legally empowered by Securities Law No. 18 of 2017 to oversee the registration and deposit of securities, transfer of ownership and safekeeping of securities, and clearance and settlement of securities transactions in Jordan. For the SDC to perform its operations, it was necessary to establish a central registry and depository of authenticated shareholders along with a primary settlement process. The SDC ensures that the shareholders' registers of all public shareholding companies are held and maintained at the SDC in electronic form (Securities Depository Centre, 2020).

The SDC also works under the supervision of the JSC, and its role is to boost the confidence of investors in securities. It has financial and administrative autonomy in Jordan. Another primary function of the SDC is to develop an electronic database of registered shareholders. The SDC is one of the significant institutions in the Jordan capital market as it holds the ownership registers of all issued shares. It has been assigned, in cooperation with the JSC and the ASE, the task of developing the Jordan capital market (Securities Depository Centre, 2020).

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2.2.5 Corporate governance development in Jordan

Over time, Jordanian investors were demanding a secured regulatory environment in which they felt that their investment was safe. This fact raised the need to implement a corporate governance code in Jordan so that the system used to govern Jordanian companies could be improved. For this purpose, the regulators developed the Jordanian corporate governance code (JCGC) that brings harmony to the Jordanian capital markets. The implementation of the JCGC ensures that the local market is following the essential criteria for enhanced transparency and accountability. This code has provided a sense of security to Jordanian investors and spread a positive message at the global level regarding the country's capital markets. As discussed, Jordan's financial markets have attracted investors and businesspeople in the past decade to invest in the country. The primary cause of this is the implantation of the JCGC by the Jordanian regulators (Central Bank of Jordan, 2020).

Mallin (2016) has stated that the Cadbury Report (1992) and OECD Principles of Corporate Governance (2004) laid the foundations of corporate governance around the world. The recommendations of the Cadbury Report (1992) were used by the regulators to develop the corporate governance codes for their countries. The focus of the CG codes was mainly linked with firms' board structure and ownership structure. Keeping in mind the guidelines of various international corporate governance codes, Jordan formulated its corporate governance code for banks in 2006. The Jordanian code was based on the best practices, OECD principles of corporate governance and the guidelines of the Basel Committee to improve the corporate governance mechanism for the Jordanian banking sector.

The JSC and ASE developed the rules and regulations required for the implementation of the JCGC. The JCGC provides a clear framework for improving the relationship between the managers and the shareholders for the elimination of agency conflict. The code also defines the duties, rights

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and responsibilities of all the stakeholders. However, the Central Bank of Jordan has also played a crucial role in devising corporate governance mechanisms for the Jordanian banking sector. It has also issued a handbook of corporate governance to facilitate the directors (Jordan Securities Commission, 2020).

Al-Jazi (2007) stated that various laws which are relevant to CG have been issued and implemented in Jordan. The JCGC (2006) issued by the Central Bank of Jordan has mainly covered issues such as the structure of the board, AGMs, financial disclosures, accounting and auditing practices of companies, and ownership structure. Jordanian regulators issued a corporate governance code for public companies in 2007 that was amended in 2011. The main guidelines of the JCGC (2011) are that the size of the board should be between five and 13 directors, at least 1/3 of the directors should be NEDs, and CEO duality should be observed (Jordan Corporate Governance Code, 2011).

In order to improve the investment outlook, a disclosure department is working under the JSC and is accountable for implementing rules (JSC, 2017). In addition to this, Jordan's government has signed separate agreements with developed and developing economies to encourage foreign investors. These agreements have been signed with the UK, France, the US, Germany, Italy, Malaysia, Romania, Tunisia, Turkey, Algeria, Yemen, Bulgaria, Austria, China, Spain, Syria, Poland, Kuwait and Singapore (Jordan Investment Board, 2013). Further, Jordan has gone under various financial and economic reforms to ensure transparency and accountability in order to enhance investor confidence. Jordan is included in the top three nations in the MENA region that have successfully attracted foreign investment (Al-Muhtaseb, 2010). The next section of the thesis will provide the definition of corporate governance, corporate governance models, and the theoretical background of the study.

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2.3 Definition of corporate governance

CG has gained popularity during recent years from all stakeholders, such as academia, professional bodies and government agencies. It has gained interest from around the world due to corporate crimes. Different researchers and professionals have defined CG differently, but the term is separated into two main perspectives, narrow and broader. In the narrow perspective, CG is defined as a tool that is helpful to protect the stakes of shareholders. In the broader perspective, it is a tool to protect the stakes of all the stakeholders of the business, such as investors, owners, creditors, suppliers, customers and government agencies (Gillan, 2006; Tricker, 2019).

Gillan and Starks (1998) and Zingales (1997) defined CG in narrow terms, and the emphasis of their definition was on protecting the stakes of shareholders. Gillan and Starks (2000), Solomon (2016), Millan (2016) and Tricker (2019) defined corporate governance in a broader sense and stated that CG mechanisms are helpful for companies to implement a sound monitoring system for the managers, so they operate in the best interests of all the stakeholders.

Aldamen et al. (2012) stated that managers should put their efforts into achieving the objectives of shareholders, so they feel that their investment is protected. An agency relationship exists between managers and shareholders. If managers are achieving the shareholder wealth maximisation objective, then shareholders get an impression that there is no conflict of interest between them and the managers. On the other hand, if the investors are not receiving a high return on their investment, then shareholders will get an impression that the managers are not working in their interest, and this phenomenon is known as agency conflict. This situation leads to the implementation of a system to monitor and control managers. The cost of implementing this system is borne by the shareholders, and it is knowns as agency cost. Keasey et al. (2005, p.251) defined CG as:

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> "The set of mechanisms – both institutional and market-based – that induce the self-interested controllers of a company (those that make decisions regarding how the company will be operated) to make decisions that maximise the value of the company to its owners (the suppliers of capital)."

The above definitions elaborate the broad view of corporate governance. The implementation of CG mechanisms is helpful to streamline business operations. Streamlined business processes help managers to achieve the shareholders' wealth maximisation objective. Furthermore, all the stakeholders appreciate the managers if they enhance the performance of the company (Solomon, 2014).

Firm performance holds a central position in governance mechanisms, and agency theory provides the best illustration to provide a framework to conceptualise the relationships between firm performance and structure of the organisation. Denis and McConnell (2003) stated that, in the absence of agency conflict, the performance of the company can be enhanced. But a lot of real-world examples have witnessed that managers have tried to gain personal benefits from the investment of shareholders, such as at Enron, WorldCom, etc. For this reason, hypotheses will be developed based on the agency theory and from the perspective of agency conflict that is adversely affecting the performance of companies (Tricker, 2019).

Agency theory deals with the issues of agency problems and the owner's interests with the purpose of maximising the shareholders' wealth. Generally, it is believed that, if the agency problem is decreased, then the performance of the firm is increased. This conceptualisation provides a way to increase the shareholders' wealth. Hence, both the definitions of CG have limitations, and agency theory provides hypothetical clarifications to elaborate variables and associations between the variables to test the relationship.

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2.4 Theoretical framework

The theoretical underpinning of this study is primarily based on agency theory to investigate the relationships among study constructs, i.e. corporate governance practices and firm performance. Agency theory deals with the shareholders and managers in the corporate world.

Conceptualisation provided by agency theory helps to focus on only two parties, i.e. the owners (principal) and managers (agents). This one-dimensional perspective helps to carry out analysis very easily (Watson and Head, 2016). According to agency theory, it is assumed that conflict of interest increased due to managers being opportunistic from the shareholders' perspective. These explanations provide a powerful and robust basis for explaining and testing the relationships between the firm performance and CG. In addition to this, agency theory provides and suggests remedial measures by reducing the conflicts/problems between shareholders and agents (Fama and Jensen, 1983). Scant literature in this field of study suggests some sources of agency problems, such as available free cash flows, under-investment/over investment and not considering the rule of optimistic grid present worth (Dhumale, 1998; Jensen and Murphy, 1990; Tricker, 2019).

Performance of the firm depends upon the policy formulation and implementation by the management team. Furthermore, increasing the motivation of managerial personnel to handle the affairs of a firm is also crucial for top management, and, in the case when the objectives of managerial staff are misaligned due to improper monitoring, this can result in severe consequences for firms and owners (Liu and Fong, 2010). Thus, agency theory provides a monitoring mechanism to bring alignment between the objectives of the firm and its managerial staff, which protects the interests of shareholders/owners and ultimately increases the firm's performance (Mallin, 2019).

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The ownership structure of any organisation/firm also has an influence on the affairs of the firm, and the board of directors is the fundamental characteristic which can mitigate the rising conflict among owners and managers in order enhance the firm's performance. Other factors which can increase the firm's performance are board size, the duality of CEO and chairman on one hand, and the ratio of non-executive directors (NEDs). The underlying phenomena behind the functioning of the executive and non-executive directors in managing the firm's affairs are explained by stewardship theory as well as resource dependency theory. Besides this, these two theories also provide explanations regarding how directors influence the firm's performance. However, there is overlap between some aspects of agency theory and these other two theories (Solomon, 2014).

Agency theory tends to provide alignment between the interests of agents (managers) and principals (owners) by proposing that this alignment can be created through introducing incentives for the agents so that they could perform better to safeguard the owners' interests and enhance shareholders value. In this regard, a statement by Jensen and Meckling (1976) provides guidelines and elaborates that introducing incentives can motivate the agents to improve their efforts so positively reflected in firm performance. This alignment can result in reduced conflict between the two parties, ultimately reducing agency problems and increasing firm performance.

2.4.1 Agency theory

Usually, in public listed firms, the organisational structure is devised in such a way that there is a distinction between ownership and control of agents and their principals. In this relationship, principals (owners) hire agents (managers) to manage the affairs of the firm in the owners' best interests and, in return for the managers' efforts, the owners pay them financial compensation in the shape of a salary and incentives (Sappington, 1991). This relationship can generate a conflict of interest due to a divergence of interests between these two parties. This conflict of interest which can impact

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the firm performance has been investigated previously by most researchers through agency theory (Fama and Jensen, 1983; Mallin, 2019).

The theory revolves around the fact that conflicts of interest between the principals and agents arise due to the opportunistic nature of managers (agents). However, this premise considers managers as a conscious entity but also at the same time as opportunistic. Thus, under agency theory it is assumed that managers or agents tend to maximise their personal wealth/value instead of the shareholders' wealth/value (Demsetz, 1983). In addition, agency theory holds the assumption that due to less available information to the principals/owners, could not assess properly the efforts imparted by managers to increase the firm's value. (Mallin, 2019).

According to the conceptualisation of Jensen and Meckling (1976), agency costs are comprised of monitoring and bond costs as well as remaining losses. To monitor the activities of managers, a cost has occurred, which is termed the monitoring cost. On the other hand, the bonding cost occurs in developing the systems and structures, and this cost can be in the shape of financial or non-financial cost. The residual losses occur when managers tend to promote their own interests; this cost can also occur due to improper monitoring or bonding activities. According to Fama and Jensen (1983), residual loss occurs when the monitoring and bonding costs increase in comparison to the profit generated.

Agency theory considers the connection between investors and supervisors to be the essential relationship established with a specialist, in which the owners seek directors to manage the company to the most significant advantage of the former (Sappington, 1991).

Jensen and Meckling (1976) featured the primary connection with the specialist. They studied the arrangement of the ownership of the organisation, in particular, the work of responsibility for value as a component to regulate the administrator's enthusiasm to that of the owners. Moreover, Fama and Jensen (1983) described the work of senior

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management by verifying the potential advantage of official supervisors in expanding companies. In this way, the office hypothesis mainly concerns the institutional action paths that influence the organisation's comparisons. The highlights of the operator's vital worldview are that s/he recommends clarifications and answers for different types of office problems and provides an approach to avoid discussions by creating motivating force agreements and a commitment approach to create management components (Mallin, 2019).

The office hypothesis suggests that the Non- Executive director (NEDs) take an essential job in controlling and administering the officers (Fama and Jensen, 1983). In this way, NEDs could increase the value of companies due to their external information and capabilities and their ability to verify (Fama, 1980). In this sense, both the organisation hypothesis and the trust in the activities anticipate a causal and positive connection between the company’s performance and the proximity of the NEDs. In contrast, the management hypothesis claims that internal executives might be more inclined to take over managers than NEDs because of their better learning in relation to business tasks (Baysinger and Hoskinsson, 1990).

Furthermore, the administration hypothesis argues that the low maintenance/ formal position of NEDs largely represses their ability to verify and makes their commitment to essential leadership unimportant (Bozec, 2005). In this sense, instead of speculation about organisation and dependence on assets, the management hypothesis holds that NEDs will probably have a negative influence on the execution of the company.

NEDs can also add to the expansion of the board measure, which has the benefit of a broader set of skills which further add to the lack of essential leadership and correspondence that is reflected in the moderate performance of the sheets (Lipton and Lorsch, 1992; Jensen, 1993). As the size of the board increases, the problems of coordination and correspondence also increase (Eisenberg et al., 1998). Furthermore, the hypothesis proposes the division between the director and the managing

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director from a similar position; the combination of these works in a single individual can cause the expansion of the organisation's problems, weakening the feasibility of the observation of the CEO (Jensen, 1993). However, the stewardship hypothesis recommends that a powerful administration depends on the level of managerial solidarity, so it is appropriate for the administrator and the CEO to have a position similar to that indicated from this point of view (Dalton and Kesner, 1987; Donaldson and Davies, 1991).

Agency theory proposes that specialists are less inclined to work. To reduce this difference in interests, investors must use internal quality control systems to select managers and, in this sense, balanced supervisors must act to satisfy their ability to increase investor esteem and improve the performance of society. This primary factor should be complemented by intentional effort to select and control supervisors, with CG tools that recognise any feasible problem. Assuming that organisational cost guarantees that the manager does not seek personal responsibility, ignoring the interests of investors, office expenses reduce the office problem and contribute to improving the company's performance (Pike et al., 2018).

The manager is an agent within the firm who acts on behalf of the owners (principals). For instance, a salesperson acts on behalf of the other person, namely, the principal. This principal can be a manufacturer and the agent can sell goods to others on behalf of the manufacturer. In other cases, a stockbroker on the stock exchange can be an agent of the client (principal) and can perform the activities of selling and buying on behalf of that principal. Thus, agents act by using the name of the principal and proceed with agreements and carry out transactions on behalf of that principal (Mallin, 2019).

According to company law, directors also act as agents of the company. Individual directors, as well as Board of directors (BODs) as a whole, perform various activities on behalf of owners and usually have the power to make contractual agreements with the other dealing parties. Hence, due to their

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dominant position in the company, directors have the authority to decide what a firm can achieve. However, this power is not free from evil. Thus, this authoritative position of directors within the firm raises some questions regarding the usage of power in the case when owners (shareholders) and directors are different individuals. This raises two questions:

- How it can the principals (shareholders/owners) be assured that directors/managers, being agents, are acting in accordance with the interests of shareholders, and they are pursuing their interests?
- In a case when directors are not performing in accordance with the shareholders' viewpoint, then how can shareholders/owners motivate them to pursue their goals?

Being agents of the company, directors have various duties, and one of these is to perform the fiduciary duty. Alternatively, it can be called a duty of trust. Hence, to maintain trust, directors should work on behalf of principals in such a way that it should promote total good faith. Further, directors should not prioritise their interests at the cost of shareholders/owners' interests. Hence, if a director is found guilty of a breach of their fiduciary duty (duty of faith and trust), then they must be held liable in law, in the case when the firm is willing to initiate legal proceedings against them. The rest of the BODs could undertake this legal action against such a director or directors.

Agency theory deals with the relationship between the owners of a company and its managers; here, managers are called agents and owners are called principals in this relationship. The conceptualisation of agency theory holds that, when a firm is first established, its owners perform the managerial duties and they are also the managers of that firm. Over time, as the firm or company grows, its owners tend to hire managers to perform the managerial duties due to its increased size. Hence, owners expect that these managers will perform in the best way and will protect the owners' interests. Thus, due to this, there exists an agency relationship between the owners and managers of that company (Tricker, 2019).

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2.4.2 Stewardship theory

Stewardship theory focuses on the mental and sociological strategies for supervision, as opposed to the monetary (financial) tools of the organisation hypothesis. According to Davis et al. (1997), this holds that hierarchical individuals have some kind of positive aggregate character that induces positive behaviour. Muth and Donaldson (1998) agree that the monetary advantage is not the sole engine of administrative behaviour, and supervisors require some vigilance to monitor the affairs of investors adequately. Subsequently, the separate property is not considered a deficiency of the administration hypothesis, since the useful practices are deemed to be the inactive/natural behaviour of the leaders (Davis et al., 1997), and are responsible for a variety of intentions despite the monetary benefit (Muth and Donaldson, 1998; Solomon, 2016).

Fama and Jensen (1983) found that the supervisors of the internal part of the board are almost certain that the external leaders form significant associations because of the deep understanding of the hierarchical exercises delighted by the previous ones. The administration hypothesis states that the concern for the professional movement prevents operators from acting against the interests of investors. The administrators' commitment to organisational performance is identified with the environment in provision of socio-social and mental elements (Clarke, 2004; Mallin, 2019). For instance, it is believed that garments have better performance with a more prominent reinforcement and the realisation of a job, which is a mental aspect. Publicly, managers usually recognise themselves as hierarchical agents and therefore believe that the power the directors give them is a means to train the association and several representatives to reach the authorised goals (Pike et al., 2018).

Donaldson and Davis (1994), in terms of a situational perspective, write that managers are expected to behave optimally in a participatory way. Furthermore, the duality between CEO and president will guide and control,

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especially with regard to the more consistent decision-making process and strategy (for example, investments), which should add to higher success. As executives have increasingly comprehensive and in-depth information on daily activities within their companies, their options are better informed (Tricker, 2019).

2.4.3 Resource dependence theory

The hypothesis of the dependence of the activities indicates, the CG structures, for example, the management, influence the entry of the company into the primary activities for the execution of the company (Pfeffer, 1973). The hypothesis of the trust in the resources supports, in particular, the structures within a large NED organisation, due to the greater competence and information they can provide, as well as to the better management of the systems (Haniffa and Hudaib, 2006). In this way, NEDs can promote improving the management of systems with external partners, including customers, governments and various organisations (for example, banks, suppliers and buyers). In this way, NEDs improve access to assets (Nicholson and Kiel, 2007), which makes access to less expensive sources of information possible and, in this sense, strongly influences the performance of companies (Mallin, 2019).

Pfeffer (1972) and Pfeffer and Salancik (1978) argued that variety in the board's opinion and the basis of external leaders are vital components to meet the organisation's needs for any subsequent capital or to monitor the possibility of condition. Aljifri and Moustafa (2001) and Pearce and Zahra (1992) believe that stable bonds help them to secure their commercial advantages in case of ecological vulnerability. They further explained this phenomenon with the help of some useful data from a variety of sample organisations around the globe.

Furthermore, the theory of heritage dependence clarifies the strategies that organisations use to access money resources. Regarding dissolution problems, organisations are exceptionally informed to select delegates for

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the money establishments on their pages (Mizruchi and Stearns, 1988). In any case, if the company has an abnormal amount of bank bonds, it will likely appoint a chief bank loan official during the meeting to encourage access to the bank. At the end of the day, it is a more straightforward method of obtaining credits (Thompson and McEwen, 1958; Pike et al., 2018).

Furthermore, Kaplan and Minton (1994) recognised that organisations often desire to assign budget leaders on the board if the costs of the actions or the performance of an organisation are divided. Furthermore, it is prescribed that internal managers be supplanted by experienced external managers when a company's performance worsens (Hermalin and Weishbach, 1988). The hypothesis of resource dependency uses external links of the council (Nicholson and Kiel, 2007). Hitt et al. (2000) argued that the development experiences sector negative effects of low capital availability, mind-boggling expenses, related to improperly created money markets and the unpredictability of financial improvement. In this sense, organisations are forced to discover innovative approaches to obtain benefits from the external connections of the board of directors. In the creation of nations, organisations must have ties with external resources (Tricker, 2019).

The theory of the dependence on activities maintains that the prepared condition of the company is reflected in the structure of its board of directors (Hillman et al., 2000; Boyd, 1995; Pfeffer, 1972), which implies that leaders are chosen for their aptitude to encourage the right of entry to the necessary capital. In this sense, it should be likely to recognise the rigid conditions of the board. For example, the closeness of financiers to management recommends that organisations seek modest access to capital, from which they derive that they plan large companies or find themselves in monetary problems (Hillman et al., 2000). In general, it may be required that a board with different individuals with connections changed to external resources has more significant access to these assets, which improves the performance and the esteem of the company (Pike et al., 2018).

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As discussed in the above section that research questions are generated on the basis of agency theory. Agency theory is explaining the relationship between the corporate managers and corporate owners. But there are lot of real-world examples in which the companies were bankrupted due to agency conflict between managers and shareholders (Tricker, 2019). Various corporate governance rules and practices are adopted by the companies to eliminate the agency conflict between the managers and shareholders. This research will use various corporate governance mechanisms that are adopted by the companies to overcome the agency conflict, such as board size, CEO duality, non-executive directors and presence of board sub-committees.

Board size is an essential corporate governance mechanism because an effective board is vital to control the operational and governance system of the company (Lehn et al., 2009). CEO duality is providing an opportunity to the Chairman and non-executive directors to generate an effective monitoring and check and balance system on the CEO and executive directors in running the operations of the company (Arosa et al., 2012). The presence of non-executive directors on the board are ensuring that an effective monitoring is implemented within the company as well as executive directors can get vital professional advice from the non-executive directors because they are expertise in their area (Mallin, 2019). UK corporate governance code (2003) has recommended that all the public companies should establish audit, nomination and remuneration committees on the board so these areas can be executive and non-executive directors. Further, UK corporate governance code (2008) has stated that all the members of these committees should be non-executive directors for limiting the involvement of executive directors from audit, recruitment of board vacancies and setting the remuneration of executive directors. The above corporate governance mechanisms are adopted by the companies to overcome the agency conflict, which in turn helpful to enhance the firm performance. For this reason, the impact of the above corporate governance mechanisms will be studies in this research study.

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The following section will provide the conceptual framework for the study that is adopted by the researcher. The reason to discuss the conceptual framework is to provide information that what corporate governance mechanisms and control variables will be used in the current study. Further, the section will provide information about various statistical tools that will be used to analyse the impact of corporate governance and control variables on the firm performance for the Jordanian listed companies.

2.5 Conceptual framework

It is the written presentation which provides explanations for the variables of the study, either in the shape of graphics or in narrative form. Further, this conceptual framework provides study factors/variables and hypothesised relationships among the study constructs (Wooldridge, 2002). Statistical tools will be used for the analysis. The correlation will be used to explore the relationship between the variables. Multiple regression will assist in examining the impact of different independent variables on the dependent variable. The following section provides details of the conceptual framework that is adopted for the study.

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Table 2-5 **Conceptual model**

Dependent variable Corporate performance measured by • “Return on assets (book value measure) • Return on equity (book value measure) • Tobin Q (market value measure)” **Independent variables** Control variables • Sales growth • Capital expenditure • Leverage • Firm size • Research and development expenditures • Liquidity Corporate governance variables • “Non-executive directors • Board size • Duality • Audit committee • Remuneration committee • Nomination committee • Corporate governance index”

Source: **Self-generated**

The framework seeks to investigate the main premises of the study in hand and has been discussed thoroughly in the current scenario. Further, in-depth details regarding the variables, their measurement and the study hypotheses are provided in the last section of this chapter.

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2.6 Corporate governance issues in developing countries

According to Allen (2005) and Oman et al. (2004), CG in developing markets had recently received much attention due to the increasing popularity of this field of management. The emerging markets will have a broad budget base for physical creation, including stock exchanges, commercial banks and central banks. However, they will have fewer procedures and frameworks for accounting, administration, guidelines, and other monetary bases and markets, and will be less productive with a smaller amount of liquidity than the world's most progressive cadres. These distinctions direct to a more obvious vulnerability and danger and improve the conceivable results of global improvements for financial specialists from all nations (Kearney, 2012; Mallin, 2019).

Many problems are affecting developing economies, such as uncertainty and risk, political insecurity, fragile production, high amount of government mediation and low-security dimensions for financial specialists (Tsamenyi et al., 2007). It is necessary to adopt valid CG structures. Furthermore, the lack of CG and a welcoming connection between banks, companies and government is one of a number of serious problems that have caused the 'associated free society' (Singh and Zammit, 2006). Nenova (2009) points out that the significant challenges linked to CG for creative nations are: the exchange of esteem (of investors or partners that do not control) to govern large investors; weak legal system; and problems related to audit (Gutterman, 2019).

It has been observed that different parts of developing markets are of fundamental importance in the impact of decisions made regarding the management of a company, for example, the ownership structure, the progress of the budget market and the nature of the administration (Fan et al., 2011; Ararat and Dallas, 2011; Tricker, 2019). Furthermore, the concept of a follow-up board in the interests of investors and to evaluate directors in a viable way is of urgent importance for an organisation in developing markets where CG components, in general, will be weak (Douma et al., 2006).

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In developing nations, companies are usually established as family businesses where the family dominates the board of directors and often the decision to appoint executive and non-executive directors is based on nepotism and personal interests rather than on the basis of experience competence (La Porta et al., 1999). The closeness of relatives in an organisational meeting, in particular the creator, has been correlated to better levels of performance within specific nations; connections can be of great importance with close cooperation between high-level companies within countries, for example, Thailand. On the other hand, an increasingly effective result after the proximity of the marginalised appeared in several markets, for instance, in the Republic of Korea (Fan et al., 2011; Mallin, 2019).

It is believed that there should be an abnormal state of administrative freedom within a council, with unofficial heads that shape most individuals and positions such as director and executive director, which is why the oversight the board may improve, and office problems may decrease (Shleifer and Vishny, 1997; Fama and Jensen, 1983). Ararat and Dallas (2011) argued that they might end up being inadequate because there is not enough useful analysis for the investors they control. Investor control can be inclined to look for plans that have almost no advantage for investors, with poor critical leadership that has a negative effect on the organisation (Ararat and Dallas, 2011; Tricker, 2019).

2.7 Corporate governance: international principles and practices

Previous research (Franks and Mayer, 2001; Short et al., 1999; Solomon, 2014) recognised two main CG models: the sample of the marginalised (or Anglo-Saxon), which is used in the United States, United Kingdom, Australia, Canada and New Zealand; and the internal (or continental) information screen, which is used in the Netherlands, Germany, Switzerland, France, Austria, Sweden, Finland and Denmark. The highlights of the internal and external models are shown in Table 2.6.

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The internal GC model is organised by a high dependence on the banking fund, a fragile legitimate insurance of minority investors, weak exposure, concentrated ownership, a part of the rule for property and council members in organisations, and the limited opportunity to combine or win (Rosser, 2003). Furthermore, Solomon (2013) argued that these investors could be a small meeting of investors (for example, loan banks), individuals of organisations (for example, establishing families) and the state. Furthermore, Solomon (2014) drew attention to the fact that insider information alluded to relationship-based frameworks due to the welcoming connection between the companies and their predominant investors.

From the first moment, without a doubt, an intimate connection between managers and investors would limit the problem of the office (agency); there is little effort to adapt the organisation's rewards, managers and investors to the possibility that they are mainly similar people. However, other GC problems seem to arise in such situations, for example, regarding the reduced size of the possession and manage partition (especially in family organisations) (Solomon, 2014). There may be a seizure of the prize by alternative investors in light of the issue of data irregularity, as alternative investors are incapable of increasing data about the organisation's activities due to a lack of clarity. In such circumstances, ambiguous exchanges related to money and abuse of services are regular (Solomon, 2016; Mallin, 2019).

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Table 2.6 Features of insider and outsider CG systems

Model	Insider	Outsider
Owners	Insider shareholders	Outsider shareholders
Separation of ownership and control	Little	Separated
Control over management	Insider shareholders	Managers
Hostile takeover activity	Rare	Frequent
Protection of investors	Weak	Strong
Shareholders' rights	Potential for abuse of power	Potential for shareholder by majority shareholders democracy
Shareholders voting	Majority of shareholders tend to have more voice in their investee companies	Shareholders characterized more by exit than by voice

Source Mallin (2019)

Instead of focusing on employees, the untouchable model is represented by a strong dependence on the value of money, reliable and legitimate secure investors (especially minority shareholders), and dispersed ownership, and is reduced to working representatives, credit institutions and a different partner, solid settlement models, and considerable opportunities to combine and obtain a substantial need for dissemination (Rosser, 2003; Tricker, 2019). But outside (Anglo organisations) demonstration is owned by outside investors. The official problems that arise due to this posting have already been clarified. Various specialists (Fukuyama, 1992; Villalonga, 2006; Rosser, 2003; Mallin, 2019) argue that globalisation plays a central role in the distinctive combination of CG models throughout the world and their absorption by the Untouchable Anglo model. In this regard, one can count on all local and final products for exchange with the marginalised Anglo-Saxon or marginalised authoritarian settings.

Singh (2003) announced that most developing markets are defective. He noted that these areas of activity are experiencing the negative effects of

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asymmetric information, simple accounting, administration and degradation in a much more obvious way than in sectors of the nation's able created activity. Bruner et al. (2002) argued that one of the disadvantages among the most generous purposes behind financial emergencies in developing markets is the lack of GC evidence. Singh and Zammit (2006) stated in previous inquiries that defect-making companies are developing bad rivalry; poor CG; and an intimate connection between government, business and banks. As a result, Singh (2003) was confident that improving his GC models was crucial for developing markets. Klapper and Love (2004) prescribe that these corporate sectors urge organisations to accept extensive GC studies.

Jordan has experienced extensive monetary and political changes from the 1990s to the 2000s, showing that Jordanian organisations are administered everywhere. Furthermore, an effort was ready to relate the GC standards in Jordanian organisations. This fact prompted the Jordanian Securities Commission (JSC) to release the JCGC in 2006 (further subtleties in this regard are discussed in the attached sections). The JCGC has updated various standards and CG meters that currently exist worldwide in universal codes. The proposals of the JCGC were separated from those of the OECD and the Cadbury Report (1992). The JCGC was prejudiced by the Cadbury Report (1992) and OECD (2004) standards for consultative groups composed of senior management, investor rights, transparency and transparency, obligations, and the intensity of the trustee and partition review commissions between the administrator and the managing director (Pike et al., 2018).

2.8 Corporate governance and firm performance

The classic principal-agent model proposes that managers being an agent of shareholders tend to pursue their own interests at the expense of shareholders, which tends to increase the agency problems. This agency problem can be due to several issues which managers face within organisational circuits, such as job security and compensation. Managers as agents tend to shape their behaviours according to the firm size despite the

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firm's performance. Principals or shareholders bear agency cost in the shape of monitoring the activities of agents or managers in order to reduce information asymmetry as well as assessing the managerial efforts in enhancing the firm's performance. Thus, the critical component of such agency cost pertains to the monitoring cost, which occurs while gathering information regarding the actions and efforts of managers. On the other hand, the manager being an agent of the firm also bears a bonding cost, and this cost might reduce the agency conflict, although assessment of this bonding cost is not an easy task for principals (Jensen and Meckling, 1976; Mallin, 2019).

From the existing body of literature, agency theory provides useful insights to deal with and mitigate agency problems in corporate governance mechanisms. As evident from existing literature, agency theory also justifies performance-based compensation and managerial ownership in shares (Fama and Jensen, 1983). Agency theory also provides the necessary mechanism to reduce agency problems by increasing the role of externals for monitoring control (Jensen and Meckling, 1976). Corporate governance mechanisms provide various ways to deal with agency problems through an agency model with the core purpose being to bring harmony and alignment among the interests of principals and agents accordingly (Fama and Jensen, 1983; Tricker, 2019). Several studies have documented the internal governance mechanisms and their role in enhancing the firm's performance. Particularly, board and ownership structures have remained critical areas of interest in order to decrease misalignment among the principals and agents so that overall firm performance could be increased. Thus, alignment between the interests of principal and agent brings common interest which further ensures enhanced firm performance and greater value maximisation.

Nevertheless, this chapter elaborates on the mechanisms which can be fruitful in reducing agency problems. The chapter also seeks to posit insights regarding increasing managerial incentives for the common interests of principals and agents. More specifically, this chapter deals with board structure (e.g. the board size, CEO duality and the presence of NEDs)

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control variables which have been used in this study. Additionally, this study investigates the role of foreign investors in predicting the performance of a company and hence contributes to the existing body of knowledge in the field of corporate governance in developing economies such as Jordan.

2.8.1 Board of directors (BODs)

The board of directors plays a crucial role in managing the managerial affairs of firms as well as in managing the potential conflicts among shareholders and managers. In the principal-agent relationship, the board of directors play its monitoring role in the case when the common interest of both agents and principals is misaligned. There is always the probability of agency problems as managers, being agents, tend to pursue their own interests instead of protecting the interests of shareholders. To tackle such situations, principals usually appoint the board of directors to enhance the firm's performance and reduce conflicts. Thus, this divergence of interests needs better monitoring of the firm's affairs, which may result in enhanced agency costs in the shape of monitoring cost as well as residual losses (Jensen and Meckling, 1976; Al-Ahdal et al., 2020). This situation results in such costs, which are borne by the shareholders. Thus, the reduction of agency costs remains a prime focus to enhance the shareholders' wealth.

On the other hand, the board of directors is the apex body in the hierarchy of corporate control systems. Liu and Fong (2010) and Alqatan, Chbib and Hussainey (2019) stated that more power and control exercised by the board of directors ensure maximisation of shareholder value as managers as agents found themselves in a position to align with the principal's interest. Thus, it can be argued that the board of directors is an essential instrument in the mechanism of corporate governance to protect the interests of shareholders (Jensen and Meckling 1976). Hence, an independent board of directors is considered favourable and seeks to bring an effective and efficient governance mechanism by independent directors who can oversee the activities of managers or agents in a more transparent and unbiased manner (Liu and Fong, 2010; Shu and Chiang, 2020).

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The power inherited by the board of directors enables significant decisions in favour of the organisation (Gillan, 2006; Booth et al., 2002; Detthamrong, Chancharat and Vithessonthi, 2017). The board of directors also ensures that managers are protecting the interests of shareholders by pursuing aligned interests. Fama (1980) stated that the BODs is considered a crucial instrument which helps to inspect the decisions of managers. According to the assumption of agency theory, the board of directors is an essential tool which helps to ensure the implementation of corporate governance in the true spirit, which further tends to reduce the agency conflict among shareholders and managers (Fama, 1980). From the viewpoint of resource dependency theory, BODs act as a co-optative mechanism, and this phenomenon helps to calibrate the organisation with the requirements of external environments (Aguilera and Cuervo-Cazurra, 2009; Razzaque and Mether, 2020).

According to the perception of Solomon (2014), there should be some fundamental observation regarding the selection of the board of directors; such board members should hold frequent meetings, and there should be effective communication among the board members and owners/investors. Board members should have the ability to develop consensus and harmony in accepting the suggestions of other members; and they should have a high level of integrity and concern regarding taking financial risks. Walker (2005) stated that there are two main key points which should be kept under consideration in selecting the board's members, one is to choose appropriate members, and other is the financial compensation. However, Ingely and Walt (2002) and Tricker (2019) concluded that there should be diversity in the board members, such as board members should be from both genders, i.e. male and female, as well as diversity should also exist in terms of their experience. The worth and effectiveness of a board member are assessed based on the value addition in the firm. Such suggestions are also considered in the UK combined code, which elaborates that:

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"*The board's role is to provide entrepreneurial leadership of the company within a framework of prudent and effective controls which enables risk to be assessed and managed. The board should set the company's strategic aims, ensure that the necessary financial and human resources are in place for the company to meet its objectives and review management performance. The board should set the company's values and standards.*" (UK Combined Code, 2006, p. 3; Mallin, 2019)

Responsibilities of the board of directors are classified from three perspectives: control perspective, services perspective, and resource dependence perspective. The board of directors is responsible for appointing or terminating the managers (taking care of the organisation's day-to-day operations) and the CEO if they are not protecting the shareholders' interests (Monks and Minow, 1995; Braendle, 2019). The second perspective relates to the services role, which elaborates that they should provide a counselling facility to the CEO regarding various administrative and managerial issues. Further, the BODs also have the power to impart their advice regarding policy formulation and its implementation (Johnson and Daily, 1996). The third perspective concerns the resource dependency theory. According to this theory, it is the fundamental purpose of the board to assist the firm in the utilisation of internal and external resources to improve the firm's performance (Pfeffer and Salancik, 1978; Anderson et al., 2020).

However, such roles performed by the board of directors in a firm result in conflict between the board and the CEO. To mitigate such conflicts, Fama and Jensen (1983) recommended that most of the board members should be non-executive directors so that these members should mediate in case of disagreements. Hermalin and Weisbach (1988) and Bhaumik et al. (2019) also stated that the presence of non-executive directors on the board improves the check and balance system on the executives and enhances board independence. They further stated that in the boardroom there always exists a significant conflict among board member and CEOs (Mallin, 2019).

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Regarding board structure and its functioning in day-to-day operations of the firm and the presence of non-executive directors, it is still the primary research questions. Keeping in mind this issue in the context of the Jordanian CG Code (JCGC, 2006), suggestions are available which support the perception that there should be a reasonable board size ranging from five to 13 members, each with a background of necessary skills and experience level. In addition to this, the roles of CEO and chairman should be separate, i.e. duality must be avoided, and 1/3 of the members should be non-executive directors. Thus, due to such stipulations present in the JCGC (2006), this study considered board size, CEO duality and percentage of NEDs (JCGC, 2011).

The effectiveness of the board depends upon its function related to its capability to monitor management so that misaligned activities can be eradicated. Resultantly, the quality of decisions taken by the board has the potential to affect the performance of managers and firms. Thus, better monitoring by board members could force management to act in the interests of shareholders, ensuring value maximisation and reducing the agency conflict. From here onwards, the literature review seeks to posit the point of view about various board-related CG mechanisms and their role in predicting the performance of firms (Akbar et al., 2016).

2.8.2 Board of directors' sub-committees

Board sub-committees play a critical role, and these committees enhance the efficiency of the corporate board (Jiraporn et al., 2009; Tricker, 2019). According to Harrison et al. (1994), Cifci et al. (2019) stated that board sub-committees are classified into two major types as per their functioning: one example is related to monitoring or oversight functioning, and the other is based on providing support to the management. The operating board committees provide their expertise and support to the firm's management regarding strategic decisions. Such committees are intended to protect the interests of shareholders by keeping an eye on the activities of corporate executives. Agency theory also proposes monitoring activities to monitor the

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activities of executives through auditing services (Fama and Jensen, 1983). Further, the proper appointment of directors and senior management is also related to the monitoring function of audit committees (Chhaochharia and Grinstein, 2009; Mallin, 2019).

The Cadbury Report (1992) proposed that, generally, board committees are an additional tool to manage the financial affairs of the firm as well as to ensure accountability to protect the interests of shareholders (Cadbury, 1992). According to Harrison et al. (1994), successful management of board sub-committees can induce responsible behaviours among the board members. Thus, board committees ensure legitimacy and enhance the credibility of corporate governance mechanisms. Hence, if such committees perform their functioning well, then the conflict among shareholders and managers can be reduced, which can result in decreased costs and increased shareholder wealth (Weir et al., 2002; Shahid and Abbas, 2019).

According to the observation of Harrison et al. (1994), the role of board committees has been increased since the 1980s, and most of the available corporate governance codes recommend such committees. These codes advocate establishing three types of committees, such as nomination, remuneration and auditing committees. However, in spite of the plentiful literature available regarding recommendations regarding board committees and their prevalence in the corporate system, the role of monitoring committees on firm performance is not clear. However, some studies have claimed that such committees have the potential to influence the firm's performance in a positive manner (e.g. Harrison et al., 1994; Sun and Cahan, 2009; Qurashi, 2018).

Operating committees of the board of directors are usually constituted and dominated by an insider, while non-executive directors often form monitoring committees, and thus these NEDs become a source to protect the interests of minority shareholders (Klein, 1998; Vefeas, 1999). Researchers who favour the small size of such committees argue that these committees function very well with a small size because they can arrange meetings

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frequently, which helps to analyse the available information and so is very convenient for decision making (Karamanou and Vefeas, 2005; Shehata, 2015). In addition to this, the presence of NEDs on the board helps to integrate and strengthen the knowledge and expertise of externals in the firm's decision-making process, and the board can concentrate on the issues of strategic interest (Harrison, 1987). Weir et al. (2002) stated that board sub-committees thus help to promote the corporate governance mechanism by increasing its credibility and legitimacy. It is essential to mention that the importance of these committees in the modern-day organisation is clear when we talk about the efficient and effective implementation of the corporate governance mechanism (Jacoby et al., 2019).

Out of these committees, the audit committee usually performs its duty by holding regular meetings with internal and external auditors to make the audit processes transparent as well as ensuring robust internal accounting controls. Such a review of accounts and financial information helps to reduce the information asymmetry through timely and verified disclosure of financial information to stakeholders, which further decreases agency costs (Klein, 1998). A timely and robust audit through an audit committee ensures transparency, and the chance of fraud becomes minute, which boosts investor confidence as well as increasing the firm's value. Thus, it is essential to understand the internal control evaluation process to assess the negative behaviours and errors which have become dangerous for the firm's integrity (Caplan, 1999; DeZoort, 1998; MacAulay et al., 2020).

Weir and Laing (2000) and Razzaque and Mather (2020) argued that the remuneration committee helps to reduce the agency conflict between management and shareholders by selecting the remuneration/compensation of senior management and this brings alignment among the interests of shareholders and agents. Thus, in the case when the compensation is not fair, the senior management can conspire with the CEO to obtain benefits. NEDs can bring harmony among the remuneration committees and management by ensuring that remuneration will increase performance of the management as well as improving the firm's value (Gregory, 2002; Monks,

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2001). However, in some cases, external/independent directors tend to consult with external experts regarding remuneration decisions, which can be undermined in some instances if not appropriately managed (Monks, 2001; Al-Ahdal et al., 2020).

Similarly, the nomination committee helps to reduce the conflict between shareholders and agents through the appointment of qualified non-executive/ independent directors (Vefeas, 1999). The Cadbury Report (1992) stated that nomination committees play a crucial role in strengthening the board of directors by selecting a suitable composition of board members. Thus, the ability of NEDs to perform their monitoring role well depends upon the recruitment process (Vafeas, 1999) as well as their independence on the board. In the absence of nomination committees, outside directors can misjudge the performance of CEOs, which can result in higher compensation to the CEO and increasing costs for the firm (Westphal and Zajac, 1995). Hence, such agency conflicts can be either removed or reduced through improving the functioning of a firm’s nominating committee (Jensen, 1993; Anderson et al., 2020).

On the other hand, despite such positive comments from previous researchers, some have criticised the functioning of board committees and have postulated that board committees can hamper the financial performance of firms. Some proponents of such arguments state that board committees are a financial burden on companies (Vefeas, 1999). Other authors state that such committees require a lot of managerial supervision, thus reducing the time for other day-to-day activities (Conger et al., 1998). Such committees can replicate the overall functioning of board members and lead to an overlap in the duties and responsibilities of board members. Lastly, such committees increase the heterogeneity among the board members, which can result in a lack of consensus and cohesiveness among board members regarding essential issues. The literature is still debating the pros and cons of all these committees (Detthamrong, Chancharat and Vithessonthi, 2017).

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Some empirical studies have documented the impact of audit committees. For instance, a study by Wild (1994) investigated the market reactions in 260 listed USA firms for a period of 15 years from 1966 to 1980. He investigated the influence of audit committees before and after their constitution. Statistically, a significant improvement was observed in share returns after the establishment of an audit committee, strengthening the argument that audit committees tend to enhance the managerial accountability, which ensures higher performance (Shehata, 2015).

A similar study was conducted by Vefeas (1999) in 606 USA listed firms and concluded that nomination committees increase the quality of the board as well as enhancing its effectiveness. A similar study was conducted by Main and Johnston (1993) on a sample of 220 UK listed companies to assess the effectiveness of remuneration committees. The outcomes of the study revealed the contradictory situation that these committees reduce shareholders' value while increasing executives' pay. Klein (1998) conducted a study on 486 US listed firms covering two years for the span 1992-1993 to ascertain the link among the establishment of audit, compensation and nomination committees and firm performance. The empirical results of this study could not show a statistically significant association among these variables (Mallan, 2019).

Thus, every board committee performs some specific functions, and if all a firm's committees perform their duties very well regarding monitoring and operating functions then the firm's performance may be increased. The present study investigates the impact of board committees of non-financial listed companies in the context of Jordan. For this purpose, data has been collected from various electronic databases and annual financial reports of the firms, keeping in mind the guidelines laid out by the Jordanian Corporate governance code of 2006 regarding the selection of members of the audit, remuneration and nomination committees from the board of directors. This code was implemented from the start of 2007 (Gutterman, 2019).

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2.8.3 Board size

Generally, it is assumed that a larger board size will bring diverse knowledge and expertise that will help to increase the firm's performance. However, empirically it has been found that larger board size can carry serious consequences such as lack of coordination and commination, which can hamper the effectiveness of the board (Eisenberg, 1989). In addition to this, it has been observed that, in larger boards, directors do not criticise the top management regarding improvement in performance, and they do not take performance-related issues seriously (Lipton and Lorsch, 1992; Tricker, 2019).

According to the perception of Jensen (1993), large-size boards (increasing from seven to eight members) result in heavy monitoring and operating costs due to less effective functioning. The agency model supports this argument. In large-size boards, the CEO becomes the sole party who has control, instead of the board having control and monitoring the firm's management. Such a situation provides space for the managers, and they tend to pursue their interests at the cost of shareholder value by increasing the agency cost and reducing the firm's performance (Hermalin and Weisbach, 1998; Solomon, 2014). Similar findings have been reported by Kholief (2008): that a large board size does not induce cohesiveness among the board members, and it becomes challenging for the board members to develop a consensus over important issues. Hence, large boards become slow in their monitoring and operating functioning and efficient decision making is hampered, increasing the agency cost for the firm through increased agency conflicts, resulting in worse firm performance (Gutterman, 2019).

Ahmed et al. (2006) posit the view that it becomes difficult in the presence of a large number of members to formulate and adopt new ideas because a large board lacks cohesiveness and consensus, which results in hampered board functioning where novel ideas are not encouraged. Thus, such situations indicate that conflicts among the board members themselves do not bring them to the same page, i.e. the interests of shareholders. Instead,

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they pursue their interests, which increases the agency problem. In the opinion of Cascio (2004), there is still a need to find out a sufficient and suitable board size in firms so that firm's affairs can be managed through its board.

Simply, it can be stated that there is no specific tool to measure a reasonable and suitable board size in the firm. Similarly, there is no formula which can suggest the number of directors from inside or outside the firm. However, some studies support the argument that a smaller board size is good, while others have argued in favour of a large board size. For instance, in the opinion of Yermack (1996), large boards have less cohesiveness and lack proper communication. Such a situation brings agency issues and results in decreased firm performance. Thus, a large board size can induce agency problems and director free-riding problems, which can cause conflicts among the board members resulting in poor performance of the firm (Jacoby et al., 2019).

However, in a situation where the board is large in size, the CEO dominates the decision-making process because s/he enjoys a powerful position in the firm, which increases agency problems and resultantly lowers firm performance (Miller, 2003). It is important to mention that a relatively large board tends to be more effective in modern-day organisations in terms of decision making and improving a firm's overall efficiency (Pfeffer, 1972, Goodsten et al., 1994; Tricker, 2019).

This phenomenon tends to support the large board size because large boards have more diversity and effective cohesion, which can help board members to transcend challenging situations more efficiently (Goodstein et al., 1994). Large boards can function smoothly in drastic economic conditions or during financial turbulence and can mitigate the agency conflicts in such circumstances (Mintzberg, 1983). However, in smaller boards, lack of diversity can result in poor strategic development by reducing the firm's ability to cope with such situations (Goodsteing et al., 1994; Shu and Chiang, 2020).

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Literature provides limited support regarding the argument that larger boards provide diversity and expertise to the firm through their broad background (Arosa et al., 2010; Dalton et al., 1999) and outside linkage (Haniffa and Hudaib, 2006; Yawson, 2006). In the perception of Dalton et al. (1999), larger boards help the members to attract more highly qualified opinions. Large boards also have the potential to improve the decisions and their related outcomes, sharing ideas and contributions, which strengthens new knowledge and expertise for the management, thus reducing the agency conflict and increasing the firm's performance (Lehn et al., 2009; Mallin, 2019).

Previous studies have not reported a clear picture regarding the relationship of board size and firm performance, and in an attempt to find such relation Anderson et al. (2004) conducted a study to assess the association among board size and firm performance, which was found to be negative. They reported that financial markets react in positive ways to the announcement of board downsizing in a firm. Similarly, a firm's announcement regarding an increase in the number of board directors' results in decreased equity value. They further stated that this pattern is not observed in all types of companies because it is not a linear function in many cases. They postulated that small and medium-size firms are affected negatively with the announcement regarding increasing the board size while large firms do not suffer from such announcements (Shahid and Abbas, 2019).

Yermack (1996) reported a negative association among the board size and firm performance where firm performance was measured based on Tobin's Q in a sample of 452 large US firms for a period of nine years covering the span 1984 to 1991. In his study, he did not consider the utility and financial companies because such firms follow government regulations and their board of directors is bound to adopt these regulations in making decisions. His study reported that firms with small boards show improved financial performance in comparison to firms with large boards. He further stated that incremental cost would observe an increasing trend with the increase in

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board size and firms would obtain higher market value with smaller board size. Findings of his study supported through empirical results proved that firms had obtained more value in capital markets through diversification (Detthamrong, Chancharat and Vithessonthi, 2017).

Previous studies have shown that small boards produce more favourable results in regard to firm performance in comparison to large boards, as the efficiency of the board decreases with the increase in board size because large-size boards have barriers in coordination and processes (Al-Khouri, 2006; Guest, 2008; Haniffa and Hudaib, 2006). However, Eisenberg et al. (1998) stated that Yermack's (1996) study, which was conducted on large firms, could not be generalised on small-size firms because the cultures of large and small firms differ. A study conducted by Eisenberg et al. (1998) on a sample of 879 small and medium-sized firms over a period of three years covering the span of 1992 to 1994, showed a negative association among board size and firm financial performance where financial performance was measured based on return on assets (Solomon, 2014; Braendle, 2019).
Various studies have documented the impact of board size on firm performance (Bozec, 2005; Cheng et al., 2008; Guest, 2008) and proved that small board size is linked with reduced agency cost, which leads to improved financial performance. However, other researchers have also documented the impact of large board size and firm performance and reported a positive relationship between firm performance and large board size. Al-Muhtaseb (2010) stated that the market responds positively to an increase in board size. They argued that large board sizes show better monitoring of firms. However, a large board size shows poor operating performance, and the main reason behind this poor performance is the diversity of board size and communication skills inherited by diverse board members.

A study conducted by Sanda et al. (2005) on a sample of 93 Nigerian companies for a period of four years covering the span of 1996 to 1999, reported a positive association among board size and firm financial performance measured through return on equity. Their results supported the argument that large board size provides improved access to the external

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environment, which enables them to attract financing and raw materials conveniently, as compared to firms with small boards. This argument is aligned with the resource dependency theory, which postulates that a large board offers greater access to critical resources such as raw materials and finance. These findings are in alignment with the studies of Kiel and Nicholson (2003), Beiner et al. (2006) and Coles et al. (2008). Thus, it can be assumed that this divergence might be due to the perception of shareholders and management regarding large board size and its relationship with the knowledge-enhancing capability (Mallan, 2019).

According to Haniffa and Hudaib (2006), large board size has the potential to improve business decisions by reducing the agency conflict among shareholders and agents, which reduces agency problems. Similar results were also reported by Mangena and Tauringana (2007). In their study, they investigated the relationship of board size and firm performance of 72 firms which were listed on the Zimbabwean stock exchange for a period of three years, covering a span of 2002 to 2004. More sophisticatedly, their results remained unchanged despite adjusting the inflation factor. This situation shows that large boards facilitate effective monitoring even in an uncertain situation, either economic or political; this reduces the agency conflicts and increases the firm's performance. Ho (2003), Topak (2011) and Cifci et al. (2019) reported that financial performance and board size had no relationship.

The above mixed results show that there is a lack of consensus among the researchers regarding board size, either large or small, and firm performance. Thus, the issue of large or small board size is related to controlling and management activities of managers. Therefore, it can be assumed that, if monitoring is carried out properly, it can amend the behaviours of managers in alignment with the reduced agency conflicts and increased firm performance. Under strict monitoring and control, it becomes complicated for the managers to forego the interests of shareholders, and they conduct improved decision making to maximise the shareholders' wealth.

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The Jordanian corporate governance code was introduced in 2006 to develop the capital market; it states that:

> "*The administration of the Company is entrusted to a board of directors whose members shall be not less than five and not more than thirteen, as determined by the Company's memorandum of association.*" (JCGC, 2006; JCGC, 2011)

The legislator in Jordan has proposed that a board should consist of five to 13 members. However, some firms do not follow the instructions of the JCGC, which might be due to variation in firm size and nature.

2.8.4 CEO duality

The duality of the CEO has the potential to influence the firm's agency problems. Agency theory provides the necessary support behind the idea that enhances the board's independence from the activities of management. This separation ensures improved performance as a result of proper monitoring and overseeing (Jensen, 1993). Similarly, stewardship theory postulates that there should be no separation in the control and monitoring activities of the CEO, and there should be duality. In a case when a single person is obliged to make decisions and responsibilities, this might have the potential to facilitate the integration of knowledge regarding firm operation (Adams and Mehran, 2005; Adams et al., 2007; Arosa et al., 2012; Peng et al., 2010; Jacoby et al., 2019). The CEO also lists all the relevant issues on the meeting agenda which might be discussed at a board meeting. The CEO generally provides an administrative facility to the firm and is accountable for the necessary implementation of organisation-wise decisions and policies (Fama and Jensen, 1983; Akbar et al., 2016).

According to Mallette and Fowler (1992), if the roles of CEO and chairman are combined into a single person, then it can result in increased overall control and, on the other hand, it can minimise the power of the board. Alternatively, duality in a single person can control the ability of independent

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directors regarding their ability to monitor and control the governance role. Under such a circumstance, the conflict between shareholders and agents will further hamper the firm's performance negatively. Thus, to ensure the independence of the board, the roles of chairman and CEO must be separated so that there should be a proper balance of managerial behaviour (Ehikioya, 2009; Van den Berghe and Levrau, 2004). This situation can also be helpful to prevent managers from acting in their own benefit and interests. Fama and Jensen (1983) stated that separation of the roles of CEO and chairman establishes a clear boundary among the control and monitoring functions of non-executive directors. The UK Combined Code hence also recommends separation of roles, stating that:

> "*There should be a clear division of responsibilities at the head of the company between the running of the board and the executive responsibility for the running of the company's business. No one individual should have unfettered powers of decision.*" *(UK Combined Code, 2006, p. 4)*

Conversely, stewardship theory postulates in favour of duality. It states that duality has the potential to influence the performance of the company in positive ways due to various factors such as knowledge regarding the firm and investment opportunities, which can ensure improved decision making (Weir et al., 2002). As per the findings of Adams and Ferreira (2007), duality can bring a positive performance in a firm because the chairman, being the CEO, can provide their expertise and knowledge to the board directors. This facilitation can also help the board members more effectively, and thus duality can influence the firm's performance in a positive manner. More specifically, the potential conflict between CEO and chairman can be eradicated by fixing the responsibilities of CEO and chairman in a single person (Baliga et al., 1996; Harris and Helfat, 1988; Bhaumik et al., 2019).

If the argument developed based on stewardship theory is accepted, then it can be assumed that the CEO is actively engaged and driven to lead the company (Boyd, 1995). Thus, it can be argued that CEO duality will benefit

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the firm even in challenging circumstances (Chahine and Tohme, 2009). According to Tsamenyi et al. (2007), the phenomenon of duality is generally observed in small-size companies because such firms have concentrated ownership structures which indicate the integration of various roles into a single person. According to Vafeas and Theodorou (1998), CEO duality might have the potential to help in removing agency conflict and reducing agency costs if further supervision is offered. Further, duality can increase the accountability of a company because, in the case of duality, the poor performance of the firm can be linked with the CEO easily (Bozec, 2005; Abor, 2007; Sheikh and Wang, 2012; Bhaumik et al., 2019).

An investigation carried out by Rechner and Dalton (1991) on a sample size of 141 firms from the Fortune 500 list for a period of six years covering the span of 1978 to 1983 reported that firms with separate control of CEO and chairman perform better than those firms who have duality. According to a study by Dahya et al. (1996) which was carried out on a sample of UK listed firms, it was observed that the stock market responds in a positive way to those firms where the roles of chairman and CEO are split from each other. Similar findings were reported by Haniffa and Hudaib (2006) in their study of 347 Malaysian listed firms, and they postulated that separation of chairman and CEO role ensures improved firm performance.

Boyd (1995), Elsayed (2007) and Shahid and Abbas (2019) reported a positive association between the duality and financial performance of firms. According to the perception of Boyd (1995), if the two roles are combined into a single person it can result in improved decision making. Similarly, Davis (2001) and Donaldson and Davis (1991) reported that CEO duality ensures a unified leadership which can facilitate the integration of knowledge into the firm. These results are in alignment with the argument that CEO duality increases the chances of improved decision making, which results in improved financial performance. Bozec (2005) surveyed a sample of 25 companies for a period of 25 years covering the span of 1976 to 2000 and did not find any significant impact of CEO duality on the indicators of performance.

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The above discussion indicates that scant literature shows mixed and contradictory findings regarding the dual role of CEO and chairman. Both perspectives (agency and stewardship theory) provide different insights regarding the role of CEO as chairman. In some instances, duality can increase firm performance while, in other cases, it can hamper the decision-making process, resulting in agency conflict and reduced firm performance. According to the recommendations of the JCGC of 2006, the roles of CEO and chairman should be separated from each other.

2.8.5 Non-executive directors

Some corporate governance codes recommend a combination of both of executive and non-executive directors in the board. According to agency theory, there is a need to ensure sufficient monitoring mechanisms to protect the interests of shareholders, and for this purpose the presence of non-executive directors on the board is necessary. Thus, it can be assumed that the presence of a higher number of NEDs will ensure reduced agency cost through proper monitoring (Shleifer and Vishny, 1994; Mallin, 2019).

Raheja (2005) reported that the presence of executive directors could ensure better performance due to their specific knowledge and intrinsic motivation. Also, NEDs provide separate and independent monitoring which results in improved performance, despite their potential to increase the firm's performance. They also have less knowledge relevant to the firm. The emergent consensus is that a board must be diverse, which should have a positive impact on the overall value of the firm so that accurate strategic decision making can take place (Gabrielsson, 2007). The presence of a large number of NEDs on a board decreases the CEO's power over the board, which is also supported by agency theory. Thus, the presence of NEDs on the board can safeguard the interests of shareholders (Gabrielsson and Winlund, 2000; Tricker, 2019).

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The presence of NEDs increases the reputation and legitimacy of the company (Pfeffer, 1973; Pfeffer and Salancik, 1978). It can also help to overcome the issue of shortfall related to human resources (Daily and Dalton, 1993). Despite this, the presence of non-executive directors also has the potential to mitigate the conflict among board members and can put them on the track of improved financial performance. However, the critical nature of non-executive directors remains at its place in explaining the overall corporate governance mechanism in contemporary firms around the globe (Mallin, 2019).

However, stewardship theory postulates in favour of executive directors because NEDs have limited access to the specific or firm-related knowledge and information of the firm's internal process. In the perception of Bozec (2005) and Jiraporn et al. (2009), NEDs work as part-time workers for the firm, and they cannot monitor managers because they do not have enough information. Hence, in the presence of a large number of NEDs, decision making will be very weak, and decision quality will not be up to the mark, which will result in reduced performance for firms. Similar findings have been reported by Weir and Laing (2000), and they argued that, due to NEDs only having part-time contracts, they are not familiar with the day-to-day operations of the firms (Higgs and Britain, 2003; Solomon, 2014).

Lawrence and Stapledon (1999) stated that it is not easy for NEDs to enhance firm performance because of several issues; first a link might exist between the CEO and the NEDs apart from their genuine relations in the context of that firm. On the other hand, the resource dependence perspective argues that the internal strength of the firm enables it to gain a competitive advantage which cannot be achieved through NEDs (Shehata, 2015). Despite agency theory arguing that the presence of NEDs can improve the financial performance of a firm, previous studies based on empirical findings in the existing literature show mixed findings (Baranchuk and Dybvig, 2009; Gordini, 2012).

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Gordini (2012) stated that there is a positive association among NEDs and the financial performance of a firm, and NEDs have the potential to increase the firm's performance through their skills and experiences. Khan and Awan (2012) found a positive and significant association between the NEDs and the financial performance of a company in which financial performance was measured based on ROA and ROE and market performance was measured based on Tobin's Q. It might be due to the close monitoring mechanism and contribution to the firm.

These results/findings it concluded that NEDs ensure an effective monitoring function to develop the managed and disciplined behaviour of the managers. Contradictory to these findings, some researchers have reported a negative relationship for the relationship of NEDs and firm performance (Agrawal and Knoeber, 1996; Bozec, 2005; Shu et al., 2020).

Besides these results, some researchers have reported no relationship among these factors (Arosa et al., 2012; Kumar and Singh, 2012). Hence, keeping in mind the perspective of agency theory presence of NEDs on boards is mandatory, which can ensure proper control and monitoring activities resulting in reduced agency conflict and enhanced firm performance. This argument is also supported through resource dependency theory, which states that the presence of NEDs on a board incorporates their skills and expertise for improved networking and relationship. If NEDs play their role effectively, and they carry out the activities of monitoring and control efficiently, this can discourage the agents/managers from pursuing their own interests. Thus, the presence of NEDs can be regarded as a reliable regulatory mechanism (Mallin, 2019).

Stewardship theory supports the argument that the presence of NEDs will increase the agency problems due to information asymmetry because NEDs work part-time for the firm and they do not have accurate information and knowledge about the firm's day-to-day activities. Thus, the overall performance of the firm will be hampered. Jordanian firms have a one-tier board structure: NEDs and executive directors both sit on the same board.

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As per the recommendations of the JCGC (2006), board size should range from five to 13 members. Additionally, the JCGC (2006) recommends that at least 1/3 of the board members must be non-executives.

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2.9 Summary

Keeping in view all above mentioned facts, there is a visible evidence of presence of unique corporate governance mechanism in Jordan in order to provide deeper understandings of economic environment and corporate governance framework operating particularly in Jordan. This chapter firstly has reviewed Jordanian economic environment and seeks to provide general background of various economic sectors which are working in Jordan and contributing the economic development of Jordan. Major industries/sectors are also discussed specifically in this context. Like other nations, Jordan is also interested in attracting foreign investment; hence series of economic and financial reforms being planned are thoroughly discussed. A holistic picture of overall investment culture which is prevailing in the country has also been discussed

Corporate governance is a mechanism which provides a code of conduct to manage the affairs of firms so that investors could get best output of their savings (Shleifer and Vishny, 1997; Cadbury Committee, 1992). Although various definitions have been given by scholars into the previous literature, this chapter of thesis elaborates the phenomena of corporate governance from two perspectives one is shareholder's perspective while other is stakeholder's perspective. In alignment to the study objectives regarding relationship of corporate governance and organization performance a slight definition was more pertinent because this narrow definition provides more realistic and in-depth explanations. Although different theoretical frameworks have been discussed in this study, but agency theory is more relevant and explains proposed relationships. Aim of discussing relevant theories is explain the mechanism from the aspect of each theory. Also, this chapter presented a picture of issues pertaining to the mechanism of corporate governance from the perspective of developing nations.

This chapter also seeks to elaborate the various general themes regarding CG and its practices in the contemporary organizations in developing economics. "Internal mechanisms include the board of directors (e.g. board

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size, board sub-committees, CEO duality and non-executive directors) and ownership structure (e.g. large shareholders or concentrated ownership, the identity of shareholders and managerial ownership)". Other board sub-committees have not been discussed here due to their scope beyond this study which is under discussion. More specifically this chapter has reviewed literature pertaining to the impact of foreign investors on firm performance by digging deep the relevant field of available knowledge in an emphatic fashion. On the basis of these mechanisms, existing study tends to propose a research framework and specific variables which need to be further tested relevant to the CG mechanisms. The onward section of this study highlights the environmental concerns explicitly particularly in local context.

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Chapter 3 Research methodology

This study attempts to find out the impact of CG practices on the financial performance of Jordanian firms in the industrial and services sector (non-financial sector). More specifically, this study deals with issues of governance. The first section of this chapter elaborates on research philosophy and methods applied. This chapter also deals with the data analysis techniques and various regression assumptions, such as multicollinearity, heteroscedasticity and serial correlation. It also provides guidelines regarding detection of regression-related issues/problems and their rectification.

On the other hand, another section of this chapter deals with the CG mechanism and its effect on the financial performance of firms listed on the ASE for a period of seven years ranging from 2012 to 2018. Hence, this section provides a detailed illustration of data used in this study to investigate various CG-related mechanisms and financial performance. Initially, sources are illustrated which have been consulted for data collection. Next to this, the sample and its selection procedure are elaborated on. Study variables about corporate governance mechanisms (board structure and ownership structure) along with measures of financial performance (ROA/ROE) are explained, and, at the end, control variables are discussed. The data sources for various variables and their measurement are also considered.

3.1 Research philosophy

According to Burrell and Morgan (2005), with respect to the selection of suitable research, the paradigm is crucial in every research study. Philosophical orientation in every study pertaining to social science holds a pivotal role. As this study investigates the impact of the CG mechanism on firm performance through hypotheses, the positivism paradigm has been chosen as the most suitable research paradigm as it allows the researcher to investigate and test the hypotheses empirically (Saunders et al., 2019).

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Burrell and Morgan (2005) stated that positivism helps to draw causal inferences among the variables and their relationship. The deductive approach is linked to positivism, which helps to illustrate the causal relationship among variables and, more specifically, it helps to generalise the results based on the sample (Saunders et al., 2016). Keeping in mind the assumed relationships/hypotheses developed earlier, this study utilises the deductive approach due to the reasons mentioned below:

- The deductive approach follows scientific principles in ascertaining the nature and outcome of the event.
- It helps to conclude based on hypotheses testing based on existing theories.
- This approach avoids developing or building a new theory.
- The deductive approach helps to infer causal relationships among constructs.
- Quantitative data is used in a deductive approach.
- It is a structured approach and devises clear parameters.
- This approach ensures the independence of the researcher. It makes the study free from researcher bias because analytical procedures are followed, and the personal opinion or observation of the researcher is not incorporated.
- Under this approach, it becomes easy to generalise the results due to the adequate sample size (Saunders et al., 2019).

Andres and Vallelado (2008) stated that, due to the scientific nature of the deductive approach, it follows a series of steps, which are as follows:

- Based on existing theories, the first testable hypothesis/hypotheses are developed.
- Clarification regarding the testing of hypothesis/hypotheses is made.
- The next stage requires operationalising of study variables, and their measurement is in quantitative terms.

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- The next step requires testing the operationalised hypothesis/hypotheses and inferring causal relationship among variables;
- The final step requires testing the study results and based on these results and later providing confirmation/endorsement or even some modification in the theory based on results (Bell, Bryman and Harley, 2018).

According to Burrell and Morgan (1994), the deductive approach uses a functionalist paradigm and study objectives are set following the deductive approach keeping in mind the population of the study. Hence, in this study objectives have been developed, keeping in mind the notion that the impact of the corporate governance mechanism on the financial performance of the firm can be measured empirically through applying research analysis tools. Accordingly, positivism helps to explain change or occurrence, and the deductive approach describes the causal relationship among study constructs. Positivism also helps to identify and predict relationships in replicated scenarios. Thus, positivism can contribute better to designing a research strategy in testing hypotheses (Hussey and Hussey, 2009; Saunders et al., 2019).

In summary, this study has followed a deductive approach, which is more appropriate. It is essential to mention that most of the gurus of quantitative research are of the same point of view regarding testing the theoretical framework utilising quantitative tools. Moreover, a deductive approach is also suitable in cases where the researcher is not interested in introducing a new theory; instead, the researcher is quite keen to test the existing field of knowledge in that specific field of theoretical understanding.

3.2 Research methods

According to Punch (1998) on selection of appropriate research, the approach is crucial, keeping in mind the research issues. Widely, around the

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globe, two research methods are used, one is quantitative and the other is qualitative. A qualitative research method usually presents a descriptive approach. It uses non-numerical data to represent a given phenomenon (Berg, 2004) while, according to the perception of Babbie (2012), the qualitative method is used to assess the variations in attitudes and behaviours occurring in social processes over a given period. Conversely, Hussey and Hussey (2009) and Bryman (2016) postulated that a quantitative approach uses statistical analysis based on numeric facts and figures and provides a stronger argument based on reliability and validity to generalise the results.

Additionally, a quantitative approach can use a large amount of quantitative data for a longer period, which can increase the credibility and generalisability of results (Berg, 2004). Alternatively, some researchers recommend using both methods for better results. However, some fundamental issues are attached to the qualitative research approach, which suffers from a number of problems, such as the issue related to small sample size, due to which it is quite inconvenient to draw results considering the whole population (Hakim, 1987). Also, there are problems related to measures of reliability in qualitative research methods as well as transparency (Berg, 2004). In addition, qualitative methods consume a massive amount of time, but might produce less suitable explanations of research phenomena (Berg, 2004; Cohen, Manion and Morrison, 2017).

Hence, due to the difficulties and weaknesses attached to qualitative data, the present study used a deductive positivism approach and hypotheses have been developed based on available and pre-tested theories. Empirical findings based on quantitative data demonstrate the acceptance or rejection of hypotheses. For testing the hypotheses, the present study employed regression as a major tool for data analysis (Ardalan, 2012). Hair et al. (2009) stated that regression is a suitable tool for data analysis in cases where a single outcome variable is linked with one or two predictors. This study selected multiple regression analysis as the primary instrument for hypotheses testing because it is amongst the most common methods and

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previous researchers have endorsed it in testing the relationship of various CG mechanisms and their relationship with the financial performance of the firms (Claessens and Yurtoglu, 2013; Peoples, 2020).

3.2.1 Panel data

Cross-sectional, time series and panel data are various types of quantitative data used for empirical investigations. In cross-sectional data, different values of one or more variables are collected at the same point in time while, in time series data, observations or values for one or more variables are collected for more than one time period. On the other hand, panel data uses the same cross-sectional units, which are collected over a time period. Simply put, panel data uses time dimensions and spaces at the same time (Gujarati, 2003). Previous literature provides support regarding usage of panel data regression approaches (Gujarati, 2003; Greene, 2012; Hall and Wall, 2019). Using panel data provides various advantages which are outlined here:

- It uses prior data.
- It combines both time series and cross-sectional data.
- Variables showing high linearity can be identified easily and their removal from the data becomes easy.

In order to deal with the error term in panel data, two models are usually used, such as the fixed effects model and the random effects model. These two models follow different assumptions to deal with error terms. The fixed effect model assumes that the individual effect term is constant while the random effect model follows a different approach, and it assumes that an individual's effect is random. According to the perception of Greene (2008, p. 285), a simple panel data regression model can be given as:

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$$\gamma_{it} = X'_{it}\beta + Z'_i\alpha + \varepsilon_{it}$$

Where:

Y_{it} is the dependent variable.

X_{it} are predictors.

B and α are coefficients.

$Z'_i\alpha$ is an unobserved individual-specific effect.

$_i$ and $_t$ are the indices for individuals and time.

ε_{it} is the error term.

$Z'_i\alpha$ denotes heterogeneity pertaining to individual effect in the above model while Z'_i denotes a set of individual or group-specific predictors. These can be either observed variable or unobserved variable, which are considered constant over a specific time, $_t$ (Greene, 2008; Townsend and Saunders, 2018).

3.2.2 Pooled regression

If Z_i contains only a constant term, then OLS provides more consistent and efficient estimates regarding constant (α)/intercept coefficient/slope vector usually denoted by *β*. Hence, the original model reduces to:

$$Y_{it} = X'_{it}\beta + \alpha_i + \varepsilon_{it}$$

3.2.3 Fixed effect

The fixed effect model provides a consistent estimate in a situation when Z_i is unobserved but correlated with X_{it} because this situation leads to biased estimation through *β*, hence, the model reduces to:

$$Y_{it} = X'_{it}\beta + \alpha_i + \varepsilon_{it}$$

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Where:

Y_{it} = Outcome variable (here i = entity and t= time).
β = Coefficient of the predictor.
X_{it}= Predictor.
α_i (i=1…. n) = Unknown intercept for each entity in the model.

Where $\alpha_i = Z'_i\alpha$ embodies all observable and specified means. According to Greene (2012) and Pallant (2020), the fixed effect does not change. Each entity possesses its features which might influence independent variable/variables. It is the rationale behind the assumption of correlation among the error term and independent variable/variables. Hence, in this situation, the fixed effect helps to remove time-invariant characteristics from independent variables in panel data regression from the predictor variables.

3.2.4 Random effect

A random effect model is used in cases where unobserved individual heterogeneity can be uncorrelated with variables in the model, and this scenario model reduces to:

$$\gamma_{it} = X'_{it}\beta + \alpha + u_i + \varepsilon_{it}$$

Fixed effect and random effect models can be distinguished based on unobserved individual effects, simply by checking whether these effects are stochastic or not (Greene, 2012). Further, Bell, Bryman and Harley (2018) recommended that fixed and random effect models can be distinguished based on unobserved individual effect.

It is believed that in the fixed effect model the random effect reduces to zero and based on this argument the fixed effect model is considered to be a restricted version of the random effect model and using random effect is preferable due to its general nature. However, the larger number of parameters inherited in the random effect specification can result in loss of

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efficiency in some cases when data does not support random effect. Hence, it is suggested that the random effect should be tested against a fixed effect. The advanced treatment of both models can help to distinguish their usability, and a tool called the Hausman test can be used in this scenario. In this case, assumptions can be followed to use/choose random effect estimation, i.e. unobserved heterogeneity in the model should not be correlated with predictors. Fixed effects models have been used in this study based on statistical results given in Chapter four.

According to Greene (2012), specifications of the Hausman test are followed by most researchers using random and fixed effect models. This test is usually used to detect violation of random effects modelling assumptions. "If there is no correlation between the independent variable(s) and the unit effects, then estimates of β in the fixed effects model (β_{FE}) should be similar to estimates of β in the random effects model (β_{RE})." Thus, the Hausman test statistic (denoted by H) is used to measure the difference between two estimates; an econometric model can be given as:

$$H = (\beta_{RE} - \beta_{FE})'[Var(\beta_{FE}) - Var(\beta_{RE}]^{-1}(\beta_{RE} - \beta_{FE})$$

Here

β_{FE} = Coefficient of estimates and time-varying covariates.
β_{RE} = Estimated coefficients of the random effects model.
Var(β_{FE}) = Asymptotic variances of large sample size.

While testing the null hypotheses, chi-square with degrees of freedom is equal to the number of repressors present in the model. At $p < 0.05$ (denotes conventional levels of significance), two models show the difference, which is large enough to reject the null hypothesis. Here, the random effect model is rejected in favour of the fixed effects model.

Contrary to this, if the Hausman test shows a p-value >.05, then the situation indicates that there is no statistically significant difference and using random

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effect will provide an unbiased estimation and using random effect over fixed effect is preferred under such circumstances. Simply, in most applications, the value of correlation among covariates and unit effects is not equal to zero. Hence, in the case when the null hypothesis is not rejected due to the Hausman test, there might be an exact correlation which is higher than zero and, and in this case, random effect estimation becomes biased. However, it can also be assumed that the Hausman test does not have necessary and sufficient statistical power. While, in the case of using the model of random effects, biasness will be still there in the estimation of coefficient (β), even if the Hausman test does not reject the null hypothesis. Admittedly, in many instances it will be better to use random effect (even biased estimator) against fixed effect (also unbiased estimator) if the random effect model provides a necessary and sufficient variance reduction against the fixed effect model (Bell, Bryman and Harley, 2018).

While using the random effect model, time-invariant variables can also be added into the model. Contrary to this, when using the fixed effect model, time-invariant variables are absorbed through the intercept. Using random effects assumes that error terms of models are not correlated with the independent variables, and this situation helps to imagine time-invariant variables as predictor variables. Hence, removing such variables from the model can lead to biasness in the estimation model and, based on random effects, it becomes very convenient to generalise the results beyond the sample size used (Kohler and Kreuter, 2005; Cohen, Manion and Morrison, 2017).

3.2.5 GLS estimator

In the regression model, when unknown parameters are estimated, the generalised least squares (GLS) technique is employed. This technique is used in the case when heteroscedasticity exists or there is directly present unequal variance in observations. GLS is also used in situations where a certain degree of correlation exists among observations. This fact corrects omitted variable biases even if there is autocorrelation and heteroscedasticity

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in the pooled time-series data. This study used GLS to test random effects models because this technique provides the freedom to the researcher to investigate variation in pooled time-series data (cross-sectional observations over time) (Gaur and Delios, 2006; Peoples, 2020). For a given correlation matrix, Ω, GLS is given as:

$$\hat{\beta} = [X'\Omega^{-1}X]^{-1}[X'\Omega^{-1}y]$$

While Ω can be expressed as:

$$\Omega = \Sigma \otimes I$$

Where Σ is n x matrix [σ_{ij}], then:

$$\Omega^{-1} = \Sigma^{-1} \otimes I = \begin{bmatrix} \sigma^{11}I & \sigma^{12}I & \cdots & \sigma^{1n}I \\ \sigma^{21}I & \sigma^{22}I & \cdots & \sigma^{2n}I \\ \vdots & \vdots & \vdots & \vdots \\ \sigma^{n1} & \sigma^{n2}I & \cdots & \sigma^{nn}I \end{bmatrix}$$

Where σ_{ij} denotes the $_{ij}$ element of Σ^{-1}:

$$\hat{\beta} = \left[\sum_{i=1}^{n}\sum_{j=1}^{n}\sigma^{ij}X'_iX_j\right]^{-1}\left[\sum_{i=1}^{n}\sum_{j=1}^{n}\sigma^{ij}X'_iy_i\right]$$

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3.2.6 Sample

The present study used a sample of non-financial firms listed on the ASE, covering a period of seven years ranging from 2012 to 2018. This list was obtained from the website of the official page of the ASE website. The ASE deals with two sectors, one relates to financial firms while the other relates to non-financial firms. The financial sector generally covers those firms which offer financial services to companies such as banks, insurance companies, diversified financial services and firms dealing with real estate businesses (Hall and Wall, 2019). On the other hand, firms in the non-financial sector include industrial and service sector organisations. A snapshot of firms listed on the ASE as follow in table 3.1 below:

Table 3.1 Non-financial sectors on the Amman Stock Exchange

Description	Non-financial sector		Total
	Industrial	Services	
Number of firms	50	47	97
Percentage of firms	51.55%	48.45%	100%

Source: Self-generated

Secondary data is collected for the study instead of primary data or carrying out an empirical research. The main reason to collect secondary data is because it is mandatory for the public companies to prepare a full set of financial statements at the end of their accounting year and publish in its annual report. The full set of financial statements consists upon income statement, balance sheet, cash flow statement and statement of changes in equity (Melville, 2019). Accountants need to prepare the full set of financial statements and auditors are responsible to audit the financial statements before publication to ensure the faithful representation of the financial statements. These financial statements contains all the financial data related to the financial performance and financial position of the public companies.

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The data required for this study is related to the financial performance, financial position and corporate governance mechanisms of the public companies. This data is available in the annual reports of all the public companies as it is mandatory for the public companies to publish it at year end, so the researcher has decided to rely on secondary data. The reliability of financial data is not an issued because auditors needs to audit the financial data before it is published for the general public. Another reason to rely on secondary data instead of primary data is that if researcher has contacted the companies to collect primary data then they should have provided the annual reports to the researchers. Furthermore, other researchers who have conducted the similar research in Western countries have collected the secondary data because the data is available and there is no reliability issue with the financial data. Due to the above reasons the researchers have decided to collect the secondary data instead of primary data.

Data used in this study was obtained from three sources: the first source is the Orbits database; the second source is firms' annual reports, while the official page of the ASE website was used as the third source of data in this study. Data pertaining to CG-related variables such as details regarding BODs was collected through the Orbits database, and the official page of the ASE website, while data pertaining to other financial variables was manually obtained through annual reports. According to Fraser et al. (2006), a firm's annual reports provide more accurate data as compared to other data sources pertaining to secondary data, because data used in annual reports is highly reliable, which ensures quality reporting. In order to reduce the errors related to data entry while copying data from the annual reports, the data entered was marked, and all the entries were checked again to ensure that was correct. Both the databases (i.e. Orbits database and annual reports) provide necessary financial information about firms. Additionally, these two databases also provide information regarding the names of auditing firms. A total of 97 firms (industrial and services-related firms) are listed on the ASE. Firms related to various industries and listed on the ASE are as follows in table 3.2 below:

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Table 3.2 Firms related to different industries

Sector	Industry	Number of firms
Services	Health Care services	04
	Educational services	06
	Hotels and tourisms	09
	Transportation	10
	Technology and communication	02
	Media	01
	Utilities and energy	04
	Commercial services	11
Industrial	Pharmaceutical and medical	04
	Chemical	08
	Printing and packaging	01
	Food and beverage	09
	Tobacco and Cigarette	02
	Mining and extraction	11
	Engineering and construction	07
	Electrical industries	03
	Textiles, Leathers and Clothing	05
Total		97

Source: Self-generated

The study is based on 95 companies because the data for two companies out of the total 97 companies was not available. The current study excluded firms from the financial sector; the reason for the exclusion of these firms is the presence of various government regulations and regulatory bodies, which provides a different controlling mechanism for financial sector firms (Abed et al., 2012). Hence, using the financial sector in this study was not a reasonable choice. Financial sector firms also follow a unique style in reporting their financial information, which was another reason for their removal from the sample size of this study (Claessens et al., 2006; Al-Najjar

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and Taylor, 2008; Estrin et al., 2009; Al-Fayoumi et al., 2010; Bell, Bryman and Harley, 2018).

Keeping in mind the patterns of available literature (Yermack, 1996; Cheng et al., 2008), the present study employed the same criteria for sample selection. Yermack (1996), Cheng et al. (2008) and Saunders et al. (2019) stated that data for several subsequent years is required for panel data analysis. Further, financial data up to the year 2018 has been included in this study due to 2018 being the most recent year for which data was available at the time of data collection.

This section elaborates on the methodology and the methods applied due to the availability of pre-tested theories and hypotheses developed. For testing of hypotheses, multiple regression analysis was selected as a significant tool for the study; in order to capture the effects of firm and time-specific heterogeneities, panel data models can be specified as fixed effects or random effects. Moreover, this chapter seeks to investigate some specification tests which might tend to influence corporate governance variables, which can result in statistical problems related to predictors in the regression model.

3.3 Variables and measurement of variables

3.3.1 Performance variables

Various researchers have measured firm performance differently (Cochran and Wood, 1984; Ittner and Larcker, 2003). The majority of researchers have measured it by using Tobin's Q (TOQ) (Yermack, 1996; Weir et al., 2002; Akbar et al., 2016; Anderson et al., 2020), return on asset (ROA) (Yermack, 1996; Kiel and Nicholson, 2003; Alqatan, Chbib and Hussainey, 2019), return on equity (ROE) (Adjaoud et al., 2007), return on investment (ROI) (Adjaoud et al., 2007) and net profit margin (NPM) (Bauer et al., 2004).

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A firm's performance can be assessed in two dimensions, i.e. one is based on market performance, and the other is based on accounting performance. According to the perception of Daily et al. (2003), accounting-based measures of the performance show the current accounting (financial) performance of the company, while market-based measures of performance indicate the investor's perceptions of the firm's potential market performance. Although both measures are used in practice, various researchers have criticised them; for instance, Hiffa and Hudaib (2006) mentioned that no best indicator of financial performance has been recommended by previous literature, and studies lack a consensus regarding the best measure of performance. Further, they stated that every measure has its pros and cons, and hence no particular measure can be considered as a proxy to measure the financial performance of the firm (Al-Ahdal et al., 2020).

Return on asset (ROA) was initially recommended by Demsetz and Lehn (1985) as an indicator to measure the year-to-year fluctuations in business return, which is based on actual business performance. contrary to this, stock market rate of return has also been recommended by various researchers which show the expected performance of the business. This idea has been used widely by the proponents of the corporate governance mechanism (Gompers et al., 2003; Haniffa and Hudaib, 2006; Braendle, 2019), and they have used this concept in their studies. Generally, the accounting-based measures of firm performance do not consider prospects; instead, they show comprehensive indicators of current accounting performance. Conversely, market-based measures cannot present a vivid and real picture of the financial performance of firms where the economy is in its developing phase or in emerging markets because under such circumstances most of the firms operate under debt-financing. Hence, market-based measures of performance do not represent the actual performance of the firm (Kumar, 2004; Detthamron, Chancharat and Vithessonthi, 2017).

According to Gompers et al. (2003), the market share price of companies indicates market value with the signal that the capital market is working

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efficiently, as per the Efficient Market Hypothesis (EMH). Due to its status as an emerging market, the stock market in Jordan is yet to be developed in such a way that it could compete with developed markets. For example, if the information is publicly disclosed, it will result in and share prices will fluctuate in accordance with the available information. Contrary to this, accounting performance indicates greater internal control; however, managers have very little control over market valuation because market valuation and stock returns are related to each other (Grossman and Hoskisson, 1998; Bhaumik et al., 2019).

Black et al. (2006) stated that inside and outside mechanisms of CG have different impacts on firm performance. According to Wulf (2007), there is a direct relationship between accounting performance and the firm's strategies. For instance, almost 80% of researchers have used accounting-based measures (ROA and ROE) in their studies while measuring firm performance, while many researchers have used ROA and ROE as a measure of financial performance when investigating the impact of CG mechanism on firm performance (Kiel and Nicholson, 2003; Razzaque and Mather, 2020).

Tobin‘s Q is an indicator of the firm’s market performance defined as the market value of equity divided by replacement cost (Yermack, 1996; Shu and Chiang, 2020). According to Haniffa and Hudaib (2006), Tobin's Q indicates the effectiveness of management regarding the proper utilisation of the firm’s resources to maximise the shareholders’ wealth. Various researchers have used different methods while measuring Tobin’s Q; for instance, Yermack (1996) recommended using market value and replacement cost, while Booth and Deli (1996) recommended using a combination of market value and total assets. Using different measurement styles to measure the Tobin’s Q will produce different results even for the same period due to change in estimation method and valuation of assets. Although Tobin’s Q can be measured through various methods and various perspectives, difficulties are embedded in the measurement/calculation of Tobin‘s Q. For example,

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calculating the replacement cost is not an easy task because companies do not report it in their annual reports (Shahid and Abbas, 2019).

Various researchers have recommended different advantages of measuring performance based on accounting-based measures. Simply, higher values of ROA and ROE indicate that the management of the firm is using its resources (assets and equities) effectively to maximise the shareholders' wealth. Measuring performance based on ROA and ROE handles the firm size very comfortably. Further, it becomes elementary to compare the performance of the firms based on ROA and ROE (Lev and Sunder, 1979). As recommended by Demsetz and Lehn (1985), year to year changes can be considered in an entirely better way based on ROA and ROE as compared to the stock market return. The reason behind this might be that the stock market rate of return indicates an expected change in firm performance while ROA and ROE indicate the more realistic and actual condition of the firm (Akbar et al., 2016).

Nevertheless, many researchers have criticised the usage of accounting-based measures of firm performance based on different aspects. For instance, Ross et al. (2008) stated that ROA and ROE have been used since long time, but the level of earlier earnings cannot show the real picture of future earnings/profits. Similarly, Krivogorsky (2006) and Jacoby et al. (2019) stated that ROA and ROE are based on the principles of historical cost accounting and hence, in this situation, they do not show the current condition of the equity market. Another concern, pointed out by Alexander et al. (2007), indicates an alarming situation as using different accounting methods and techniques can bring different results while using the same ROA and ROE in different years. In spite these, previous researchers have pointed out that accounting-based measures of firm performance (ROA and ROE) do not consider risk (Ross et al. (2008). Additionally, it is challenging to assess the organisational environment and industry differences while using ROA and ROE in determining firm performance because these measures do not reflect the relationship of the firm and customer satisfaction (Alexander et al., 2007; MacAulay, Dutta and Hynes, 2020). However, to reduce the

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potential impact of these weaknesses and limitations, when measuring the performance of the company using accounting-based measures, we have considered some control variables in this study. These control variables help to justify the use of accounting-based measures in assessing performance (Shu and Chiang, 2020).

According to Demsetz and Lehn (1985) and Mehran (1995) ROE indicates the financial performance of the firm based on return on shareholders' investment and, based on this, it can be considered as an essential ratio which reflects the investors' concern. On the other hand, considering the ROA as a measure of financial performance considers the firm resources to carry out the firm activities. As per the contents of agency theory, there can exist a conflict as managers can misuse the resources of the company to protect their own interests, instead of securing the shareholders' interests. Hence, using ROA and ROE as a measure of the performance shows how managers are efficiently and effectively using the firm's resources, and a lower level of ROE and ROA will highlight an ineffective managerial team. Thus, ROA and ROE can be considered as reliable measures from the perspective of shareholders while measuring the firm performance. Keeping in view above lines/argument present study has considered ROE and ROA as measures of firm financial performance on the basis of accounting-based measures.

Return on assets (ROA) shows the degree of managerial efficiency in utilising the firm's resources/assets to generate profit/earning. In some cases, ROA is considered as Return on Investment (ROI). Mathematically, it is calculated as:

Return on Assets (ROA) = (Net Income) / (Total Assets)

On the other hand, Return on Equity indicates firm performance based on the amount invested by the owners/investors or how a firm is generating profit in comparison to the amount invested. This is also called Return on Net Worth. Mathematically it is calculated as:

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Return on Equity (ROE) = (Net Income) / (Total Equity)

To calculate the ROA and ROE for sample firms, this study used the DataStream database.

3.3.2 Control variables

Control variables have been considered in this study to explain changes in firm performance. From the scrutiny of scant literature, it has been observed that various researchers have used different control variables. Hence, this study considered already used control variables such as sales growth, capital expenditure, firm size, leverage, research and development expenditure and liquidity (Daines, 2001; Gompers et al., 2003; Black, 2001; Anderson et al., 2020). Despite using the above-mentioned control variables, it can be expected that other factors also have the potential to impact the firm performance. However, the existing body of literature does not show any formula for considering the number of control variables in any study. Thus, keeping in mind the practice of previous studies, this research has adopted mainly previously used control variables

3.3.2.1 Sales growth (SGH)

According to Kim (2006), those firms that show higher growth tend to seize more opportunities, and market valuation of the company is increased with growth opportunities. Firms which aim to grow need a large amount of money/financing, either internal or external, which drives firms to follow improved governance practices in order attract investors (Beiner et at., 2006); this also reduces capital cost. Literature shows a direct and positive association between firm performance and growth opportunities, which are measured based on year-to-year sales growth (SGH) (Gompers et at., 2003, Drobetz et at., 2004, Cui et at., 2008, Henry, 2008; Alqatan, Chbib and Hussainey, 2019). Hence, this study considers sales growth as a control variable.

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3.3.2.2 Firm size (FSE)

Although firm size has been considered as a control variable in various studies, there exists a lack of consensus regarding the relationship of firm size and firm accounting performance (Nenova, 2003; Durnev and Kim, 2005). According to the findings of Short and Keasey (1999), larger firms can create entry barriers for other firms due to access to specific resources; this situation can generate a better accounting performance. According to Jensen (1986), firm size can be used as a proxy to assess agency problems. According to these findings, people in managerial posts tend to increase the size of firms so that they can enjoy access to more power and large resources. According to the findings of Fama and Jensen (1983) and Boone et al. (2007), an increase in firm size brings diversification, which leads firms towards natural complexity. This increased complexity increases the need for more advice on the board.

Further, it is believed that larger firms follow complex operations so that their strategies can be better pursued. According to Serrasqueiro and Nunes (2008), large firms show a better performance because they have a better opportunity to raise funds, as well as following diversified strategies in their operations. One more attribute of larger firms is the presence of a wide variety of expertise which enables larger firms to make better decisions, which increases their performance (Black et al., 2006; Bhaumik et al., 2019).

Some researchers have also documented the difficulties which are faced by larger firms such as more inspections and scrutiny by the regulatory authorities, another stakeholder (Nenova, 2003; Garen, 1994). Under such difficulties, it becomes difficult for family-owned firms to extract private profits (Nenova, 2003). According to a study by Agrawal and Knoeber (1996), with the increase in firm size, i.e larger firms show decreased accounting performance. The reason for this reduced performance might be the reduced control by management due to the larger firm size, while small firms have improved control over operations due to less complexity and smaller size (Akbar et al., 2016).

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According to Garen (1994), larger firms only have to face low costs in complying with CG codes, while small firms bear much higher costs due to their small size. However, larger firms can take higher costs relevant to the CG mechanism as larger firms have to face a higher level of media scrutiny as compared to smaller firms (Garen, 1994). Similarly, agency theory (Jensen and Meckling 1976) also indicates that larger firms tend to face increased agency costs due to their larger size because larger firms need more controls and checks to restrain the managers from being opportunistic. In addition to this, larger firms need a more significant amount of internal control to bring an alignment between management and shareholders, which also raises the monitoring cost (Jensen and Meckling, 1976). Keeping in mind the established literature, this study tends to assess the firm size based on taking the natural logarithm of total assets (Elsayed, 2007; Topak, 2011; Al-Matari et al., 2012; Lehn et al., 2009; Akbar et al., 2016). At the same time, calculations regarding total assets of firms were drawn directly from the balance sheet provided by the Orbis database.

3.3.2.3 Capital expenditure (CAPX)

In order to gain a competitive advantage, firms tend to invest in innovative initiatives to introduce new products and services (Back et al., 2004; Taufil-Mohd et al., 2013). Such new products and services then provide monopolistic positions to the firms and firms enjoy premium price profits due to investment in technology-oriented decisions (Barton and Wong, 2006). While investing in future projects to generate higher performance requires a lot of amounts, and hence financial performance for the current period is shattered due to such investments (Weir et al., 2002). Therefore, it becomes necessary for technology-oriented firms to follow the code of corporate governance mechanism to secure and safeguard their intangible assets (Durnev and Kim, 2005). keeping in mid the existing quantum of literature This study considered that investment opportunities measured in the shape of the ratio of capital expenditure to total assets (CAPX) tend to influence firm performance in adverse ways (Durnev and Kim, 2005, Black et at., 2006; Tariff, 2006; El-Faitouri, 2014).

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3.3.2.4 Leverage (LEE)

The term is defined as the ratio of long-term debt to total assets. Some researchers have documented a negative impact of leverage on firm performance while others have reported a positive effect. The positive effects of leverage can be noted in the case when lenders involve themselves in the monitoring process. According to Jensen and Meckling (1976), leverage can play a crucial role in reducing agency problems as an internal corporate governance mechanism, particularly free cash problems.

According to the perception of Jensen (1986), if the level of external debt increases, it can bring a positive impact on the performance of the firm. A higher level of debt will minimise the chances for the management to make decisions according to their discretion, which will reduce the agency problems. For instance, according to the opinion of Jensen (1986), a higher level of debt might lead to a more disciplined management by disciplining the managers to use available free cash flows for non-profitable projects. Where the management is obligated to make periodic repayments of interest and principal, this will ensure proper usage of free cash flow, and managers will not become opportunistic. According to Stiglitz (1985), effective control over management can be ensured through lenders rather than depending upon owners. Moreover, Modigliani and Miller (1963) also favoured the presence of high debt in the firm’s capital structure. They expected a positive relationship could be observed among firm performance and leverage through tax shield benefits. Similar findings have been reported by Agrawal and Knoeber (1996) regarding a positive relationship between firm performance and a higher level of debt.

Contrary to this, Myers (1977) stated that the presence of a higher level of leverage might negatively affect the performance of a company, because increasing the level of leverage will undermine the firm’s ability to obtain another debt. Such a situation will lead to the firm losing its investment opportunity, which will reduce its capability to generate profit in the future. Similarly, Myers (1977) and Stulz (1988) argued that the presence of a

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higher level of leverage can hamper firm performance due to higher financial risk. Additionally, they stated that a higher level of leverage would result in increased interest payments, and increased monitoring cost will ultimately reduce the firm's financial performance (Andrade and Kaplan, 1998; Dethamrong, Chancharat and Vithessonthi, 2017). Data related to firms' level of leverage was extracted directly from financial statements provided by the Orbits database.

3.3.2.5 Research and development expenditure (R&D)

Companies tend to invest in new products to gain a competitive advantage through these new products or services. Once these new products or services become available, companies can demand higher prices and generate profitability in the long term (Borghesi et al., 2007; Sheu and Yang, 2005). Additionally, a new invention can also be considered as a barrier for rivals, preventing them from entering the market and attracting new clients (Sharar, 2006). Following prior CG studies (see, for example, Vafeas and Theodorou, 1998, Dahya et al., 2007; El-Faitouri, 2014), this study uses R&D as a control variable.

Also, financially restricted R&D corporations bear larger risk compared with firms which are not restrained, and, because of this, they must halt their R&D ventures. Li (2011) analysed the affiliation among stock reversion, R&D investment and financial constrictions. Outcomes exposed the robust liaison of financial restraints and stock output. Contrary to the investment that is capital in nature, R&D investment is minor, elastic and flexible. It is a crucial task to assess finance by small firms, as evident from the literature, on the whole (Shankit and Abbadi, 2011). Some authors visualise the way and hardness of financial constraints as depicting institutional difference like SME Bank while lending face severe constraints when they are in distress while fee in the comfort zone in normal times (Baum, Schäfer, & Talavera, 2011; Akbar et al., 2016).

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3.3.2.6 Liquidity (LIY)

According to Jose et al. (1996), a company's survival depends upon the liquidity of the firm because liquidity has a significant association with the firm's sales and growth. Liquidity also has an impact on the risk level of the firm because it reduces financial costs for the firm. A higher level of liquidity indicates firm development and shows that the firm has a strong position in the market, as well as indicating its achievement. According to Fang et al. (2009), a higher level of liquidity helps to manage the agency problems, which tends to lead towards informed share prices. Thus, a positive relationship between liquidity and firm performance can be predicted. Liquidity is termed as the ability of a firm to meet its short-term obligations and financial distress.

Liquidity is extracted from the balance sheet figures. Keeping in mind the established literature (Fang et al., 2009; Jose et al., 1996), the present study measured the liquidity of firms through current ratio (CR). This ratio is calculated through current assets (CA) and current liabilities (CL). Liquidity ratio shows that a firm with higher liquidity can manage any external shock related to financing and liabilities. This fact also helps to minimise financial distress. Additionally, a higher level of liquidity indicates an alarming situation where the firm has to bear higher opportunity cost because, when a firm keeps in hand a higher level of current assets, it reduces its ability to invest greater profits (Shahid and Abbas, 2019).

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3.3.3 Corporate governance variables

3.3.3.1 Board size (BSE)

According to Ahmed et al. (2006) and Bennedsen et al. (2008), board size (considered as BSIZE in this study) is defined as the number of directors who are on the board. Previous studies have shown mixed findings regarding the relationship between board size and accounting performance of the firm. Hermalin and Weisbach, (1991), as well as Jensen (1993), found that small boards bring better performance for firms. The increased agency cost results in a lower performance for firms. Similarly, boards with a large number of members lose their ability to execute proper monitor and control functions; this provides managers with space and they tend to follow their self-interests and forego the interests of shareholders (El-Faitouri, 2014).

Hence, in large boards the CEO tends to control the board, which also has a negative impact on the financial performance of the firm. However, in spite of these arguments, some researchers have argued in favour of large board size and reported a positive relationship among firm performance and large board size (Dalton et al., 1998; Lehn et al., 2009). This view consists of the resource dependency theory because a larger board size improves external linkages (Hillman and Dalziel, 2003). Moreover, larger boards provide an opportunity for directors regarding the exchange of more highly qualified counsel through external linkages. Larger boards also ensure access to resources through improved external ties. Such resources can be new and advanced technologies, new markets and raw materials. Larger boards facilitate diversity among board members and ensure integration of knowledge and skills, which leads to improved and informed decision making, which might result in a higher level of firm performance (Lehn et al., 2009; Razzaque, Ali and Mather, 2020).

Hence, there is a lack of consensus among previous researchers regarding the impact of board size on firm performance. Therefore, the existing study explores the relationship between board size and financial performance of

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the firm. In this study, number of board directors have been extracted from the Orbits database.

3.3.3.2 CEO duality (CEOD)

Proponents of agency theory (Berle and Means, 1932; Jensen and Meckling, 1976 and Eisenhardt, 1989) recommend that, to minimise the agency problem, ownership and control in the firm should be separated. This will improve firm performance. Hence, agency theory supports the argument that the roles of CEO and chairman should be separated to increase the independence of the board and management and to ensure improved monitoring and overseeing. This situation (theoretically) will result in improved firm performance (Jensen, 1993). Contrary to this, stewardship theory recommends duality on the board, i.e. roles of CEO and chairman should not be separated. The dual role of CEO and chairman will ensure effective management because it will bring unity of command. If the responsibilities and decisions are restricted to one person, it will result in improved performance through positive impact (Dalton and Kesner, 1987; Arosa et al., 2012). In addition to this, duality on the board tends to reduce misconceptions, because the chairman and CEO is the same person, which will reduce inconsistencies (Brickley et al., 1988; Alqatan, Chbib and Hussainey, 2019).

As per recommendations of the JCGC (2006), the CEO and Chairman should be assigned separate responsibilities and duties to avoid any conflict of interest. This will ensure adequate supervision and monitoring. Many researchers in past studies have investigated the roles of Chairman and CEO under duality through a dummy variable (Abor, 2007; Bozec, 2005; Arosa et al., 2012; Haniffa and Cooke, 2002; Sheikh et al., 2012; Akbar et al., 2016). Hence, to document the impact of separating the roles of chairman and CEO in Jordanian companies, this study used a dummy variable to measure the CEO duality, keeping in mind the previous research. If the chairman holds the designation of CEO, a code of one was allotted,

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and otherwise zero was considered. This data was collected from the Orbits database.

3.3.3.3 Non-executive directors (NEDs)

According to the findings of Fama and Jensen (1983), internal managers hold the dominant position and their performance is increased in the case when they initiate decisions and exert maximum control. However, in the modern day where firms have to compete on a day-to-day basis, it is difficult to handle between decision management and decision control. This situation recommends that NEDs should be appointed in firms to ensure board independence. This will ensure the separation of control and management functions. Moreover, conflict among internal managers can be mediated through NEDs. NEDS can also help to improve the relationships among stakeholders, which will enable them to better perform their monitoring function as compared to executive directors (Tricker, 2019).

In addition to this, NEDs can constructively criticise the firm's policies due to their independence (Jensen 1993), and they can impart their opinion without any fear. Also, NEDS can help to minimise information asymmetry among the stakeholders. This situation will lead to increased firm performance due to a reduction in agency problems, because independent directors can improve the flow of information through their nexus among stakeholders (Pfeffer and Salancik 1978). NEDs can foster knowledge sharing, and they can provide their expert advice regarding the strategic plan, which can reduce uncertainty (Mallin, 2019).

Contrary to this, some researchers (proponents of stewardship theory) argue that NEDS are only part-time and therefore they have less information regarding the firm's day-to-day activities, which can hamper their ability to perform their monitoring function (Baysinger and Hookisson, 1990; Agrawal and Knoeber, 1996). Hence, executive directors (insider directors) can perform the monitoring function more effectively (Baysinger and Hoskinsson, 1990; Tricker, 2019).

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Thus, this study considered the three perspectives to explore the impact of NEDs on firm financial performance (agency, resource dependence and stewardship theories). Previous researchers (Arosa et al., 2012; Serrasqueiro and Nunes, 2008) have investigated the role of NEDs in predicting firm financial performance by considering their percentage in board membership. Consistent with the previous studies, this study measured NEDs based on their percentage according to total directors in BODs. This information was obtained from the annual reports of the sample firms (Akbar, et al., 2016).

3.3.3.4 Presence of board sub-committees (BSCS)

The existing body of literature recommends that board sub-committees can increase the effectiveness of BODs in more efficient ways (Harrison et al., 1994; Jiraporn et al., 2009; Chen and Jaggi, 2001). Such committees ensure genuine audit and nomination of qualified directors as well as payment of fair compensation to the directors (Chhaochharia and Grinstein, 2009; Jiraporn et al., 2009; Al-Ahdal et al., 2020). Globally, most of the codes pertaining to the CG mechanism recommend establishing board sub-committees (e.g. the Cadbury Report 1999 in the UK and the Blue-Ribbon Committee 1999 in the US).

During the last two decades, the presence of board sub-committees has increased dramatically. As per the contents of the Cadbury Report (1992), the majority of UK firms had a well-functioning remuneration committee while 48.6% of firms had a nominating committee. Besides such recommendations, empirical studies have documented mixed impacts of board sub-committees on the firm performance. In addition to this small size of the board, sub-committees enable committee members to hold meetings more frequently, which ensures timely decision making (Karamanou and Vafeas, 2005). More specifically, sub-committees perform specialised tasks, which increases firm performance. For instance, audit committees keep tight control over the reporting and internal control systems.

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In contrast, nomination committees perform their duties in nominating the qualified members who increase the firm's performance through their expertise. However, some studies have also reported negative consequences of board sub-committees on firm performance. For example, firms have to bear the extra cost in establishing board sub-committees, while remuneration offered to sub-committee members can also be an additional cost for the firm (Vafeas, 1999). According to Conger et al. (1998); Braendle (2019), sub-committees may impose excessive monitoring on the activities of executive directors, which can limit their initiatives in enhancing firm performance. In addition to this, conflict among the members of committees can arise due to diverse expertise and knowledge of board members inducing conflicting situations.

The JCGC (2006) requires that all the firms listed on the ASE should have to establish nomination, remuneration and audit committees. All these committees should have independent non-executive directors as their chairman. This code also requires firms must establish remuneration committees with a minimum of three independent non-executive directors. For nomination committees, this code requires that more than half of the members should be independent NEDs. Keeping in mind the suggestions/recommendations of the JCGC (2006), it can be assumed that board sub-committees can influence the financial performance of Jordanian firms in a positive way.

3.3.4 Corporate governance index (CGI)

To assess the impact of CG on firm performance (accounting or market-based performance), the corporate governance index (CGI) is structured and considered as the predictor. In this study, the CGI has aggregated the provisions of the JCGC (2012). The JCGC (2012) is comprised of three parts. These parts are the introduction, board of directors/management committee and control environment. The ASE had adopted this code as a requirement for all Jordanian listed companies to comply with the provisions of the JCGC (2012). In case firms do not comply with these provisions, then

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they are bound to provide justification in this regard. All of the previous studies which have documented the impact of CG on firm performance have followed national or internal CG codes and thus, keeping in mind the previous studies, this study followed the JCGC (2012) and its provisions (Schulze et al., 2003; Shabbir, 2008; El-Faitouri, 2014; Akbar et al., 2016).

The CGI tends to investigate the impact of CG as a whole in relation to the firm's financial performance measured through accounting-based measures. Most of the previous studies have considered only one aspect at one time, such as Gompers et al. (2003) and Cremers and Nair (2005) followed only shareholder rights, while Yermack (1996) considered the board of directors' size in his study. However, this study constructed a GI which provides sufficient room and allows the relationship between CG and performance of the firms to be measured.

Previous literature provides two methods to measure the quality of CG mechanisms (Lang et al., 2004). The first method recommends using subjective analyst disclosure quality rankings. Most of the professional institutes use this method, which deals in ranking the CG codes of nations, e.g. Standard & Poor's (S&P). However, the second method, which is more common, uses researcher-constructed disclosure indices; this method is based on the calculation of disclosure of governance aspects and finding out the quality of the disclosure by using the proxy for it. This type of disclosure is found in firms' annual reports (Chen et al., 2007; Alqatan, Chbib and Hussainey, 2019). Regarding CG disclosure, both methods have their pros and cons.

Above illustrated method of subjective analyst disclosure of quality, rankings are criticised usually. First, this method does not consider disclosure in other sources such as media and interim reports. In contrast, researcher constructed-disclosure indices can consider these types of disclosures (Long and Lundholm, 1993). But some researchers have recommended using the subjective analyst disclosure of quality rankings because this method could be more convincing than the researcher-constructed disclosure indices

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method. After all, the latter method depends upon the knowledge and skills of the professional researchers who have expertise in their field (Sanda et al., 2005; Tricker, 2019).

Moreover, the researcher-constructed disclosure indices are subject to errors and bias of personal choices by researchers, leading to false conclusions (Connelly and Limpaphayom, 2004). Second, it is more labour intensive, so it is more convenient and reasonable for researchers to use a small sample size of firms that have fewer observations than larger companies using researcher-constructed disclosure indices (Sanda et al., 2005), which can produce misleading results. Finally, Marston and Shrives (1991) suggested using the current index, which has an essential advantage, which is that it can be compared with prior studies that have used this method in their research.

Despite the criticism of researcher-constructed disclosure indices, this study uses this method due to several factors. First, the subjective analyst disclosure of quality rankings has been used to rank the CG in a specific country (US). Thus, the standards of listing US companies may not be suitable to other nations due to differences in corporate governance regulations and approaches. Second, the subjective analyst disclosure of quality rankings may be out of date or suspended (Sanda et al., 2005). In these circumstances, there is no corporate governance ranking for Jordanian listed companies. Third, analysts' ratings usually focus on the largest companies that are influential in their industry, and they are unlikely to produce adequate variation in terms of corporate governance disclosure (Rosser, 2003). Finally, so far there is no published Jordanian study that examines the relationship between a corporate governance index and corporate performance by using a panel dataset with the generalised method of regression models (Solomon, 2014).

Following prior studies (for example, Gompers et al., 2003; Black et al., 2006; Arcot and Bruno, 2007; Henry, 2008; Shabbir, 2008; Morey et al., 2009; El-Faitouri, 2014; Akbar et al., 2016), this study uses a dummy coding

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scheme to evaluate the compliance of Jordanian listed firms with the code. This method of rating includes giving a value of 1 if a company complies with a particular provision of the JCGC and 0 otherwise. This study selects the JCGC (2012) because it is the most recent version.

Table 3-3 shows the structure of the CGI and the provisions of the JCGC (2012), which have been consulted to develop the index. From the provisions of the JCGC (2012), structures of BODs and their sub-committees have been recommended. Additionally, the following table depicts definitions of the index coding measurement of the variables used in this study. Further, elements of the corporate governance index structure in this study are among the most inclusive indices in comparison to already conducted studies through the development of a governance index. For example, Padgett and Shabbir (2005) developed a non-compliance index of 12 provisions based on the recommendations of the UK CG code of 1998. In the same way, eight provisions from the UK CG code were used by Arcot and Bruno (2007) in their study. Hence, the governance index also has some limitations in measuring the provisions of CG codes, and practically difficult provisions are ignored by researchers while developing their index of corporate governance.

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Table 3-3 Composition of corporate governance index

Corporate governance variables	Measurement
Board of directors	
Chairman and CEO	A dummy variable equal to 1 if the roles of chairman and CEO are combined, 0 otherwise.
Board structure	A dummy variable equal to 1 if half or more of directors on board of directors are independent non-executive directors, 0 otherwise.
Chairman	A dummy variable equal to 1 if the board chairman is independent non-executive director, 0 otherwise.
Board sub-committees	
Remuneration committee	
Presence	A dummy variable equal to 1 if the company has a remuneration committee, 0 otherwise.
Structure	A dummy variable equal to 1 if the remuneration committee has three independent non-executive directors or more, 0 otherwise.
Chairman of remuneration committee	A dummy variable equal to 1 if the chairman of the remuneration committee is independent, 0 otherwise.
Audit committee	
Presence	A dummy variable equal to 1 if the company has an audit committee, 0 otherwise.
Structure	A dummy variable equal to 1 if the audit committee has three independent non-executive directors or more, 0 otherwise.
Chairman	A dummy variable equal to 1 if the chairman of the remuneration committee is independent, 0 otherwise.
Financial expert	A dummy variable equal to 1 if the audit committee has at least one financial expert, 0 otherwise.
Nomination committee	
Presence	A dummy variable equal to 1 if the company has a nomination committee, 0 otherwise.
Structure	A dummy variable equal to 1 if more than half of the nomination committee are independent non-executive directors or more, 0 otherwise.
Chairman	A dummy variable equal to 1 if the chairman of the nomination committee is independent, 0 otherwise.

Source: Self-generated

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3.4 Data analysis

The researcher will use various statistical tools to analyse the data for non-financial Jordanian listed companies. The tools that will be used for analysing the data are descriptive analysis, correlation and multiple regression. Descriptive analysis will use to provide the summary of the entire data that is collected for 95 non-financial Jordanian listed companies from 2012 to 2018. Mean, variance, standard deviation, skewness, range, minimum and maximum descriptive analysis tools will be used to provide the summary of the large data set.

Correlation will also be used to explore how different variables are moving together with each other. The range of correlation between the variables is between -1 to +1, where -1 is highlighting the perfect negative correlation between the two variables and +1 is highlighting the perfect positive correlation between the two variables. Correlation will be used to explore the initial correlation between the variables of the current study.

Multiple regression analysis will be used to explore the impact of independent variables on dependent variable of the study. Independent variables are the variables that are not depending on other variables and have direct effect on dependent variable. Dependent variable is the variable that is being measured and dependent on independent variables and the researchers are looking for the possible effect of the independent variables on dependent variable. General form of the model is as follows:

$FP_{it} = \beta_o + \Sigma_i^n \beta_i X_{it} + \varepsilon$ …….. Equation 1

FP_{it} = measure of firm performance of a firm i at time t

β_o = intercept of the equation

β_i = change co-efficient for X_{it} variables

X_{it} = different independent variables for firm performance of a firm i at time t

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i = the number of the firms i.e. i = 1, 2, 3 …. N (in this study N= 95 firms)

t = the time period i.e. t = 1, 2, 3 … T (in this study T = 7 years)

For the current study the dependent variable is firm performance and it will be measured through three different ratios including return on assets and return on equity (book value measure) and Tobin's Q (market value measure). Various corporate governance mechanisms (board size, CEO duality, NEDs, audit committee, remuneration committee, nomination committee and corporate governance index) and control variables (sales growth, capital expenditure, leverage, firm size, research and development expenditures and liquidity) are used as independent variables to check their effect on firm performance that is dependent variable.

Researcher will run regression twice. Firstly, it will run to investigate the impact of various corporate governance mechanisms on firm performance in a standalone environment. Secondly, it will run to investigate the impact of corporate governance index on the firm performance. After converting equation 1 into our specified variables, the two equations will be

$FP_{it} = \beta_0 + \beta_1(SGH_{it}) + \beta_2(FSE_{it}) + \beta_3(CAPX_{it}) + \beta_4(LEE_{it}) + \beta_5(R\&D_{it}) + \beta_6(LIY_{it}) + \beta_7(BSE_{it}) + \beta_8(NED_{it}) + \beta_9(CEOD_{it}) + \beta_{10}(ACE_{it}) + \beta_{11}(NCE_{it}) + \beta_{12}(RCE_{it}) + \varepsilon$ …… Equation 2

$FP_{it} = \beta_0 + \beta_1(SGH_{it}) + \beta_2(FSE_{it}) + \beta_3(CAPX_{it}) + \beta_4(LEE_{it}) + \beta_5(R\&D_{it}) + \beta_6(LIY_{it}) + \beta_7(CGI_{it}) + \varepsilon$ …… Equation 3

The abbreviation are provided below

FP = Financial performance

SGH = Sales growth

FSE = Firm size

CAPX = Capital expenditure

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LEE	=	Leverage
R&D	=	Research & development
LIY	=	Liquidity
BSE	=	Board size
NED	=	Non-executive directors
CEOD	=	CEO duality
ACE	=	Audit committee
NCE	=	Nomination committee
RCE	=	Remuneration committee
CGI	=	Corporate governance index

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3.5 Summary

This chapter elaborates material and methods applied due to availability of pre-tested theories and hypotheses developed. For answering of research questions, multiple regression analysis was selected as major tool of the study. “In order to capture the effects of firm and time specific heterogeneities panel data models can be specified as fixed effects or random effects”. Moreover, this chapter seeks to investigate some specification tests which might have tendency to influence corporate governance variables which can result in statistical problems related to predictors in regression model.

Also, this chapter elaborates on the methodology followed to conduct the study. This study used a deductive positivism approach in which already established theories are used to construct study hypotheses. Keeping in mind the complexity of relationships, a multiple regression analysis has been considered to be an important data analysis tool in this study. Fixed and random effects models have been used in this study to assess the heterogeneities in panel data models before running the multiple regressions. Additionally, this chapter has also discussed the under-consideration control variables which might have the potential to influence independent variables of this study in predicting firm performance. Moreover, this chapter has investigated some specification tests which might influence corporate governance variables, which can result in statistical problems related to predictors in the regression model.

This chapter has also shed light on the data and measurement scheme followed in this study regarding sample size, and data selection criteria from different databases and annual reports. The study considers data from three perspectives: one is from the perspective of firm financial performance (measured based on ROA, ROE and Tobin’s Q), while the other two aspects consider corporate governance variables (board size, CEO duality, presence of NEDs and sub-committees) as well as control variables (firm sales, growth

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size, leverage and R&D expenditure along with liquidity). Data for 95 Jordanian non-financial firms is collected. This study has consulted three sources for data collection: one is the Orbis database, the second is the annual reports of the selected firms, and the third is the ASE website.

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Chapter 4 Analysis and discussion

As elaborated above in the methodology chapter, a framework was developed to check the impact of CG on firm performance of non-financial firms operating in the Jordanian context, and results are presented here. This chapter encompasses descriptive statistics and different data reliability, as well as validity tests, correlation and multiple regression results, and provides a discussion on the findings. The second section of the chapter elaborates on the descriptive statistics of the statistical data which has been used for analysis in this study. The third section of this chapter is based on regression results, model specification test results, control variables results, and provides the results and a discussion of CG variables on the CGI. The last section provides a summary of the chapter.

4.1 Results and discussion

The following section shows the results of the study based on which inference has been drawn. The current chapter is comprised of five sections. The first section highlights the results of the descriptive statistics, while the second section deals with the results of the statistical test. In contrast, the third section deals with the results of the control variables. Similarly, the fourth section deals with the results of corporate governance variables, and the fifth and last section discusses the results of the corporate governance index.

Dividing the results into various sections simply has been carried out to facilitate the presentation of the results and to make it easier to understand the results by keeping in mind the effect of each type of variable. Significance of the results has been set at three levels, i.e. .01 indicates highly significant results, 0.05 indicates significant results and .10 indicate marginally significant results. These significant levels are applied to all the tables and results presented in this chapter. Coefficients and other necessary information are reported at suitable places with appropriate tables

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derived from the original one. At the same time, overall results are presented at the end of the thesis in Appendix 1.

4.1.1 Descriptive statistics

The following section shows various indicators of descriptive statistics of the statistical data used for analysis purposes in this study. Basic features of descriptive statistics are reported through central tendency and dispersion. Here, the mean, max and min values of each variable are discussed as measures of central tendency while standard deviation (SD) is reported as a measure of data dispersion. Complete results of the descriptive statistics are reported in Appendix 1.

Table 4-1 shows descriptive statistics for the firm performance, which is the dependent variable (DV) in this study and has been measured through ROA, ROE and Tobin's Q. This table indicates that the average range for ROA in this study is a minimum of -1.96 to a maximum of 0.39. At the same time, the average value of ROA is 0.020, with S.D of 0.137. Similarly, ROE ranges from a minimum of -11.21 to a maximum of 0.51 with an average of -0.005 and dispersion of 0.569. Further, TOQ ranges from a minimum of 0.10 to a maximum of 8.36 with an average of 0.823 and dispersion of 0.742.

Table 4-1 Descriptive statistics of ROA, ROE and Tobin's Q

Despt.	Range	Minimum	Maximum	Mean	S. Dev	Variance	Skewness
ROA	2.34	-1.96	0.39	0.02	0.137	0.019	-6.885
ROE	11.72	-11.21	0.51	-0.00	0.569	0.323	-16.79
TOQ	8.26	0.1	8.36	0.823	0.742	0.551	3.937

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Table 4-2 shows the descriptive statistics for the control variables. The table illustrates that the minimum value of SGH in this data was -1.00, while the maximum value was 9.56, with an average of 0.163 and dispersion of 1.173. Further, a minimum of FSE was 12.68 while the maximum value was 21.31 with an average of 17.09 and dispersion of 1.5114. Similarly, the minimum value of CAPX is 0.00 with a maximum value of 0.41 and average of 0.031. Dispersion (standard deviation) for CAPX is 0.046. LEE holds a minimum value of 0.00 with a maximum value of 0.90 and average as 0.28, while the standard deviation for LEE is 0.284. The minimum value of R&D in this data was 0.00 while 0.04 was the maximum value with an average 0.002 and dispersion of 0.006. Finally, minimum, maximum, average and standard deviation values of LIY are 0.01, 1027.00, 9.784 and 80.89, respectively.

Table 4-2 Descriptive statistics for control variables

Dept.	Range	Minimum	Maximum	Mean	S. Dev	Variance	Skewness
SGH	10.56	-1.00	9.56	0.163	1.173	1.377	4.700
FSE	8.63	12.68	21.31	17.09	1.5114	2.284	0.225
CAPX	0.41	0.00	0.41	0.031	0.046	0.002	3.835
LEE	0.9	0.00	0.9	0.28	0.284	0.081	0.696
R&D	0.04	0.00	0.04	0.002	0.006	0.000	4.068
LIY	1026.9	0.01	1027	9.784	80.89	6542.7	11.971

The following table, Table 4-3, shows descriptive statistics for the board governance variables used in this study, i.e. board size, non-executive directors and corporate governance index. First, statistics for the board size illustrate that the mean value of board size in this study/data is 12.47, which can be considered as 13, whereas the minimum value is 7 and the maximum value is 29. These statistics are for the total sample of 95 non-financial firms listed on the ASE. These statistics indicate that, on average, 13 directors work in each company while the minimum number of directors is seven and the maximum number is 29. By exploring the highest number of directors working in a firm, it was observed that only one firm has 29 directors on the

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board. This situation indicates that, on average, non-financial firms listed on the ASE in Jordan meet the requirements of the CG Code 2006 and the Company Law (1997). These requirements are also in agreement with the recommendations of Jensen (1993) and Lipton and Lorsch (1992). As per their suggestions, the average number of directors in a firm should be eight to , while 10 should be the maximum number. Such a small sample size can affect the decision-making process on a board. However, literature provides necessary support in favour of the small sample size for firms operating in the context of developing countries. Average board size differs according to the requirements and economic conditions. For instance, the average board size is eight in Egypt and Malaysia (Elsayed, 2007; Haniffa and Hudaib, 2006; Akbar et al., 2016). Similarly, the average board size in the USA is 12.25 (Yermack, 1996). Besides these, a smaller board size on average has been observed in Australia, which is 6.6 (Kiel and Nicholson, 2003).

Table 4-3 Descriptive statistics for corporate governance variables

Dept.	Range	Minimum	Maximum	Mean	S. Dev	Variance	Skewness
BSE	22	7	29	12.47	4.36	19.005	1.297
NED	0.85	0.04	0.89	0.173	0.163	0.026	1.463

Descriptive statistics also indicate that, on average, 17% of board members are NEDs, with a range of 10 to 37%. Past studies state that the presence of more NEDs on a board ensures that the board has more independence. This independence might be the outcome of reduced information asymmetry among the agents and principals (Black et al., 2006). According to the findings of Brickley et al. (1997), the performance of the board increases when NED performs on behalf of the agent (owners) with their improved monitoring and advisory function. In the case of Jordan, the presence of NEDs on boards is relatively small when it is compared to other nations; for example, in the USA the mean is 54%, (Yermack, 1996) whilst in Malaysia it is 50% (Haniffia and Hudaib, 2006; El-Faitouri, 2014).

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Further, the JCGC of 2007 states that at least 33% of board members should be non-executive directors to ensure independence. However, in our sample, in the case of Jordan, the average composition of non-executive directors is less than the requirements laid down by the JCGC (2012). Nepotism might be the possible reason behind this result. A different dummy variable is also used for the analysis, such as CEO duality, presence of varying board sub-committees, e.g. remuneration committee, audit committee and nomination committee, and CGI.

Descriptive statistics also reveal that, on average (89%), it was observed that most of the firms have the same CEO and board chairman. This situation indicates that board/members are significantly influenced by the CEO/Chairman. In the case of Jordan and family-owned businesses, it has been observed that both roles (CEO and chairman) are played by a single entity, who is mainly the founder of that business/firm. However, under such circumstances in which a single person is playing both roles, it can be assumed that non-financial firms listed on the ASE in Jordan are not following the CG requirements as laid down by the Cadbury Report (1992) and the Jordanian CGC (2006). According to these, the two roles should be separate.

The other dummy variables such as the existence of different board committees, e.g. remuneration committee, audit committee and nomination committee, and CGI. 0 and 1 are recorded for the four dummy variables that are included in the analysis. As 0 and 1 are recorded for the four dummy variables, these variables are not used for the descriptive statistics.

4.1.2 Specification test results

In this study, panel data has been used to find out the effect of corporate governance on financial performance/market performance of the firms. Using panel data increases the need to address the issues of econometric models which are specified in panel data. This study used Breusch and Pagan's

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(1980) Lagrang multiplier test. The results of this test are highly significant, which endorses the use of panel regression**.** According to the assumptions of Breusch and Pagan (1980) Lagrang multiplier tests if it has a null probability (Gujarati, 2003; Saunders et al., 2019), the null hypothesis is rejected and using panel regression is recommended.

Further, panel data models are described/divided into fixed effect and random effect models. These two categories help to assess the impact of firm and time-specific heterogeneities in the sample. However, choosing random results against fixed effect and additional specification is required in the shape of the Hausman test. If the Hausman test is statistically significant (Table 4-4), then using random effect is prohibited, and it is recommended to use the fixed effect model.

Table 4-4 Panel model test

Tests	Results	
Breusch and Pagan LM Test	Chi^2	71.42
	P	0.000
Hausman Test	Chi^2	8.11
	P	0.004

The first issue addressed in this section is multicollinearity. Multicollinearity exists when two or more than two predictors are highly correlated with each other (Hair et al., 2009) because their higher correlation can affect the estimation through the regression. Multicollinearity is identified through various methods; the fundamental approach is to look at the values of correlations among predictors. If a correlation of 0.70 or higher exists, it indicates multicollinearity. In this study, no higher correlation ($\geq$.70) was observed in cases of all predictors (Table 4-8), control variables (table 4-7) or even dependent variables (Table 4-6). This indicates that all the values are

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less than the threshold value of 10, and thus it can be inferred that there is no issue of multicollinearity in this model.

Secondly, panel data is usually biased due to the presence of serial correlation, which is necessary to assess and eradicate because it can lead to improper estimation/forecasting. This study followed the approach of the Wooldridge serial correlation test (2002) to determine the serial correlation. Results given below, in Table 4-5, indicate that all the variables are serially correlated. In addition to this, heteroscedasticity must be tested when using panel data analysis, and the Breusch-Pagan test has been used to do this. Results of this test are given below, in Table 4-5, which indicates the presence of a heteroscedasticity issue. Hence, this issue can be resolved by using a cluster-robust standard error estimator (Rogers, 1993; Bell, Bryman and Harley, 2018).

Table 4-5 Specification test results

Tests	Dependent Variable		
	ROA	ROE	TOQ
Wald (Chi-square)	6932.32	3445.7	5346.75
P	0.000	0.000	0.000
Breusch-Pagan/Cook-Weisberg test	4408.78	532.34	3748.03
Heteroscedasticity P-value	0.000	0.000	0.000
Wooldrige-test for autocorrelation	5.114	16.703	7.1034
P	0.030	0.000	0.000

4.1.3 Correlation

Correlation is a statistical tool that is used to explore how different variables are moving together. The result of correlation always falls between -1 and +1, which shows both negative as well as positive extremes. Values of correlation ± .70 indicate strong correlation while values higher than ±.70 and

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less than ±1 indicate a near-perfect correlation. Similarly, values near 0 indicate weak correlation while the 0 itself indicates no relationship among the constructs. Values near to ±. 10 are considered weak correlations while those near to ± .30 are regarded as small correlations, and values of correlations near to ± .50 are regarded as a moderate relationship (Pallant, 2020). The complete correlation table is provided in the appendix 1, whilst Table 4-6 highlights the correlation among different dependent variables (ROA, ROE and TOQ) that are used for the current analysis.

Table 4-6 Correlation for dependent variables

Description	ROA	ROE	TOQ
ROA	-		
ROE	0.355	-	
TOQ	-0.106	-0.431	-

The above table illustrates that the value of the correlation between ROA and ROE is .355. First, the positive sign shows a positive relationship between these two variables, implying that both will move in the same direction if one changes accordingly. The second instance about this relationship is the presence of small correlation between the two. However, this value of correlation is slightly above weak correlation and moving towards a moderate level of relationship (r=.50). In the case of the relationship between ROA and ROE, a negative correlation has been observed, indicating a negative correlation. In this case, increase in one variable will decrease the other variable. However, the level of correlation is small, i.e. correlation -.106. Similarly, in the case of the relationship of TOQ and ROE, the association is also negative, indicating that, if ROE is moving in an upward direction, the TOQ will move in a downward direction. However, the level of correlation is near to a moderate level, i.e. near to 0.50.

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Table 4-7 Correlation for control variables

Description	SGH	FSE	CAPX	LEE	R&D	LIY
SGH	-					
FSE	-0.097	-				
CAPX	-0.035	0.090	-			
LEE	0.049	-0.317	-0.046	-		
R&D	-0.023	0.026	0.021	-0.004	-	
LIY	0.012	-0.200	-0.049	0.152	-0.027	-

The above table illustrates the nature and direction of relationships among the control variables. First, the correlation between the SGH and FSE has been found to be negative at a small level, indicating that an increase in FSE will decrease the SGH at a modest level. Similarly, the relationship of CAPX and SGH has also been found to be negative, which indicates that an increase in CAPX will decrease the SGH. The value of this correlation is very weak, i.e. -.035. Similarly, the correlation of LEE and SGH is also weak but positive, indicating that both LEE and SGH will move in the same direction if one variable is changed. R&D and SGH also have negative but weak correlation showing that, if R&D moves in an upward trend, the SGH will move in a downward direction; however, the level of correlation is very weak. LIY and SGH also have very weak but positive correlation, indicating that both will move in the same direction but with a very weak relationship. In the case of CAPX and FSE, the correlation is also small but positive, implying that both variables will move in the same direction if one of them is changed.

However, LEE and FSE have been found to have a negative relationship which is at a small level, i.e. -.317, indicating that an increase in LEE will decrease the FSE. R&D and FSE have positive correlation but it is very weak. Similarly, the relationship between LIY and FSE is at a small level with a negative sign, indicating that both will move in the opposite direction if one

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of them is changed. Further relationship between LEE and CAPX has been found negative with little correlation. A very weak but positive correlation is observed in the case of R&D and CAPX. In the case of R&D and LEE, the correlation is minute, -.004, indicating almost no relationship among both R&D and LEE. In case of LIY and LEE have been found in positive correlation but at a small level. Finally, the relationship between LIY and R&D is negative and weak.

Table 4-8 Correlation for corporate governance variables

Description	BSE	NED	CGI
BSE	-		
NED	-0.19	-	
CGI	-0.027	0.208	-

A weak negative relationship exists between BSE and NED and CGI, while a weak positive relationship exists between NED and CGI. The above correlation analysis also highlights that a weak positive or negative relationship exists between all the dependent, controlled and CG variables. Weak correlation among all the variables highlights that no multicollinearity issue exists among the variables. However, the value of the correlation between CGI and NED is positive at a small correlation. In contrast, the correlation between BSE and NED indicates a negative relationship between them, meaning that if the board size increases then the number of NEDs will decrease at a weak level.

4.1.4 Results of multiple regression analysis

Regression analysis helps to forecast a dependent variable on a given value of the independent variable. Alternatively, it can be stated that it is used to explore the impact of an independent variable on the dependent variable. For

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the current analysis, firm performance is the dependent variable, which is measured through three different accounting ratios: ROA, ROE and TOQ. ROA and ROE are the accounting measures, while TOQ is the market value measure. For the current study, independent variables are divided into different control variables (SGH, FSE, CAPX, LEE, R&D and LIY), corporate governance variables (BSE, NED) and dummy variables (CEOD, RCE, ACE, NCE and CGI).

Regression analysis in this study has been divided into two sections. Firstly, the researcher will conduct the regression analysis by using all the corporate governance variables in a standalone manner. The researcher will measure the firm performance with the help of three accounting ratios (ROA, ROE and TOQ) so the regression equation will be run three times to measure the impact of different corporate governance variables in isolation on firm performance. After conducting the regression analysis in a standalone manner, the researcher will check the compliance of all the selected firms against the corporate governance index that is based on 13 different corporate governance requirements of the JCGC. The researcher will run the regression equation three separate times using the three different accounting ratios that are used to measure the firm performance. In this way, the second part of the regression analysis will assist the researcher in measuring the impact of the corporate governance index on the firm performance of listed non-financial Jordanian firms. The complete regression analysis tables are provided in Appendix 1. For ease of discussion, the researcher will break down the regression tables into small tables that are provided in the following section.

Before presenting the results of each independent variable, the researcher will provide the results of F-statistics and R-square because these two measures provide information about the entire model that is used for the analysis. F-statistics are used to check the significance of the entire model, while R-square provides information on how much variation in the dependent variable is explained by independent variables included in the model. Table 4-9 provides the results for F-statistics and R-square.

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Table 4-9 F-statistics and R-square

Description	ROA	ROE	TOQ
F-statistics	9.25	4.68	6.96
Significance	0.00	0.00	0.00
R	0.69	0.51	0.58
R square	0.48	0.26	0.37

Table 4-9 highlights that the F-statistics are highly significant for all three models used for the analysis. The R square is highest for ROA (69%) while it is lowest for ROE (51%), which means that the highest variation for firm performance is explained by predictors of governance when firm performance is measured using the ROA. The results indicate that more independent variables should be included in the model to obtain more information about the movement in firm performance.

4.1.4.1 Results of control variables

Results of control variables have been found to be different across the performance variables which have been measured in terms of financial and market performance (ROA, ROE and TOQ).

4.1.4.1.1 Sales growth (SGH)

According to the perception of Durnev and Kim (2005), firms which have greater opportunities are more likely to grow faster as compared to other firms. Theoretically, market valuation firms can provide a good picture of growth opportunities for the firms (Klapper and Love, 2004). In addition to this, the growing firms need significant financial assistance, which drives them to follow a better governance practice to maintain the investors' interest (Beiner et at., 2006); this also helps them to reduce costs. Past researchers have documented a positive relationship between firm performance and

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growth opportunities measured in terms of sales growth (SGH) (Gompers et at., 2003; Drobetz et at., 2004). In line with the previous researchers, this study followed sales growth on a year-to-year basis as an indicator of growth opportunities (Cui et at., 2008; Henry, 2008; Cifci et al., 2019).

Table 4-10 Impact of sales growth on firm performance

Description	ROA	ROE	TOQ
Sales growth (SGH)	0.005	0.023	-0.038
Significance	0.032	0.028	0.017

The above table shows that sales growth has a positive relationship with the firm performance for the three-measurement basis that is used for firm performance, ROA, ROE and TOQ. Here, it can be noted that coefficients of sales growth (SGH) as a measure of growth opportunities are smaller for all the three indicators of firm performance. However, these results are statistically significant at 5%. In the case of ROA and ROE, the impact of sales growth is positive, while in the case of TOQ (market performance), the effect is negative. These results are in line with previous empirical results (Drobetz et at., 2004; Cui et at., 2008; Henry, 2008; Akbar et al., 2016).

4.1.4.1.2 Firm size (FSE)

Firm size is measured by considering the figure of total assets, as shown earlier in the methodology chapter. Keeping in mind the recommendations of previous researchers, the total assets of firms in this study were transformed into logs. This factor helped to minimise the skewness and kurtosis as well as helping to overcome the effect of outliers' data points. Statistics reported in Table 4-11 below illustrate a positive impact of firm size on firm performance. Further, these effects are statistically significant in terms of its effect on three indicators of performance (financial and market performance), ROA, ROE and TOQ. The positive relationship between the variables

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indicates that firms with a large assets base could achieve economies of scale.

Further, firms with larger assets can use their economies of scale to introduce an efficient production process, which can increase their performance. Hence, firms with larger assets have the potential to secure/attract finance. Firms with larger assets can also generate funds through both sources, either internal or external (Short and Keasey, 1999). According to Meek et al. (1995), larger firms tend to be more complex and more diversified when considering the market development and business risk because larger firms have more access to information as compared to small firms. Additionally, based on positive effects reported in this study, it can be assumed that firms with larger assets tend to involve themselves in broader activities and value creation process. Further, larger firms have a varied product range through their diversified resources and influence on the market. It can be implied that larger firms are in a position to borrow on better conditions due to their large asset base, which can be used as collateral (Alqatan, Chbib and Hussainey, 2019).

Table 4-11 Impact of firm size on firm performance

Description	ROA	ROE	TOQ
Firm size (FSE)	0.029	0.102	0.133
Significance	0.00	0.00	0.00

4.1.4.1.3 Capital expenditure (CAPX)

According to Jermias (2007) and Brown et al. (2009), firms which deal in technology-related products tend to invest in innovative initiatives. This factor helps them to gain a competitive advantage by introducing unique products and new services. Later, these unique products and service help firms to achieve a quasi-monopoly, which results in premium prices as well as

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ensures improved profitability in the long run (Jermias, 2007; Braendle, 2019).

However, investing in unique and innovate methods is not an easy task. There is a need to protect the intangible assets of firms which are dealing in the technology sector because it is quite easy to steal intangible assets as compared to fixed assets. Hence, corporate governance can protect the firms from misuse of their intangible assets (Durnev and Kim, 2005; Black et at., 2006; Brown et at., 2009; Al-Ahdal et al., 2020).

Table 4-12 Impact of capital expenditure on firm performance

Description	ROA	ROE	TOQ
Capital expenditure (CAPX)	-0.177	-0.112	-1.104
Significance	0.17	0.84	0.12

The above table illustrates that the impact of CAPX is negative on all the indicators of performance, both financial and market performance, for the three-measurement basis used for firm performance, ROA, ROE and TOQ. Here, the impact of CAPX has been found to be more influential on the TOQ (market performance) of the firm as compared to the other two indicators. However, these results are not statistically significant even at 5%, so no relationship can be ascertained between CAPX and firm performance.

4.1.4.1.4 Leverage (LEE)

This study used the percentage of long-term debt to total assets as a measure of leverage, keeping in mind the alignment of previous studies. Statistics given in Table 4-13 indicate that leverage has a negative impact on TOQ with a significance level of .01. This factor suggests that higher levels of debt will decrease the performance of the firm. At a higher debt ratio there will be lower ROA, ROE and Tobin's Q. However, these results are only

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significant for Tobin's Q (market performance) at a 1% confidence level, whereas for ROA and ROE they are not significant. It can be argued that an increase in debt ratio can increase the firm's operating costs, which might undermine its ability to meet financial obligations regarding higher interest rates (Dechow et al., 1996).

In the same context, a higher level of debt can limit the firm in generating new funds through loans, which can restrict the firm's potential to invest in valuable investment opportunities. Simply, it can be concluded that a higher level of debt further hampers the amount of dividend. The reason is that a firm with a higher debt ratio tends to pay lower dividends to avoid an external source of financing, which is a burden on the firm. Moreover, the presence of a higher level of debt can lead firms towards financial distress; also, it can cause financial constraints and would become quite difficult for the firms to borrow, as even banks become more cautious in such circumstances. On the other hand, confidence of current as well as potential shareholders is undermined (Chen and Jaggi, 2001; Stulz, 1988; Detthamrong, Chancharate and Vithessonthi, 2017).

Table 4-13 Impact of leverage on firm performance

Description	ROA	ROE	TOQ
Leverage (LEE)	-0.025	-0.093	-0.33
Significance	0.26	0.33	0.01

4.1.4.1.5 Research and development (R&D)

Firms usually tend to invest in new products to gain a competitive advantage through the introduction of new products or services. Once these new products or services become available, companies can demand higher prices and generate profitability in the long term (Barney, 1991, Calantone et al., 2002). Additionally, a new invention can also be considered as a barrier

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for rivals, preventing them from entering the market and attracting new clients (Golder and Tellis, 1993). Although research and development (R&D) expenditure helps to ensure success in the economic environment as well as in the market, previous researchers have reported mixed results while documenting the impact of R&D expenditure on firm performance. For instance, Lev and Sougiannis (1996) reported that for each dollar increase R&D expenditure generates almost 1.7 to 2.6 USD in future earnings.

Similarly, Bublitz and Ettredge (1989) documented the positive effect of R&D expenditures on future cash flows. Accordingly, Chan et al. (2010) stated that every announcement related to the increase in R&D increases the share prices of firms positively. However, other empirical studies have not found a significant relationship between R&D expenditure and corporate performance (Johnson, 1967; Hall and Bagchi-Sen, 2002; El-Faitouri, 2014). Following prior corporate governance studies (see, for example, Vafeas and Theodorou, 1998; Dahya and McConnell, 2007; Akbar et al., 2016), this study uses R&D as a control variable, measured through dividing the figure of total R&D expenditure by the book value of the firm's total assets.

Table 4-14 Impact of research & development on firm performance

Description	ROA	ROE	TOQ
Research & Development (R&D)	4.111	7.809	10.933
Significance	0.00	0.03	0.04

The above shows the results of R&D expenditure on the financial and market performance of the firm. These results are significant at 1% for ROA and 5% for ROE and TOQ. The table highlights that R&D has a positive effect on the three-measurement basis of firm performance in both directions, financial and market performance, such as ROA, ROE and TOQ. In the case of ROA, the coefficient is 4.111 at 1% significance level, for ROE it is 7.809 at 5%

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significance level, while for TOQ it is 10.933 significant at 5% level of confidence. However, a positive impact is found in all three indicators of firm performance, but the more significant effect is observed in the case of ROE as compared to ROA. Similarly, in the case of TOQ, the impact is more significant as compared to the other two indicators of the financial performance of the firm. The results are also statistically significant at 5%, so it can be stated that a positive relationship exists between CAPX and firm performance for Jordanian non-financial firms listed on the ASE.

4.1.4.1.6 Liquidity (LIY)

In this study, the impact of liquidity on the financial and market performance of the firm has been found to be insignificant. However, in the case of liquidity (LIY), ROE has an insignificant p-value. The impact of LIY on TOQ (market performance) of the firm was found to be highly insignificant. Similarly, results for ROA were also insignificant. It can be argued here that firms with a high liquidity ratio have the potential to absorb external shocks very comfortably. Firms with a higher level of liquidity can handle economic crises very easily, and such firms can reduce their financial distress. Additionally, firms having a higher level of liquidity can enjoy the benefits of investing through greater opportunities as compared to those firms which have a lower level of liquidity.

Table 4-15 Impact of liquidity on firm performance

Description	ROA	ROE	TOQ
Liquidity (LIY)	7.012	0.000	2.476
Significance	0.35	0.27	0.95

The above table illustrates that liquidity has a positive effect on the firm performance, measured either through the market or financial performance (ROA, ROE and TOQ). Here, to measure firm performance, a three-

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measurement basis is used. In the case of the impact of liquidity on ROE, a minute coefficient has been observed which is insignificant too. In the case of TOQ, the coefficient was more significant than for ROE; however, a large coefficient was observed in the case of ROA as compared to the other indicators of firm performance measured in this study. The results are not statistically significant even at 5%, so no relationship can be ascertained between liquidity and firm performance for Jordanian non-financial firms listed on the ASE.

4.1.4.2 Results of corporate governance variables

4.1.4.2.1 Board size (BSE)

In the case of board size (BSE), a negative impact was observed in all the three indicators of firm performance (Table 4-16). In the case of effects of board size (BSE) on ROA, the coefficient was very weak with a negative sign, indicating a negative impact on ROA. Similarly, in the case of the impact of board size on ROE, the coefficient was minute with a negative sign, showing a negative effect on ROE. Similar results were observed in the case of the effect of board size on TOQ: a negative impact was observed. Impact for all three measures of performance, ROA, ROW and TOQ, was significant at 1% level of confidence, implying that with the increase in board size the performance of the firm decreases.

These findings are in line with the recommendations of many previous researchers (e.g. Lipton and Lorsch 1992; Jensen 1993; Yermack 1996; Jacoby et al., 2019) that larger board size can result in poor coordination and communications. With the increase in board size, the issue of coordination and communication can be more complex, which leads to agency problems through management and control issues (Eisenberg et al., 1998). The presence of a large number of directors on a board promotes various opinions, which results in inefficient decision making due to the number of views. Simply, it can be stated that, due to differing views, it becomes quite difficult for the board to exert their control over the management. On the

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other hand, a small board develops more cohesiveness, and the members can easily form a shared opinion, which boosts efficient decision making and more tight and effective control and monitoring of managers/agents.

However, some past researchers have provided opinions in favour of larger boards (e.g. Miller, 2003; Dalton et al., 1999; Lehn et al. 2009). According to these researchers, larger boards perform very well in managing firms' affairs. In contrast, in small boards, the CEO enjoys a position of power and usually overrides decisions to protect his/her interests, which may result in agency problems. This increased agency problem might result in lower performance of the firm (Miller, 2003).

Further, as per the statement of resource dependency theory, larger boards have more significant networks, which enables them to strengthen their linkages with external resources and thus attract expertise. This fact helps to generate funds as well as helps to seize the benefits from the capital. In addition to this, larger boards also tend to facilitate the directors to exchange highly qualified counsel, which boosts the positive linkage with externals. Moreover, larger boards facilitate decision making, and this improves the quality of idea sharing and contributions. This factor increased the board performance in every aspect (Lehn et al., 2009; Shahid and Abbas, 2019). Hence, it can be assumed that larger boards can minimise the conflicts among the board members, principals and shareholders, which increases the shareholders' wealth and increases the firm's performance as well.

Table 4-16 Impact of board size on firm performance

Description	ROA	ROE	TOQ
Board Size (BSE)	-0.004	-0.020	-0.024
Significance	0.01	0.00	0.00

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4.1.4.2.2 Non-executive directors (NEDs)

As depicted by Table 4-17, NEDs have a significant impact on all the indicators of firm performance, both financial and market performance, measured in terms of ROA, ROE and TOQ. The effect was observed to be significant with negative coefficients. The impact of NEDs on ROA and TOQ was equal in terms of magnitude while it was more significant in size in the case of ROE. The negative sign shows that NEDs tend to decrease the firm’s performance, whether measured in terms of financial performance or market performance. These findings are not in alignment with the monitoring hypothesis of agency theory. This hypothesis holds that independence of the board increases with the presence of a larger number of NEDs on the board because NEDs increase value addition in the board through independent judgements (Cadbury Report, 1992; Chhaochharia and Grinstein, 2009; Tricker, 2019).

Further, NEDs, being an external source on the board, can boost the experience and enhance effective monitoring of the firm’s affairs. As part of the external environment, NEDS also play their role in developing a positive reputation for the firm through monitoring services (Baranchuk and Dybvig, 2009). Besides these arguments of this study, the results are also consistent with the recommendations of past researchers (e.g. Weir and Laing, 2003; Yermack, 1996). These researchers have reported that those companies with a higher number of NEDs are most likely to experience lower performance. The reason for this might be the presence of NEDs as part-time workers who are not familiar with the environment of the firm. Thus, they face complications in monitoring the issues and affairs of the firm, which might result in the firm’s poor performance. Possible reasons behind these findings are given as:

- NEDs are mainly part-time workers who work for firms on a part-time basis and are even considered as ceremonial functionaries. Due to their part-time nature, they do not have sufficient information and knowledge regarding the daily activities of the firm; these deficiencies

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undermine the potential of the NEDs to manage the affairs of the firm properly, and they are unable to perform their duties effectively. The incentives on offer might be an important consideration for the NEDs, and, in the case of fewer incentives, their motivation to serve the firm may be hampered. They can overlook their responsibilities, which may result in lower/poor performance of the firm.

- Due to their part-time nature, they have commitments with other stakeholders which might affect their devotion to the firm, hence lowering their monitoring. For instance, a NED in one firm can be an executive director in another firm. Thus, role conflict can undermine his/her motivation and incentive to perform his/her task correctly and effectively in both organisations.

- NEDs can be unfamiliar with the affairs of the firm and its day-to-day activities. This fact makes them unable to assess the complications and difficulties in arranging the firm's affairs, thus lowering the firm's performance. Additionally, the lack of technical knowledge and expertise among NEDs can result in the firm's poor performance.

- Furthermore, it is possible that the CEO and NEDs can indulge their relationships or may develop their nexus to promote their own interests. In such circumstances, NEDs and the CEO will not work in the best interests of shareholders. Hence, it can be postulated that NEDs in a firm cannot perform an active and productive role in monitoring the activities of the firm or execute their duties properly.

Despite inconsistencies in the findings, the results mentioned above are very interesting in relation to NEDs. Simply, the negative association among the NEDs and financial and market performance of the firm cannot overturn the recommendations of corporate governance codes which are in practice across the globe, nor can it be assumed that the recommendations of these CG codes are wrong in the case of NEDs. Literature provides sufficient

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support that, in most developing nations, firms are controlled and managed by the family business; this is even observed in the case of MENA countries (ROSC, 2004). These operating families hold significant shares in the firms, due to which they dominate the board. This dominance on the board can result in lower performance because such members do not have the necessary and sufficient knowledge due to the technicities involved in such firms. However, in spite of these difficulties, NEDs in every firm do not need to have the proper independence to perform their role effectively and efficiently. In some cases, NEDs can even compromise on many issues due to their close social circles or relationships with the managers, CEOs or even with other board members, and this situation might hamper their ability to interfere with management decisions independently (Mallin, 2019).

Table 4-17 Impact of non-executive directors on firm performance

Description	ROA	ROE	TOQ
Non-executive directors (NEDs)	-0.09	-0.196	-0.097
Significance	0.02	0.02	0.02

4.1.4.2.3 CEO duality (CEOD)

With regard to the impact of CEO duality (CEOD) on the performance of the firm from both financial and market perspectives, a positive effect has been observed (Table 4-18). These findings are highly significant in terms of ROA, ROE and TOQ. Impact of CEO duality (CEOD) on ROE was smaller as compared to the two other measures of firm performance. At the same time, the effect of CEOD on TOQ was more significant as compared to the other two indicators of financial performance. This positive impact on the performance of the firm consists of the stewardship theory, and these results

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endorse this perspective of stewardship theory. The performance of the firm increases when the two roles of CEO and chairman are held by a single person. The above quoted positive relationship between CEO duality and firm performance shows that the CEO's knowledge regarding the firm can increase the investment opportunities as well as enhance the firm's strategic direction (Tricker, 2019).

Duality also allows optimum decision making, thus reducing the wastage of scarce resources in a firm. Hence, the CEO/Chairman holding two roles at the same time can extend his/her services by rendering his/her valuable knowledge to the other board directors. This fact can facilitate the advisory role in more effective and efficient ways. In addition to this, duality can help to minimise the conflicts among the board members. Further, when the CEO and Chairman are two separate roles, it can create tension and confusion regarding implementation of decisions as well as formulation of policies and procedures (Solomon, 2014).

Contrary to this, when the two roles are combined in a single role, it results in more consistent and effective management through cohesive decision making. However, if the role is separated into two categories, it can promote rivalry among the two key roles. On the other hand, combining the roles can help to avoid the potential conflict between two personalities. Simply, duality provides a single command chain and eliminates the tension of reporting by lower staff to 'high ups'. It also promotes unified leaderships which can facilitate enhanced understanding of firms' day-to-day affairs and decisions. Additionally, considering the case of the emerging markets of developing countries, combining the roles of CEO and chairman is common in small businesses; it offers cost-effectiveness and boosts organisational performance due to unified leadership and monitoring. In the case of family-owned businesses, it is common to combine the roles of CEO and chairman in a single role through duality when the resources are scarce, and firms have to manage within a competitive environment.

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These findings are in alignment with a number of previous studies (Elsayed, 2007; Haniffa and Cooke, 2002; Haniffa and Hudaib, 2006; Weir et al., 2002; Tricker, 2019). These researchers have reported a positive association between CEO duality (CEOD) and firm performance. However, firms can face emerging challenges as well as being able to grab potential opportunities when they implement new strategies. In a case where both roles are confined in a single entity, the CEO/Chairman is more likely to face these challenges successfully due to their vast expertise and knowledge. The broad knowledge and expertise of the CEO/Chairman enable him/her to understand the issues more deeply and respond accordingly, as compared to NEDs (Weir et al., 2002; Mallin, 2019).

Furthermore, CEO duality provides the freedom to focus on long-run objectives. Freedom by one person holding both roles eradicates the tension at board level, and thus lower interference improves the firm’s performance. Therefore, in the case of rapid decision making due to a dynamic business environment, a single entity holding both roles as chairman and CEO can respond rapidly. This can result in improved decision making (Haniffa and Hudaib, 2006). From the perspective of cost, duality helps to eradicate the tension regarding extra remunerations/compensations (Vafeas and Theodorou, 1998). In addition to these benefits, it is quite easy to hold a single person accountable. In the case of any poor performance, the CEO/Chairman can be blamed very easily and comfortably (Abor, 2007; Bozec, 2005; Shu and Chiang, 2020).

While these results are consistent with previous studies, somehow inconsistencies are also attached to them when the perspective of agency theory is considered. According to this perspective, the roles of CEO and chairman should be separated. According to this theory, duality in a firm indicates a problematic situation. Agency theory argues that CEO duality represents a problem because the same person will manage the performance as thoroughly as well as it will also evaluate the performance of the firm.

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According to agency theory, CEO duality will result in less efficient and effective supervision and management of the firm's affairs. The reason is that, under such circumstances, management will become opportunistic, which will increase the agency problems. Hence, probably, under CEO duality, there is a chance that the CEO will not control the board properly, in order to protect his/her interests. This fact will also result in inadequate monitoring and come at the expense of shareholders. Alternatively, it can be argued that, under CEO duality, the role of CEO is rooted in the board, because it is the prime responsibility of the chairman to set the board agenda to manage the affairs of the firm through increased information (Braendle, 2019).

Due to these reasons, it can be concluded that duality leads to entrenchment of the executives as well as the CEO and, under such circumstances, the CEO as well as the other board members will become inefficient in performing their monitoring role. Hence, it can be stated that CEO duality hampers the functions of the board as well as reducing the performance of the board members. This dysfunction results in misalignment among the interests of shareholders, managers, board members and CEO. This situation leads to increased agency problems, thus reducing the maximisation of shareholder wealth.

The findings of this study are inconsistent with the Cadbury Report (1992) and OECD. Also, these findings are contradicted by the UK Combined Code and JCG Code (2006). All of these governing mechanisms state that the roles of CEO and Chairman should be separate to avoid agency conflict and to increase the performance of the firm. Furthermore, these findings are in contradiction to the findings of some previous studies (e.g. Chahine and Tohme, 2009; Dahya et al., 1996; Rechner and Dalton, 1991). These findings have found a negative association between duality and firm performance, and this study has observed a positive association between the duality and indicators of financial and market performance of the firm. The negative relationship observed by previous researchers between performance and duality might be due to the entrenchment and reduced

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board monitoring function, which provides the freedom to the CEO to follow his/her interests at the expense of the shareholders' interests (Tricker, 2019). Keeping in mind the context of Jordan, where companies usually tend to be smaller, the presence of CEO duality can provide a meaningful advantage from the perspective of cost and management. Furthermore, in Jordanian firms, duality can provide improved supervision and cohesiveness among the board members. It can also provide unified leadership, which may result in improved firm performance. As Jordanian businesses are often family owned, the founder is more likely to be the CEO due to his/her vast experience and knowledge about the firm. In addition to this, most firms in developing nations are controlled by families where family members hold a majority share. The same case is observed in MENA countries which have the same structure of businesses as Jordan (ROSC, 2004). Hence, due to the generic nature of duality, it is not present in Jordanian firms (Mallin, 2019).

However, in mature markets, it can be observed that duality does not decrease the firm performance compared to in different cultures, and duality might have positive results too, especially in the West. Further, most Jordanian firms are operating in a simpler organisational environment as compared to firms in developed nations. Hence, CEO duality (OECD) might provide benefits in terms of cost, improved decision making, strategic alignment and speedy decision making. Further, it can improve communications among the various stakeholders of the firm, such as board members and managers.

Separating the roles of CEO and chairman in small firms might produce complications in terms of internal power conflicts, which could further extend among management. In a case when the firms are simpler and operate in smaller product lines, it can become a major cost for the firm. Furthermore, small firms lack resources, and such firms need to be able to make a speedy and rapid response to various market fluctuations. This speedy and quicker response helps small firms to minimise and control costs to become more

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successful (Akbar et al., 2016). If a small firm has duality, it will be more difficult for it to respond rapidly.

Moreover, the financial cost associated with separating the roles of CEO and chairman might take away from the benefits in a small firm. A similar case can be observed for administrative cost. However, in large firms where operations are complex, separating CEO and chairman can provide fruitful benefits because such benefits will exceed the cost associated with the separation of the two roles (Qurashi, 2018).

Table 4-18 Impact of CEO duality on firm performance

Description	ROA	ROE	TOQ
CEO duality (CEOD)	0.381	0.214	0.598
Significance	0.00	0.01	0.00

4.1.4.2.4 Establishment of board committees

Board sub-committees are an important part of the CG mechanism. These sub-committees help the board and board directors to increase the firm's performance through efficiency and effectiveness. Such board committees help to reduce the impact of corporate managerial teams. Further, these committees also help to minimise the effect of large shareholders on the board. Past researchers have provided evidence that such sub-committees tend to enhance the quality of the CG mechanism of firms, which further increases their performance (e.g. Bizjak and Anderson, 2000; Ruigrok et al., 2006; Laplante and Tong, 2007; Anderson et al., 2020). This study tested the impact of various sub-committees, audit committee, remuneration committee, and nomination committee (Table 4-19). The results provided a clear picture regarding the impact of such committees on the firms' financial and market performance.

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Here, the impact of RCE on ROA, ROE and TOQ was found to be positive and significant at 1% level of confidence. However, the effect of RCE on ROA was found to be more substantial as compared to the other two indicators of performance (ROE and TOQ). At the same time, the impact of RCE on ROE was observed to be smaller as compared to TOQ. Similarly, the effect of ACE on ROA, ROE and TOQ was also found to be positive and significant at 1% level. The impact of ACE on ROE was found to be more influential as compared to the other two indicators of firm performance (ROA and TOQ). At the same time, the impact of NCE was also found to be positive and significant on all three indicators of firm performance (financial and market performance).

Previous researchers have reported that the audit committee tends to ensure the quality of the internal audit, which increases the transparency within the firm. Similarly, the compensation committee ensures remuneration efficiency, which further boosts corporate transparency. In an attempt to align with the market reforms, most Jordanian firms have started to appoint audit, remuneration and nomination committees to improve transparency. This fact shows that firms in Jordan have considered increasing their transparency. Thus, it can be assumed that, in such circumstances, audit and remuneration committees improve the firms' performance (Alqatan, Chbib and Hussainey, 2019).

In comparison to the state-owned companies, privately-owned firms tend to follow the CG mechanism more deliberately and effectively, and these companies tend to strengthen their CG mechanism. Therefore, in private companies, the presence of audit and remuneration committees will bring increased performance (Kang and Stulz, 2008). Hence, in state-owned companies, the board sub-committees do not show any significant improvement in the performance of the firm. In large-size firms, shareholders and executives are powerful enough to manage the affairs of the firm. Usually, they control the management of the company due to their dominant positions (Wei and Geng, 2008). In such scenarios, the nomination

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committee cannot perform very well so it can be assumed that in such firms the nomination committee cannot perform very well to increase the firms' financial performance (Tricker, 2019).

Table 4-19 Impact of board committees on firm performance

Description	ROA	ROE	TOQ
Remuneration committee (RCE)	0.683	0.452	0.625
Significance	0.017	0.021	0.018
Audit committee (ACE)	0.149	0.572	0.348
Significance	0.00	0.00	0.00
Nomination committee (NCE)	0.524	0.327	0.826
Significance	0.016	0.024	0.031

4.1.4.5 Results for multiple regression for corporate governance index

This section of the analysis chapter will present the results of multiple regression that are obtained by incorporating the corporate governance index (CGI) collectively instead of using different corporate governance variables in isolation. Table 4-20 presents the results of multiple regression generated by measuring firm performance with ROA.

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Table 4-20 Multiple regression results by measuring firm performance by ROA

Description		Unstandardised B	Significant
Constant		-0.35	0.00
Sales Growth		0.09	0.03
Firm Size		0.02	0.00
Capital Expenditures		-0.20	0.13
Leverage		-0.03	0.19
Research & Development		3.79	0.00
Liquidity		6.58	0.38
Corporate Governance Index		0.01	0.01
R	0.65	R Square	0.423
F statistics	9.093	Significant	0.00

Table 4-20 highlights that the F-statistics are highly significant when firm performance is measured through ROA. The R square is approximately 42%, which means that 42% of the variation for firm performance is explained by the independent variables when ROA measures firm performance. The results indicate that more independent variables should be included in the model to obtain more information about the movement in firm performance.

The results of different control variables are in line with the results of previous regression equations where different corporate governance variables were included in the model separately to explore the impact of CG on firm performance (where firm performance is measured through ROA). The positive and significant relationship between firm performance and sales

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growth, firm size, research and development expenditures, and corporate governance index has been witnessed. In contrast, insignificant results have been seen between firm performance and capital expenditure, leverage and liquidity.

Table 4-21 Multiple regression results by measuring firm performance by ROE

Description		Unstandardised B	Significant
Constant		-1.20	0.00
Sales Growth		0.03	0.04
Firm Size		0.08	0.00
Capital Expenditures		-0.01	0.98
Leverage		-0.11	0.25
Research & Development		6.15	0.04
Liquidity		0.07	0.31
Corporate Governance Index		0.03	0.04
R	0.33	R Square	0.109
F statistics	3.999	Significant	0.00

Table 4-21 highlights that the F-statistics are highly significant when firm performance is measured through ROE. The R square is approximately 11%, which means that 11% of the variation for firm performance is explained by the independent variables when ROE measures firm performance. The results indicate that more independent variables can be added to the model to obtain more information about the movement in firm performance.

The results of different control variables are in line with the results of previous regression equations where different corporate governance variables were included in the model separately to explore the impact of CG on performance (where firm performance is measured through ROE). The positive and significant relationship between firm performance and sales

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growth, firm size, research and development expenditures, and corporate governance index has been witnessed. In contrast, insignificant results have been witnessed between firm performance and capital expenditure, leverage and liquidity.

Table 4-22 Multiple regression results by measuring firm performance by TOQ

Description		Unstandardised B	Significant
Constant		2.49	0.00
Sales Growth		-0.05	0.04
Firm Size		0.10	0.00
Capital Expenditures		-1.00	0.16
Leverage		-0.34	0.13
Research & Development		13.26	0.02
Liquidity		4.54	0.91
Corporate Governance Index		0.02	0.00
R	0.49	R Square	0.24
F statistics	6.557	Significant	0.00

Table 4-22 highlights that the F-statistics is highly significant when firm performance is measured through TOQ. The R square is approximately 24%, which means that 24% of the variation for firm performance is explained by the independent variables when TOQ measures firm performance. The results indicate that more independent variables should be included in the model to obtain more information about the movement in firm performance.

The results of different control variables are in line with the results of previous regression equations where different corporate governance variables were included in the model separately to explore the impact of CG on performance (where firm performance is measured through TOQ). The positive and significant relationship between firm performance and sales growth, firm size, research and development expenditures and corporate

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governance index has been witnessed. In contrast, insignificant results have been witnessed between firm performance and capital expenditure, leverage and liquidity.

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4.2 Summary

This chapter has presented and discussed the empirical results. The results have been reported in alignment with the study objectives and research questions to assess the effect of internal CG mechanisms on the financial and market performance of the firm. More specifically, this chapter elaborated on the findings and their discussion based on descriptive and regression results. Regression was run through control variables, sales growth, firm size, capital expenditure, leverage, research and development expenditures and liquidity.

In order to make the results more straightforward in accordance with the findings, the small tables were generated separately in accordance with the study objectives. However overall table containing total results of the descriptive analysis, correlation and multiple regression have been reported in the Appendix 1.

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Chapter 5 Conclusion and recommendations

5.1 Introduction

This chapter provides information about the key results of the analysis, how the research aim and objectives have been achieved, limitations of the study, contributions of the study, scope for conducting future studies and relevant recommendations based on the analysis of the study.

5.2 Research findings

This study aimed to investigate the impact of various CG mechanisms on the performance of Jordanian non-financial companies listed on the ASC. The data was collected for 95 Jordanian non-financial companies from 2012 to 2018. In order to achieve the aim of the study and answering the research questions, various statistical tools were used for the analysis, such as descriptive analysis, correlation and multiple regression analysis.

The aim of the study was further sub-divided into five research objectives, such as conducting a critical literature review in the field of corporate governance and firm performance, collection of the secondary data for various CG mechanisms and firm performance for Jordanian non-financial firms from 2012 – 2018, data analysis by using various statistical tools (descriptive analysis, correlation and multiple regression analysis), presentation of the findings of the study and compare and contrast the results of the study with previous studies and providing a brief conclusion and recommendations in light of the analysis of this study.

To achieve the first objective, the researcher conducted a critical and systematic review of the existing literature in the field of corporate governance and firm performance. This critical review of the literature is provided in Chapter 2 of the study, which is divided into three sections. The first section provided a brief history of Jordan and the contribution of its various industrial sectors. The section also provided a short history of various

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Jordanian regulators and their contributions in the preparation and revision of the country's multiple corporate governance codes. The second section of the literature review chapter provided the theoretical background of the study. Different corporate governance theories were reviewed, such as agency theory, stakeholder theory, stewardship theory and resource dependency theory. This section explained that corporate governance mechanisms have been developed to overcome the agency conflict between managers and shareholders. For this reason, the research questions were generated based on agency theory. The third section of this chapter compared and contrasted the results of various research studies that have been conducted in the field of corporate governance and firm performance.

The second objective of the study was to collect the secondary data for the Jordanian non-financial firms listed on the ASE from 2012 – 2018. The data was gathered for six financial years because the study is focused on the corporate governance mechanisms recommended by the 2012 corporate governance code of Jordan. The secondary data was collected from three primary sources, the official website of the ASE, annual reports of the non-financial companies and Orbits digital database. Secondary data was collected for the study because financial data has no reliability and validity issues as it is audited by external auditors.

The third objective of the study was to analyse the data using various statistical tools, such as descriptive analysis, correlation and regression analysis. The results of the analysis were provided in Chapter 4 of the study. The descriptive analysis tools (mean, median, mode, standard deviation, range, minimum and maximum) were used to provide a summary of the large data set. Correlation was used to explore how dependent and various independent variables were moving together. Regression analysis was used to investigate the relationship between the dependent variable (firm performance, which is measured by ROA, ROE and Tobin's Q) and various independent variables in a standalone manner (sales growth, firm size, capital expenditures, leverage, research and development expenditures, liquidity, the board size, non-executive directors, CEO duality, remuneration

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committee, audit committee and nomination committee). Furthermore, regression analysis was also used to explore the impact of firm performance on the corporate governance index. The corporate governance index was generated by combining various corporate governance mechanisms in order to explore its effect on the performance of Jordanian non-financial firms.

F-statistics were used to check the effectiveness of various regression models. The results showed that all the models were highly significant. R-square demonstrated that the independent variables explained high variability on the dependent variable. The study examined the effect of various board-related CG mechanisms (for example, the board size, CEO duality and presence of NEDs). Multiple statistical tests showed that the fixed effect panel data model was valid, so the study used this model.

The firm performance was measured by using accounting-based measures (ROA, ROE) and market-based measures (Tobin Q). The result of the analysis showed that board size and non-executive directors were negatively correlated with firm performance. In contrast, CEO duality and board sub-committees were shown to have a positive relationship with firm performance. The results also showed that there is a positive relationship between corporate governance index and firm performance.

In the case of board size, the results showed a highly significant negative impact of board size on Jordanian companies' performance. The reason for these results might be because Jordanian companies' boards are generally controlled and dominated by large block owners, usually a family member or a family band. This fact might result in the appointment of managers and board members based on friendship or nepotism instead of experience and skill. Large block owners can use their power to influence management decisions to lead to undermining their monitoring function, and this might result in decreasing a company's performance.

In the case of non-executive directors, our results showed a negative and highly significant impact of NEDs on Jordanian firms' performance. The result

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is inconsistent with JCGC (2012), which states that at least a third of the board of directors should be independent NEDs to ensure the independence of the board. Besides this, the result is inconsistent with the monitoring hypothesis of agency theory, which states that the presence of a more significant proportion of NEDs on the board adds value to the firm by providing the firm with independent decisions and judgements (Cadbury Report, 1992; Chhaochharia and Grinstein, 2009). The possible explanations for this finding might be: NEDs are part-time workers, who are unfamiliar with the operations and company business; this makes them unable to comprehend the complications and difficulties that face the company, as well as leads to undermining their ability to apply their monitoring functions.

In the case of CEO duality, our results showed a highly significant positive impact of CEOD on the performance of Jordanian non-financial listed companies. This result is inconsistent with the JCGC (2012), which recommends separation of the roles of CEO and chairman to avoid any conflicting interests between them, and also to maintain efficient supervision of management. This finding is also inconsistent with the agency theory that supports the notion of separation between CEO and chairman to minimise the agency problem. On the other hand, the results support the stewardship theory, which emphasises that having one person performing as both CEO and Chairman will increase the company's performance because the enterprise is monitored. It may be beneficial for Jordanian companies to be CEOD because they are friendly with the CEO and it provides proper management and monitoring, as well as providing more stability and durable control.

Furthermore, in Jordan, the president is generally the founder and organiser of the business, so it is more probable that the president will be the CEO due to his or her knowledge and experience about the firm's affairs. Besides, commonly, Jordanian companies have worked in a relatively more uncomplicated business environment, unlike large companies in the markets of developed nations. Therefore, CEO duality can be useful for Jordanian

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companies because it could speed up the decision-making process and enhance communication and coordination among the board members.

In terms of establishment of board sub-committees, the study found a positive impact of three board sub-committees, the audit committee, remuneration committee and nomination committee, on firm performance for Jordanian non-financial listed companies. The results of the study are consistent with the JCGC (2012), which recommends establishing committees such as audit, remuneration and nomination committees, and are also consistent with the empirical results related to the board sub-committees.

As discussed before, the corporate governance index was generated based on the Jordanian corporate governance code requirements. Compliance with the corporate governance index was checked for the Jordanian non-financial firms. The findings indicated that the corporate governance index has a positive and highly significant impact on the firm performance of Jordanian companies. The results of the analysis are not consistent with previous studies where the researchers did not find any significant positive relationship between corporate governance index and firm performance (Padgett and Shabbir, 2005; El-Faitouri, 2014).

The last objective is achieved through this chapter, which provides a summary of the entire research study. This chapter also provides recommendations to the reader based on the analysis. The achievement of the five objectives has enabled the researcher to achieve the research aim of the study, which is to investigate the impact of various corporate governance mechanisms on the performance of Jordanian non-financial firms that are listed on the ASE.

5.3 Limitations of the study

The findings of research studies are important, but there are some limitations that researchers face while conducting their studies. In this study, the first

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limitation is the sample size of the study that is composed of non-financial companies. Companies in the financial sector are controlled by different reporting regulations and rules as compared to financial companies (Abide-al-Allah, 2011). For this reason, financial companies have been removed from the sample. Thus, the size of the sample was reduced from 276 companies to 95 non-financial companies.

The second limitation is to include only some board structure variables including board size, presence of NEDs, CEO duality and board sub-committees. A broader understanding of features of a board structure could also be drawn from the education level, gender and nationality of members. But only the objectively quantifiable variables were included in this study, to avoid bias within the findings. Hence, as the board of directors is considered to be an essential mechanism of the corporate governance that affects a company's performance, this study recommends that future studies determine the impact of some additional board characteristics such as education level, gender and nationality of members on company performance.

5.4 Research contribution

Corporate governance has become a quite important research area that focuses on various mechanisms that are used by the regulators to ensure a proper check and balance and monitor system to protect the stakes of all the stakeholders.

The literature review revealed this crucial importance and highlighted the issues with conflicts of interest between the principals (owners) and (agents) managers (Jensen and Meckling, 1976). Hence, effective corporate governance mechanisms need primarily to ensure shareholders' equity by ensuring that the company's resources are used properly and enhancing investors’ confidence to attract more investments (Dennis and McConnell, 2003).

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A proper corporate governance structure ensures better decision making, and effective management results in reducing the conflicts and improving the performance of a company. Most of the previous studies related to the various corporate governance mechanisms and their impact on company performance have been conducted by researchers in developed countries and markets, especially in the United States and the United Kingdom, but in developing countries relatively little is known about corporate governance and its mechanisms, particularly in the Middle East and North Africa (MENF), where there are different cultural and economic considerations.

This study makes a new contribution in that it is the first to examine the impact of various corporate governance mechanisms on the accounting performance of Jordanian industrial and services companies listed on the ASE. The data was extracted from different sources: the Orbits database, the ASE official website and annual reports of selected companies. The results of this study will enhance our understanding of corporate governance in terms of agency theory in developing countries, in particular Jordanian companies and companies in the MENA region, where the same cultural and economic circumstances prevail.

5.5 Further studies

There are many opportunities for future research and improvement. Firstly, to enhance the Jordanian banking system, the Central Bank of Jordan issued the Bank Corporate Governance Code in 2006. Therefore, the researcher recommends the need to study the impact of corporate governance on financial firms' performance. The sample of the study should be increased, and the results from such an investigation would improve understanding by providing another perspective of the effect on financial firms.

Secondly, additional study is recommended to examine the impact of the characteristics and features of the board on company performance, in particular the education level, experience, gender and age of the board members. It will effectively help to understand the characteristics and

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features of the board of directors and its impact on the performance of the firms more efficiently. Filling the gaps in these areas will help to provide further understanding of the board practices and their effect on the performance of Jordanian companies.

Thirdly, an average economic growth rate of 8.1% over the first 10 years of the 21st century (2000-2010) made Jordan one of the faster-growing economies in the region. This fast growth was due to various reforms conducted by the Jordanian government for the purpose of improving the investment environment and attracting local and foreign investors to invest in the Jordanian market. Besides this, the US invasion of Iraq in 2003 promoted a large number of Iraqi investors to invest in Jordan due to stability in the investment environment. But Jordan's economic problem became appeared since 2011 due to the drain of the country economic resources, and higher state expenditure resulting from the presence of more than 600,000 refugees escape from Syria cause the Civil War, as well as the bad economic and political conditions of the neighbouring countries of Jordan because of the so-called Arab Spring revolutions. Such circumstances have put the brakes on the Jordanian economy where facing severe fiscal strains. these critical condition of Jordanian economic might affect the financial decisions of local and foreign investors alike. Hence, since the data collection of this study that had a cut-off in 2018, further study is recommended to explore the effect of CG on firm performance under different economic conditions.

The adoption of CG principles more than a concept or code that the companies should adopt. Establishing new companies and creating new positions for these companies to gather with in structure, does not mean that we followed of corporate governance mechanisms. Application of corporate governance mechanisms should ensure better decision- making policies, maximizing profits and reducing risk of human interference activities such as cheating. In addition, application and following of corporate governance should maintain the rights and interests of shareholders as well as provide the best measures for financial stability and management effectiveness. Moreover, application and following of corporate governance principles can

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best help Jordan's economic interests. Hence, an urgent need has raised for Jordanian companies to properly implementation the corporate governance practice.

Implementation corporate governance principles will lead the better participation in the decision- making process improve the prevention of corruption cases and attract domestic and foreign investment, thus creating such a better investment environment will bring better investment as well as offer more employment opportunities. The concept of corporate governance has many direct and indirect references in many legal clauses and items; to name but a few, there is the companies Act 22 for the year of 1997 and its amendments, and the securities Act No 28 for the year 2000, and the law that regulates accounting for legal professionals (Law No. 73 of 2003). These legal references allows to use of corporate governance principles in Jordanian companies.

Implementation of corporate governance principles will attract domestic and foreign investment, thus creating a better investment environment that will bring more employment opportunities. Despite efforts made by the Jordanian governance to ensure the implementation of corporate governance standards, it can still be observed that numerous companies are not implementing the corporate governance mechanisms effectively to protect the stakes of all the stakeholder groups. Therefore, the researcher recommends further cooperation between the public and private sectors to intensify their efforts to implement the JCGC in a more effective manner t in order to improve the firm performance listed on the ASE and thus attract more local and foreign investors to invest in the Jordanian market.

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5.6 Summary

This chapter closed the research cycle that was open in Chapter 1 by explaining how to achieve the research objectives presented in Chapter 1, and also presents the key results of the research based on the statistical analysis, . This chapter also provides information about the limitations that the researcher faced while conducting the study. Moreover, this chapter introduces the study contributions and the scope of further studies in the future and relevant recommendations based on the results of the study analysis.

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Appendix 1 Tables

Table 1 Descriptive statistics

Variable	Description								
	N	Range	Minimum	Maximum	Mean	S. Dev	Variance	Skewness	Kurtosis
ROA	475	2.34	-1.96	0.39	0.02	0.137	0.019	-6.885	94.226
ROE	475	11.72	-11.21	0.51	-0.005	0.569	0.323	-16.79	322.61
TOQ	475	8.26	0.1	8.36	0.823	0.742	0.551	3.937	28.05
SGH	475	10.56	-1	9.56	0.163	1.173	1.377	4.7	26.535
FSE	475	8.63	12.68	21.31	17.09	1.5114	2.284	0.225	0.725
CAPX	475	0.41	0	0.41	0.031	0.046	0.002	3.835	21.361
LEE	475	0.9	0	0.9	0.28	0.284	0.081	0.696	-1.124
R&D	475	0.04	0	0.04	0.002	0.006	0	4.068	17.82
LIY	475	1026.9	0.01	1027	9.784	80.89	6542.7	11.971	145.07
BSE	475	22	7..00	29	12.47	4.36	19.005	1.297	2.124
NED	475	0.85	0.04	0.89	0.239	0.163	0.026	1.463	2.857
CGI	475	4	4	8	4.442	0.897	0.804	2.847	8.429

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Table 2 Correlation

Variable	ROA	ROE	TOQ	SGH	FSE	CAPX	LEE	R&D	LIY	BSE	NED	CGI
ROA	-											
Sig												
ROE	0.36	-										
Sig	0.02											
TOQ	-0.11	-0.43	-									
Sig	0.15	0.00										
SGH	0.00	0.02	-0.04	-								
Sig	0.19	0.05	0.00									
FSE	0.28	0.21	-0.23	-0.10	-							
Sig	0.00	0.00	0.01	0.17								
CAPX	0.09	0.01	0.04	-0.04	0.09	-						
Sig	0.02	0.00	0.39	0.01	0.66							
LEE	-0.14	-0.11	0.19	0.05	-0.32	-0.05	-					
Sig	0.96	0.03	0.05	0.09	0.01	0.05						
R&D	0.17	0.07	0.10	-0.02	0.03	0.02	0.00	-				
Sig	0.05	0.76	0.38	0.05	0.00	0.02	0.00					
LIY	-0.03	0.00	0.06	0.01	-0.20	-0.05	0.15	-0.03	-			
Sig	0.32	0.17	0.07	0.58	0.64	0.97	0.19	0.79				

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BSE	0.04	-0.02	0.03	-0.04	0.43	-0.01	-0.10	0.13	-0.07	-		
Sig	0.29	0.00	0.36	0.69	0.48	0.34	0.00	0.85	0.15			
NED	-0.11	-0.05	-0.02	0.09	-0.10	0.04	0.05	-0.02	-0.01	-0.19	-	
Sig	0.25	0.66	0.06	0.06	0.45	0.19	0.39	0.66	0.23	0.92		
CGI	-0.06	-0.04	-0.02	0.06	0.00	0.08	-0.02	0.02	-0.05	-0.03	0.82	-
Sig	0.10	0.97	0.00	0.05	0.75	0.00	0.66	0.02	0.00	0.39	0.03	

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Table 3 Multiple regression results for ROA

Description		Unstandardised B	Significant
Constant		-0.40	0.00
Sales Growth		0.01	0.03
Firm Size		0.03	0.00
Capital Expenditures		-0.18	0.17
Leverage		-0.03	0.26
Research & Development		4.11	0.00
Liquidity		7.01	0.35
Board Size		0.00	0.01
Non-Executive Directors		-0.09	0.02
CEO Duality		0.38	0.00
Remuneration Committee		0.68	0.02
Audit Committee		0.15	0.00
Nomination Committee		0.52	0.02
R	0.69	R Square	0.48
F statistics	9.245	Significant	0.00

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Table 4 Multiple regression results for ROE

Description		Unstandardised B	Significant
Constant		-1.44	0.00
Sales Growth		0.02	0.03
Firm Size		0.10	0.00
Capital Expenditures		-0.11	0.84
Leverage		-0.09	0.33
Research & Development		7.81	0.03
Liquidity		0.00	0.27
Board Size		-0.02	0.00
Non-Executive Directors		-0.20	0.02
CEO Duality		0.21	0.01
Remuneration Committee		0.45	0.02
Audit Committee		0.57	0.00
Nomination Committee		0.33	0.02
R	0.51	R Square	0.26
F statistics	4.676	Significant	0.00

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Table 5 Multiple regression results for TOQ

Description		Unstandardised B	Significant
Constant		2.682	0.000
Sales Growth		-0.038	0.017
Firm Size		0.133	0.000
Capital Expenditures		-1.104	0.118
Leverage		-0.330	0.007
Research & Development		10.933	0.035
Liquidity		2.476	0.952
Board Size		-0.024	0.004
Non-Executive Directors		-0.097	0.016
CEO Duality		0.598	0.000
Remuneration Committee		0.625	0.018
Audit Committee		0.348	0.000
Nomination Committee		0.826	0.031
R	0.58	**R Square**	0.370
F statistics	6.962	**Significant**	0.000

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