SCHOOL OF POSTGRADUATE STUDIES

CORPORATE GOVERNANCE ATTRIBUTES AFFECTING FIRM FINANCIAL PERFORMANCE IN STATE-OWNED ENTERPRISES IN ZAMBIA: 2002 – 2017

BY

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ABSTRACT

The financial and commercial performance of State-Owned Enterprises (SOEs) in Zambia has in the past been widely reported as being poor (Armitage, 2014; Chanda et al., 2015; Auditor General, 2018). This has been attributed to, among other factors, weak corporate governance. However, in the case of SOEs in Zambia, very little empirical research has been conducted on their financial performance and how this is affected by corporate governance attributes.

The overall research objective of the study was to suggest solutions to the problem of weak corporate governance in SOEs in Zambia by proposing ideal elements of corporate governance that could be embraced in the operations of these institutions. The specific objectives of the study were: to describe the financial performance as well as corporate governance practices in SOEs; to ascertain why there has been weak corporate governance in SOEs; to determine the association between corporate governance factors and firm financial performance, and to suggest solutions for changing the elements of corporate governance befitting these institutions.

The research approach adopted in the study was a concurrent mixed methods approach based on the philosophical pragmatism, critical theory. A triangulation design within the concurrent mixed methods approach was adopted for the qualitative analysis and the inferential statistics part of the study employed a random effect model using the Generalised Least Squares (GLS) statistical technique.

The research results showed that the SOEs recorded a negative Return on Total Assets(ROTA) and a high fixed cost to revenue ratio. In terms of short-term liquidity and long-term solvency, the SOEs recorded a low and a negative long-term gearing ratio, respectively. In comparison to companies listed on the Lusaka Securities Exchange (LUSE), there was a significant difference between the two in that the mean ROTA for LUSE companies was superior compared to that of SOEs.

In addition, the results showed that board size and proportion of female members were significantly and postively related to ROTA whilst proportion of non-executive directors on the boards were found not to significantly affect ROTA for SOEs. For LUSE companies, ROTA was statistically significantly affected by board size and proportion of female board members while proportion of non-executive directors was positive but not significant.

The study has empirically shown that the financial performance of SOEs in Zambia was poor as the ROTA was negative and inferior compared to listed companies, the SOEs were highly geared financially and operationally and that there were a number of corporate governance challenges in respect of SOEs which led to lack of board accountability and transparency.

Given the above, the study proposes a number of improvements to the governance framework for SOEs in Zambia which include, developing systems for enhanced board accountability and transparency, a competitive and transparent process for board recruitment and a reduction of the number of Government representatives on any SOE boards. In addition, board membership should not to be designated by position but should be based on individual merit.

Overall, the study has contributed to the state of knowledge on the financial performance of SOEs in Zambia by the reported empirical results which have revealed several corporate governance challenges in SOEs. The study has thus suggested ideal elements of corporate governance which could be adopted by SOEs in Zambia in order to resolve the identified challenges and improve their overall performance.

Key Words: Corporate Governance, Firm financial performance, State-Owned Enterprises, Generalised Least Squares, Lusaka Securities Exchange (LUSE).

DECLARATION

I, **Bryson Mumba,** do hereby declare that this work is my own and that the work of other persons utilised in this dissertation has been duly acknowledged. This work presented here has not been previously presented at this or any other university for similar purposes.

Bryson Mumba

Signature

Date 1/4/2024

This dissertation has been submitted for examination with my approval as Supervisor.

Professor Eustarckio Kazonga

Signature: E.Kazonga

Dr Jason Mwanza

Signature:

DEDICATION

I dedicate this academic work to my lovely wife Judith Saboi Kakanda Mumba and my beloved children Charity, Machela, Makoka, Kakanda and Namatama who, collectively known as the “Mumba Clan”, have provided me with all the support and encouragement during my study. To Professor Eustarckio Kazonga and Dr Jason Mwanza, my research supervisors, I am very grateful for their professional guidance and those critical eyes which, not only ensured the highest standard of academic work for my thesis, but also kept shining on me to remind me to soldier on until the work was done. I am forever indebted to my mother Ms Elisa Kaputula and my late father Mr Shadreck Foloko Mumba for everything.

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ACRONYMS

BSIZ	Board Size
CEO	Chief Executive Officer
CEOD	CEO Duality
EPS	Earnings Per Share
FDI	Foreign Direct Investment
FFO	Foreign Firm Ownership
GDP	Gross Domestic Product
IDC	Industrial Development Corporation (Zambia) Ltd
INDECO	Industrial Development Corporation
IoDZ	Institute of Directors of Zambia
LUSE	Lusaka Securities Exchange
PNED	Proportion of Non-Executive Directors
PFEM	Proportion of Female Directors
PIND	Proportion of Independent Directors
ROE	Return on Equity
ROI	Return on Investment
ROS	Return on Sales
ROTA	Return on Total Assets
SOE	State-Owned Enterprise
ZIMCO	Zambia Industrial and Mining Corporation

CHAPTER ONE: BACKGROUND TO THE STUDY

1.0 Introduction

This chapter considers the background to firm financial performance and corporate governance. In particular, a consideration of the importance of corporate governance to firm financial performance is given. The other aspects tackled in the chapter include the historical development of State-Owned Enterprises (SOEs) in Zambia, record of financial performance of SOEs, statement of the problem, research objectives, significance and scope of the study.

1.1 Background to the Problem

Firm value and firm financial performance and how these are affected by corporate governance factors have been researched in the field of management by many scholars (Thai, 2017; Constantatos, 2019; Kiranmai and Mistra, 2019; Merendino and Melville, 2019; Kabir and Kao *et al*., 2019). Jensen and Meckling (1976) have opined that good corporate governance leads to more efficient operations and higher returns in firms which enabled such firms to access external finance (World Bank, 2006). Furthermore, the IFC (2006:1), have stated that "….*well-governed firms often draw huge investment premiums, get access to cheaper debt and outperform their peers".* Evidently, well-governed firms produce desired results.

The term corporate governance has been defined by King IV (2017:11), as being the "*exercise of ethical and effective leadership by the governing body" so as to realise certain outcomes such as legitimacy, ethical culture, effective control and good financial performance"* Specific to developing countries, good corporate governance, through higher levels of compliance with corporate governance codes, has been found to affect Foreign Direct Investment (FDI), economic stability and future growth prospects (Abdo & Fisher, 2007, Khanna & Zyla, 2016).

Furthermore, empirical studies have established some evidence that firm value and performance are significantly affected by corporate governance attributes (Biswas and Bhuiyan, 2008; Waweru, 2014; Valls, 2016). For example, firm financial performance as measured by financial leverage was found to be affected by the level of corporate governance quality (Koerniadi & Tourani-Rad, 2014). In particular, they found that firms with poor corporate governance practices were highly leveraged than well governed firms thereby considered more risky. Corporate governance practices were measured by the use of a corporate governance score determined from factors including, board independence, board size, gender diversity and CEO duality, among others.

However, the directional effect of individual corporate governance factors has been found to affect firm financial performance in different ways as some factors have a positive effect while others have a negative effect. In this regard, Mumba (2017) has argued that board gender diversity positively affected firm financial performance (as measured by ROTA, ROE and Leverage and this was in the case of listed companies in Zambia, whereas, Drakos and Bekiris (2010) found that the leadership structure and board independence do not affect the firm financial performance but they found an inverse association between firm financial performance and board size. The inverse association between board size and firm financial performance was also found in other studies including Yermack (1996), Jensen (1993), Cheng (2008) , Harris and Raviv (2008) and Gertner and Kaplan (1996).

This study was a country specific study which was consistent with Adegbite (2012), Euromoney (2007) and Fawzy (2004) who called for developing country specific studies due to different and peculiar institutional arrangements in diverse countries that influence corporate governance regulation and practices.

Furthermore, a number of similar research studies that investigated the association between firm financial performance and corporate governance in emerging economies

have not found conclusive results (Khanchel, 2007; Kota and Tomar, 2010; Nyamongo and Temesgen, 2013).

In addition, a comparative analysis with Lusaka Securities Exchange (LUSE) listed companies was conducted in order to have a fair assessment of the situation at hand. The rationale for comparing the SOEs with LUSE companies was that, even though some of the SOEs do not operate with the same objectives as listed companies, the comparison was considered important in the sense that a better understanding of the study phenomena would be gained in light of the absence of empirical studies on the association between firm financial performance and corporate governance factors in Zambia. As part of the comparison listed SOEs were compared separately to unlisted SOEs and non-SOE listed companies. A key advantage of being listed which necessitated this comparison was the operational efficiency exhibited by listed firms generally.

1.1.1 Importance of SOEs

SOEs play an important role in many economies in Africa and across the world. According to the World Bank (2006:3), "*SOEs account for close to 20% of the total non-agricultural economic activities in an average low-income developing country*". Further, Armitage (2014:26) indicated that:

> *"204 of the world's 2,000 largest publicly listed firms were identified as parastatals in 2010-2011. The combined sales of these parastatals amounted to US $3.6 Trillion, representing more than 10% of the aggregate sales of the 2,000 world's largest companies. The value of sales of these parastatals is tantamount to almost 6% of the world GDP."*

From the above, it is clear that SOEs contribute to the much needed resources to nations. For example, they provide essential services in areas including water,

sanitation, electricity, communication and transport and in most emerging economics and in Southern Africa, these economies are almost totally reliant on SOEs for the provision of these indicated services (Armitage, 2014).

1.1.2 The birth of SOEs in Zambia – a timeline

Historically, SOEs in Zambia have played an important and growing role through their contribution to Gross Domestic Product (GDP). For instance, Fundanga and Mwaba (2005) noted that from the mid-1960 to the 1980s, SOEs' contribution to the Zambian economy, in terms of GDP, rose from 14% to more than 80%. In terms of the asset value of these SOEs, the IDC (2015) estimated the net asset portfolio owned by the SOEs to be in the range of US$2 billion which assets were held in various countries.

The key dates and events in the history of SOEs in Zambia is shown in Figure 1.1 below:

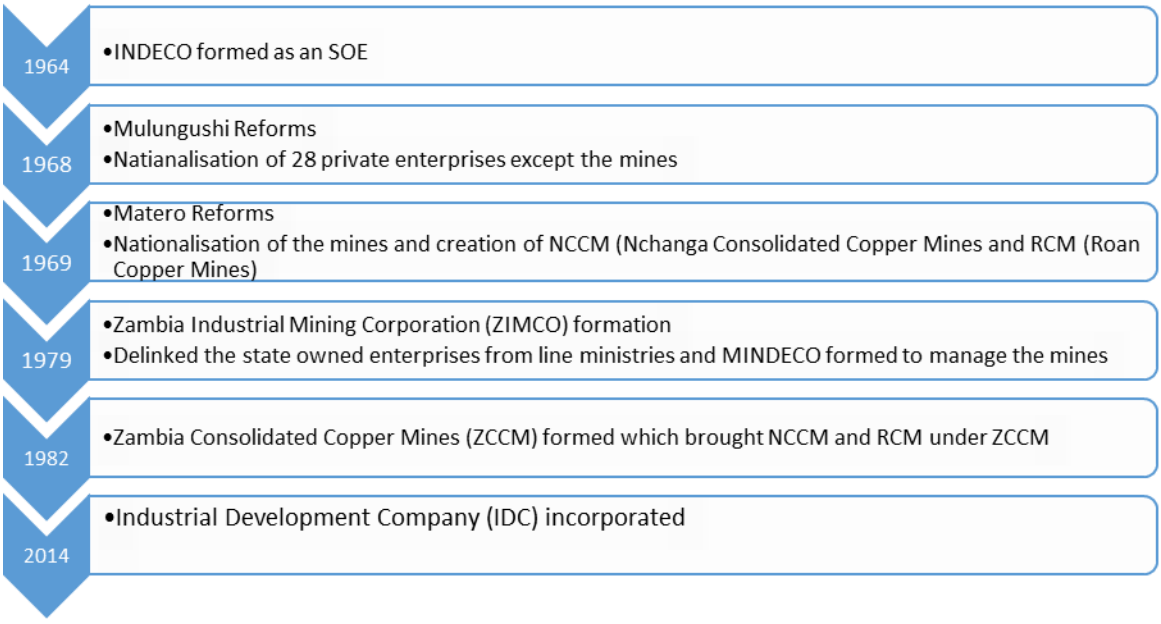


Figure 1. 1: Key dates and events in the History of SOEs in Zambia – a time line

Source: Author, 2021.

1.1.2.1 Pre-independence

Significant state ownership of companies in Zambia commenced in 1964 with the incorporation of INDECO which was wholly owned by the Government (Fundanga & Mwaba, 2005). Prior to independence, the state owned some enterprises such as railways and utility companies and the private sector was well established in a market-oriented economy.

1.1.2.2 The Mulungushi and Matero Reforms

The Mulungushi Reforms of 1968 ushered in government ownership of over 28 companies through the nationalisation of private firms (Fundanga & Mwaba, 2005). These nationalised firms were involved in diverse commercial activities across many sectors of the economy including retail shops, agriculture, construction, transportation, tourism, brewing and quarry business but excluding the copper mines (ibid). The Zambia Industrial and Mining Corporation (ZIMCO), was then established in 1970 as the holding company of the many SOEs (Turok, 1981). The management of the state-owned enterprises was through sector ministries even though ownership of the companies was by ZIMCO. However, the mining companies were nationalised in 1969 during the Matero Reforms which saw the creation of Roan Copper Mines (RCM) and Nchanga Consolidated Copper Mines (NCCM) (Turok, 1981).

1.1.2.3 The 1979 Reforms

Following on the first two reforms, another key reform was conducted in 1979 when the management of state owned enterprises was brought under the control of directorates at ZIMCO as opposed to being under sector ministries. The mining sector companies were however, put under the newly formed parastatal called Mining Industrial Company (MINDECO).

1.1.2.4 The formation of Zambia Consolidated Copper Mines (ZCCM) - 1982

In 1982, Zambia Consolidated Copper Mines (ZCCM) was formed. The main responsibility of this consortium was investment in SOEs involved in mining. This meant that NCCM and RCM were now under ZCCM.

1.1.2.5 Industrial Development Corporation (IDC) formed - 2014

The Industrial Development Corporation of Zambia was incorporated in early 2014 (IDC, 2015). It is an investment company for SOEs in Zambia and it is owned by the Zambian government.

1.1.3 Poor financial performance by SOEs in Zambia

Armitage (2014) once suggested that the governance of SOEs in Zambia remains problematic, mainly due to corporate governance challenges. Noting the challenge of corporate governance, Perelman and Pestieau (2019) have suggested that there is need for empirical research to inform the improvements of both corporate governance and performance of SOEs. Thus, Okeahalam (2004) has identified the need for researching the corporate governance policy development in Africa. In the case of Zambia, Chanda et al. (2015:2) have found that, “understanding of corporate governance is at an embryonic stage in Zambia”. Similarly, Chulu (2006) found that there was scarce empirical literature on corporate governance practices and the roles and composition of the board of directors in Zambia.

As the financial performance of many SOEs in Zambia has been reported to largely been poor, these SOEs have received negative perception from the public regardless of their potential to provide benefits to the public (Armitage, 2014). Among the key reasons for the poor performance of SOEs include weak governance and poor management (Armitage, 2014). Further, Fundanga and Mwaba (2005) identified factors that led to poor financial performance of SOEs as being inappropriate technology,

inexperienced management and misapplication of resources by politically connected managers, among others. As a consequence of poor financial performance, the government has had to provide subsidies to SOEs in Zambia in order to ensure that they remain afloat. These resources are often diverted from other pressing national needs such as health and education . Therefore, the provision of subsidies to SOEs implies consumption instead of contribution to the GDP of Zambia.

The Figure 1.2 shows an analysis of the financial performance of SOEs as measured by ROTA.

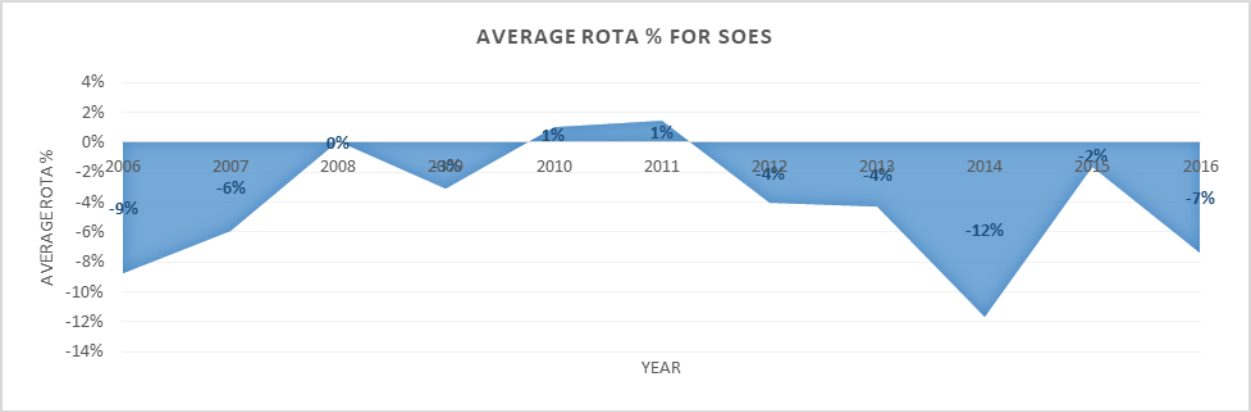


Figure 1. 2 Average Return on Assets for SOEs in Zambia.

Source: Author, 2019, summarised from the Auditor General's reports 2002-2016.

From Figure 1.2 , it is evident that the SOEs have been reporting losses as ROTA is negative.

Furthermore, the Auditor General's report on parastatal bodies and other statutory institutions for the 2017 financial year has shown that the audited institutions could not remit K1.7 billion of statutory benefits. This meant that the Government and Zambia "*were deprived of revenue in non-remittances to the National Pension Scheme Authority and contributions to the Local Government Superannuation Fund*" (Auditor General, 2017:5).

1.1.4 Firm financial performance theories and measures of firm financial performance

According to Hausen and Wernefelt (1989) firm financial performance is affected by factors grouped into (1) organisational, (2) environmental and (3) people factors. Firm financial performance measures may be categorised in several ways such as the use of objective, subjective, long term, short term, non-financial and financial measures. These will be discussed at length in subsequent chapters.

Firm financial performance as a construct may also be classified into long term and short term performance (Martynov and Shafti, 2016). The main theoretical underpinnings of firm financial performance include Corporate Governance, the Resource Based View (RBV), Knowledge Based View (KBV), Firm Orientation and positioning, Firm diversification, Stakeholder theory and Corporate Social Responsibility, Agency Theory and Mergers and Acquisition strategies (ibid.).

Herciu and Serban (2018) have identified measures of firm financial performance to include objective financial measures of profitability such as ROTA, return on Investments (ROI) or ROE (return on Equity), measures of product market performance and shareholder returns measures. Firm financial performance can also be measured using subjective non-financial measures (Williams 2018) which include customer satisfaction, service quality, staff development, environmental protection and firm reputation among others.

ROTA, as indicator of firm financial performance, is one of the measures most frequently used (Williams, 2018). Following Williams (2018) and other studies (Nyamongo and Temesgen, 2013; Gaur *et al.,* 2015; Kao *et al.,* 2019), ROTA was used to measure firm financial performance in this study.

1.1.5 Corporate Governance and financial performance theories

Martynov and Shafti (2016) have opined that one of the main theoretical underpinings of firm financial performance is corporate governance. As King IV (2016) noted, corporate governance practices affect firm financial performance suggesting a causal

and effect link between corporate governance and firm performance. Khanna and Zyla (2016) have found that higher levels of compliance with corporate governance codes positively affected firm performance. Corporate governance codes contain recommended corporate governance practices that are concerned with transparency, fairness, accountability and responsibility on the part of management and the board of directors of firms. Among the corporate governance practices that have been empirically investigated on the relationship between corporate governance and firm performance include board size, gender diversity on the board, non-executive directors and board appointment process.

There are many theories that scholars have utilized in discussing the association between corporate governance practices and firm financial performance. According to Abraham and Shrives (2014), a comprehensive theory of the underlying determinants of corporate governance and firm financial performance does not yet exist. On this basis an integrative and multi-prolonged theoretical approach has been adopted in this study in order to better understand corporate governance practices and disclosures in SOEs in Zambia. The main theoretical perspectives that have underpinned and guided the study accordingly include agency, stakeholder, political economic and institutional theories.

The Report of the Auditor General on Accounts of SOEs for the financial years ended 31st December 2013 to 2016 contained twenty-two major review comments on Parastatals bodies and statutory institutions that were audited or whose performance was reviewed but the issues remained un-resolved as at the date of issuing the report. The report included two Parastatal bodies and twenty statutory institutions.

The Auditor General's report revealed poor financial performance and attributed it to, among others, continued weak corporate governance (Auditor General, 2018: ii). While this has been stated, the report has pointed out domains in corporate governance that could be isolated for mitigation. The main areas include:

1) Failure to constitute board of directors;
2) Failure to Convene Annual General Meetings;
3) Failure to Prepare Annual Reports;
4) Expiry of the Tenure of the Board without timely replacement;
5) High frequency of Board Dissolutions and Re-appointments and
6) Excessive Number of Board Meetings which drew additional board fees.

1.2 Statement of the Problem

In Zambia, therefore, the consequence associated with poor corporate governance in SOEs is that they will continue to be a drain on the meagre national resources as they are not giving back to the public as expected. Chanda *et al.* (2015) observed that the management of national economies was affected by poor corporate governance.

In the case of SOEs in Zambia, corporate governance practices (such as board size, gender diversity on board, non-executive directors) and firm financial performance practices have not been comprehensively described and evaluated as to how these have changed over time. Furthermore, the relationship between the corporate governance practices and firm financial performance is an area that has not been empririically researched. In addition, some of the SOEs in Zambia are listed on the Lusaka Securities Exchange (LUSE) but their corporate governance practices and financial performance have not been described and have not been compared with those SOEs that are not listed and even with those firms that are not SOEs but are listed. Consequently, there is a knowledge void and an empirical gap that this study aimed to narrow through its contributions to knowledge. From a theoretical perspective, an identified knowledge gap concerns the basis for the board composition and practices for SOEs in Zambia which include issues such as what is the basis for the board sizes, board member representations and appointments.

The overarching question in this study was: given the ideal elements of corporate governance practices befitting SOEs, how could corporate governance be embraced in the operations of these institutions so that their financial performance could be improved? The study objectives, research questions and hypotheses are outlined below.

1.3 Research Objectives

1.3.1 Overall research objective

The overall research objective was to suggest solutions to the problem of weak corporate governance in SOEs in Zambia by developing a framework of ideal elements of corporate governance that could be embraced in the operations of these institutions.

1.3.2 Specific research objectives

In line with the overall research objective, the specific objectives of the study were as follows:

i. To determine the financial performance and corporate governance practices in SOEs from 2002 to 2017;
ii. To ascertain why there has been weak corporate governance in SOEs from 2002 to 2017;
iii. To discover the association between firm financial performance and corporate governance factors in SOEs from 2002 to 2017;
iv. To compare the firm financial performance and corporate governance practices between SOEs, listed SOEs and private listed firms and
v. To suggest elements of corporate governance suitable for SOEs in Zambia.

In order to answer the overarching question, four subsidiary questions were to be answered and these were:

i. What have been the financial performance and corporate governance practices in these institutions from 2002 to 2017?
ii. Why have the institutions performed as such?
iii. What is the influence of corporate governance factors on SOE financial performance in Zambia from 2002 to 2017?
iv. How do the corporate governance practices and firm performance of unlisted SOEs compare with those of listed SOEs and listed companies that are not SOEs?
v. What could be the ideal elements of corporate governance befitting the SOEs in Zambia?

The above questions were addressed by firstly, describing the financial performance and corporate governance practices existing in SOEs from 2002 to 2017; secondly, by understanding why there has been weak corporate governance in SOEs from 2002 to 2017; thirdly, by discovering the association between corporate governance factors and financial performance in SOEs; fourthly, by conducting a comparative assessment of the financial performance and corporate governance practices in SOEs to those of listed companies on the Lusaka Securities Exchange (LUSE); and fifthly, by the development of an ideal corporate governance framework befitting these SOEs in Zambia.

1.4 Hypotheses

In order to discover the nature of the association between the corporate governance variables (the independent variables) of board size, proportion of non-executive directors and proportion of female members on the boards and Return on Total Assets (ROTA) as a measure of financial performance (the dependent variable), the study has relied on comparable models that have been used in the literature and previous studies.

The theoretical basis of the model is derived from the King IV (2016) who noted that corporate governance practices affect firm financial performance suggesting a causal and effect link between corporate governance factors, such as board size, presence of non-executive directors and gender diversity, and firm performance. The general model that was employed was in the form of the following:

General Model

Model: $ROTA_{it} = \alpha + \beta_1 BSIZit + \beta_2 PNEDit + \beta_3 PINDit + \beta_4 PFEMit + \beta_5 CEODit + \beta_6 AGEit + \beta_7 FSIZit + \beta_8 INDUSTRYit + \varepsilon$

The hypotheses that were used to establish the relationship between corporate governance attributes and firm financial performance as part of research objectives are as stated below.

The hypotheses tested in the study were as follows:

For research Objective (iii):

Null Hypothesis (H_o)

- There is no association between ROTA and corporate governance attributes in SOEs;

Alternate Hypothesis (H_1)

- There is an association between ROTA and corporate governance variables in SOEs.

Model: $ROTA_{it} = \alpha + \beta 1 BSIZit + \beta 2 PNEDit + \beta 3 PINDit + \beta 4 PFEMit + \beta 5 CEODit + \beta 6 AGEit + \beta 7 FSIZit + \beta 8 INDUSTRYit + \varepsilon$

Where:

i = company i

t = at Year t

α = constant

$\beta 1$ - $\beta 6$ = Coefficients

ε = residuals

BSIZ = Size of the Board

PNED = Proportion of Non-Executive Directors on the Board

PFEM = Proportion of Female Board members

ROTA = Return on Total Assets

AGE = Number of years between the sample year and the year of incorporation.

FSIZ = Log of Total Assets as a measure of firm size

INDUSTRY = Type of Industry that a company belongs.

Moderating variables that have been used in similar studies include firm size, industry and firm age. In this study these moderating variable were tested.

For research objetive (iv) the hypotheses were as follows:

For finciancial performance comparison between SOEs and listed firms:

Null Hypothesis (H_0)

There is no difference in the financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE)

Alternate Hypothesis (H_1)

There is a difference in the financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE)

For corporate governance practices:

Null Hypothesis (H_0)

There is no difference in the corporate governance practices of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE)

Alternate Hypothesis (H_1)

There is a difference in the corporate governance pratices SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE)

Using financial data and corporate governance data accessed from company annual reports and Auditor General's reports, the study employed panel data analysis to test the hypotheses. Furthermore, a structured questionnaire was administered in order to obtain primary data on the practice of corporate governance in SOEs and the determination of an appropriate model for the governance of SOEs in Zambia.

1.5 Significance of the study

The study outcomes may contribute to a framework for the governance of SOEs in Zambia and improvement in the financial performance of SOEs through the implementation of the improved corporate governance framework. An improvement in

the financial performance of SOEs could lead to more efficient utilisation of resources in SOEs which may lead to growth in GDP for Zambia. The study findings may also be useful to policy makers, investors, board appointment authorities, company managers and the academic community as it would deliver empirical evidence on the association between firm financial performance and corporate governance factors in SOEs in Zambia.

1.6 Scope and Delimitation of the Study

The study was delimited by the following:

i. Not all Corporate governance factors were measured in SOEs in Zambia;
ii. Covers the period 2002 to 2017;
iii. Only identified corporate governance attributes were investigated; and
iv. Use of ROTA, operating gearing, financial gearing and liquidity to measure firm financial performance as opposed to other measures of firm performance.

1.7 Definition of Key terms

The operational terms employed in the study were as follows:

Board Size (BSIZ) is the number of board members.

Proportion of Non-Executive Directors on the Board (PNED) is number of non-executive directors on the board divided by the size of the board

Proportion of Independent Directors on the Board (PIND) was measured by the number of independent non-executive board members on the board divided by the board size. An independent non-executive director is one who is independent from shareholders as opposed to some non-executive directors who may not be independent from the shareholders.

Gender diversity (PFEM) was measured as the percentage of females on the board of directors (Drakos and Bekiris, 2016). This was measured by dividing the number of female board members by the size of the board.

CEO/Chairperson duality was defined as the separation of CEO position from Chairperson of the board (Adams *et al.*, 2008). This was measured as 0 if separated and 1 if CEO is also Chairperson of the Board.

Return on Total Assets (ROTA) **was** defined as the ratio of profit before tax divided by the total assets (Attia *et al.* (2018).

State-Owned Enterprise (SOE) or Parastatal was defined as a legal entity carrying on commercial activities on behalf of the government (Armitage, 2014).

Debt-Equity ratio is the total debt divided by total assets (Li *et al.,* 2008).

1.8 The Organization of the rest of the report

The rest of the thesis is structured as follows. The literature review and synthesis are covered in Chapter Two. In Chapter Three, the theoretical and conceptual frameworks employed in the study are provided. While the research methodology is covered in Chapter Four. Chapter Five contains the data preparation and analysis which is followed in Chapter Six by the discussion of the research results. Finally, Chapter Seven presents conclusions, recommendations and contribution of the research to the general body of knowledge.

1.9. Conclusion

This chapter considered the background to firm financial performance and corporate governance. In particular, a consideration of the importance of corporate governance to firm financial performance was given. The other aspects tackled in the chapter included the historical development of State-Owned Enterprises (SOEs) in Zambia, record of financial performance of SOEs, statement of the problem, research objectives, significance and scope of the study.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter contains literature reviewed on corporate governance and firm financial performance in general and specifically on the empirical association between corporate governance attributes and firm financial performance. The chapter comprehensively evaluated empirical studies on the association between corporate governance and firm financial performance.

The foundational argument in the study was that the financial performance of SOEs was affected by corporate governance practices or attributes. Underlying this foundational argument is the agency theory primarily but also the stakeholder, political economic and institutional theories. It is also argued that corporate governance is affected by various factors which include firm level factors, industry and country in which a firm is domiciled. In an attempt to explore how the corporate govenance factors affect performance, the main premise is that the poor performance of SOEs in Zambia was, to a large extent, attributable to the absence or inadequate of ideal corporate governance practices. The ideal corporate governance practices were considered by reference to the literature review findings, those that were recommended by corporate governance practioners in Zambia and those international codes of corporate governance which were practised by firms that had superior firm financial performance. The board of directors characteristics were used as provy for the corporate governance practices and financial firm performance was measured by objective measures.

The findings of the review have provided the status of existing empirical knowledge and explanation of the interrelationships or linkages between the concepts of corporate governance and firm financial performance. These are the bedrock of the theoretical and a conceptual models addressed in Chapter Three. Furthermore, a critical synthesis of the work of other researchers in corporate governance and firm financial performance was conducted to ground the study in the context of relevant ongoing

research in order to identify gaps in the existing knowledge and to clarify the research problem.

2.1 Literature Review Approach

Following what other researchers have adopted, the literature in this study was systematically surveyed. This approach, according to Becheikh et al. (2006), is considered to provide an improved quality of the literature review and minimises bias and chance effects. It also ensures the reliability and legitimacy of the literature review through a transparent and reproductive literature review (Ahmad & Omar, 2016).The basic procedures proposed by Tranfield et al. (2003) for guiding systematic review of literature in management studies were followed. This involved identifying key words, identifying literature search strategy, selecting primary studies, assessing the quality of selected primary studies, extraction of data and synthesis of Data. A total of 139 primary studies were found.

2.2 Literature Review Synthesis

2.2.1 Structure of literature review synthesis

The literature analysis (studies) were initially grouped as studies on developed countries, studies on developing countries, studies on African/Sub-Saharan African countries and studies on Zambia (refer to Appendix 15) . Each study was considered in terms of the objective of the study, the methodology and data analysed, the key finding and the conclusion. From these studies the themes or concepts were identified. The themes identified included meaning of corporate governance, factors affecting corporate governance, importance of corporate governance, corporate governance attributes and measures of firm financial performance. In discussing each theme, the relevant studies were considered below in order to trace the development of the study topic over time and to analyse patterns and key debates that have shaped the existing knowledge and to identify potential knowledge gaps.

2.2.2 Corporate Governance defined

Cadbury Report defined corporate governance as “a system in which companies are directed and controlled” (Cadbury, 1992). Tricker (2015) defines corporate governance as a group of mechanisms, processes and relations by which power is transmitted over corporate entities while King IV (2016) defined corporate governance as “the exercise of ethical and effective leadership by the governing body towards the achievement of governance outcomes”. The governance outcomes being legitimacy, good performance, ethical culture and effective control (ibid.). The latter definition suggests that a link between corporate governance and good financial performance of an organization.

An analysis of the cited literature shows that corporate governance definitions vary but that they all point to the systems, processes or relations by which a board of directors or governing board exercises leadership for directing and controlling a firm for particular targeted organizational outcomes (King IV, 2016). One particular organisational outcome being firm financial performance (ibid).

2.2.3 Significance of corporate governance

From the literature reviewed, corporate governance was found to matter in the financial performance of firms. A number of studies have shown that well governed firms, recorded superior financial performance compared to poorly governed firms (Biswas and Bhuiyan, 2008; Waweru, 2014; Chang, 2017; Valls, 2016). Specifically, good corporate governance factors (independent variables) affected firm financial performance in the following ways:

i. Efficient operations resulting in higher returns as measured by ROTA, ROI, ROE (Jensen and Meckling, 1976; Cretu, 2018);
ii. Low risk with reduced cost of capital, leverage and financing policy (Koerniadi & Tourani-Rad, 2014; Cretu, 2018);
iii. Provision of increased shareholder protection (Klapper & Love, 2004; Ward *et al.*, 2009);

iv. Increased premiums on shares of firms in emerging markets (IFC, 2006; Khanna and Zyla, 2016);

v. For developing countries improved FDI inflows (Abdo and Fisher, 2007);

vi. Increased access to outside capital (World Bank, 2006); and

vii. Improved profitability of SOEs that were privatised (Hanousek and Kočenda, 2003).

In the case of Africa, Okeahalam (2004:359) observed that:

> "…*there are several challenges which need to be addressed so as to improve corporate governance in Africa. The adoption of corporate governance principles by African countries will be a major step towards creating safeguards against corruption and mismanagement, promoting transparency in economic life and attracting more domestic and foreign investment. The enhancement of capacity in firms, government and civil society to develop systems which effectively monitor compliance will be critical to achieving the goal of good corporate governance in Africa. In addition, an effective programme to combat corruption and bribery is an important requirement for the improvement of corporate governance in Africa. In sum, given the above, there is an urgent need to embark on meaningful analysis and development of policy on corporate governance in Africa."*

The importance of corporate governance in SOEs in particular, was well articulated by Grossi *et al.* (2015:274) who suggested that:

> "*Public service provision and budget consolidation cannot be realized effectively and efficiently without powerful governance and management of SOEs… Effective mechanisms and good practices may contribute to better performance of SOEs. The empirical data about the relevance of SOEs prove that a sustainable public service provision and budget consolidation in many areas cannot be realized in an effective and efficient way without powerful management and control of SOEs."*

To buttress the significance of the importance of corporate governance, Guo *et al.* (2013:257) opined that:

> "*The Chinese Government has made efforts to strengthen the effectiveness of corporate governance in state-owned enterprises. However, existing research shows that some governance mechanisms that are effective in Western countries have no significant or negative impacts on firm financial performance in China apparently due to the strong relationship between state-owned enterprises and the government."*

Based on the literature review, it was observed that Corporate Governance was particularly relevant in the management and financial performance of firms. Research in corporate governance is particularly concerned with the association between corporate governance attributes and firm financial performance. It was observed that increasingly corporate governance affects both a country's economic stability and its growth prospects and in particular corporate governance was a crucial factor in the decision taken by investors when investing in emerging markets and investors paid a premium for better governed emerging market firms. Corporate governance therefore mattered to potential investors in emerging market firms like those firms operating in Zambia.

Furthermore, the corporate governance practices of SOEs in Zambia is an area that lacks published research (Chulu, 2006) and as has been pointed out by the Auditor General (2016) in Zambia, the SOEs continue to underperform due to, among other things, poor corporate governance. In Zambian SOEs, there was a knowledge gap because the association between corporate governance attributes and firm financial performance has not been studied empirically. There was a need to carry out research on the effects of various corporate governance characteristics such as board composition, board size, board effectiveness, among others, on the firm financial performance in Zambian SOEs.

2.2.4 Factors that affect Corporate Governance

Corporate Governance as a social construct is affected by many factors. These include firm level characteristics, industry characteristics, national culture, national laws, corporate governance codes and firm ownership structure. Board size and board composition as examples of corporate governance factors were found to be affected by firm level characteristics by Kyereboah - Coleman and Biekpe (2007). Other firm level characteristics included firm level risk and CEO tenure (ibid.).

Li and Harrison (2008) established that national culture significantly influenced corporate governance structure and they showed that corporate governance structures

differ significantly between countries arising from differences in national culture. Their study had compared differences in corporate governance structures in Australia, Japan, and countries in Western Europe and North America. Oliveira *et al.* (2016) found that national laws and corporate governance codes affected corporate governance practices and attributes.

In Figure 2.1, a summary of identified factors that have an effect on the corporate governance of a firm as concluded from the literature are presented.

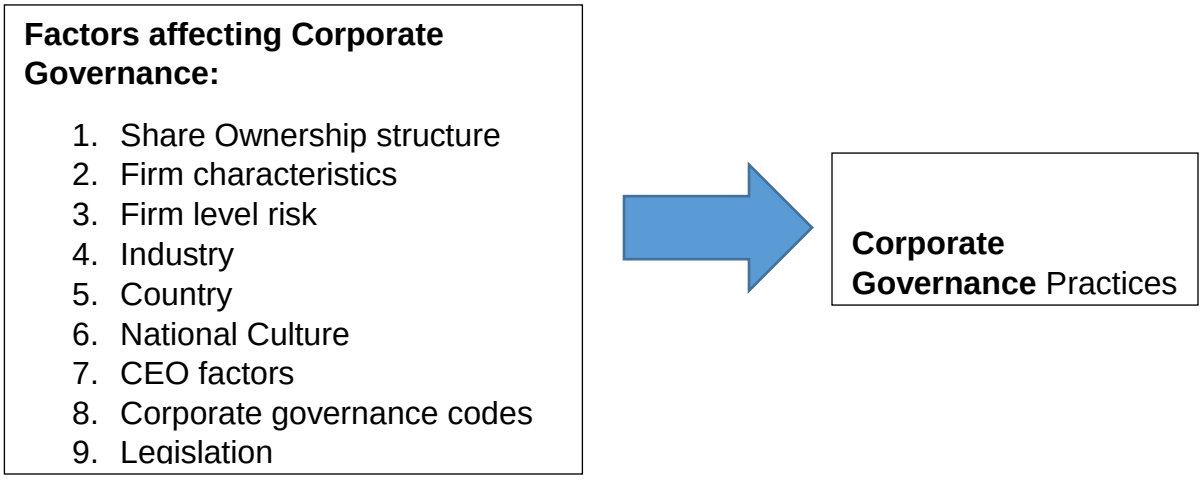


Figure 2. 1: Factors affecting corporate governance

Source: Author, 2020

2.2.5 Share Ownership

Share ownership that has been investigated empirically include whether shares are state-owned in the case of SOEs, foreign or local investors, insider ownership, management ownership, ownership concentration, family-controlled firms, block ownership and director ownership and how these different types of share ownership affect firm financial performance.

2.2.5.1 Share ownership structure and firm financial performance

A firm's ownership structure was found to be a key factor in the determination of firm financial performance (Adeabah *et al.*, 2019). For example, in a study of Syrian firms, there was a positive and significant association between ownership structure and firm profitability measured by EPS and ROTA (Mardnly *et al.*,2018). In addition, dividend pay-out was found to be significantly and positively affected by share-ownership structure (Setiawan *et al.*, 2016). Ji *et al.* (2015) also found a positive relationship between share ownership structure and earnings quality in listed companies in Indonesia and China, respectively whilst Li *et al.* (2008) recorded a negative relationship with financial distress in Chinese firm. Udin *et al.* (2017) and Merendino and Melville (2019)) found that there was relationship between share ownership structure and financial distress and ROTA in Pakistani firms and Italian listed firms respectively. There has been no studies in Zambia on the share ownership structure and its effect on firm financial performance.

2.2.5.2 State ownership and firm financial performance

Attia *et al.* (2018) studied the association between state ownership and firm profitability measured by ROTA, ROS, and ROE in Tunisian listed firms and reported that there was a non-significant association between state ownership and firm profitability. In particular, state-ownership affected positively, but not significantly, firm financial performance when state ownership was comparatively small, and adversely in the case of dominant state ownership. Setiawan *et al.* (2016), Utama *et al.* (2017) and Udin *et al.* (2017) found a positive but not significant relationship between State ownership and firm financial performance, while Aljifri and Moustafa (2007) showed a positive and significant relationship. However, Kabir and Thai (2017) found no relationship between the two while Shan and Xu (2012) found a negative relationship. Yang *et al.* (2012) who examined empirically whether state ownership affected income-smoothing behaviour in China, reported that when the state is the majority shareholder of the

listed firm, income smoothing was severely affected (Yang *et al.*, 2012). There has been no studies in Zambia on the state ownership structure and its effect on firm financial performance.

The state ownership and its effect on firm financial performance is inconclusive based on these studies.

2.2.5.3 Foreign firm ownership (FFO) and firm financial performance

The association between firm ownership as measured by proportion of shares owned by foreigners and firm financial performance as measured by various performance measures have been studied by a number of scholars. Some SOEs are partly owned by foreigners. For example,Bokpin et al., (2011) studied the relationship between FFO and dividend payments in listed companies on the Ghana Stock Exchange and a significant and positive relationship was found between FFO and dividend payments while Setiawan *et al.* (2016) investigated how FFO affected dividend payments in Indonesian companies and they found a non-significant but positive relationship between FFO and dividend payments.

In addition, Kao *et al.* (2019) found a positive association between FFO with market to Book ratio and Tobin's Q for Taiwanese listed firms. Also, Mardnly *et al.* (2018) examined the impact of FFO on firm financial performance for the Damascus Securities Exchange listed companies and found that FFO had a positive and significant relationship with ROTA and EPS. Furthermore, Bokpin *et al.* (2011) who studied the relationship between FFO and firm liquidity for listed companies on the Ghanaian Stock Exchange, found that FFO significantly and positively predicated firm liquidity. Kabir and Thai (2017) in a study of the moderating effect of FFO, among other factors, on CSR in Vietnamese firms found that there was a non-significant but positive relationship between FFO and several measures of firm financial performance such as ROS, ROTA, Tobin's Q and stock returns.

Udin *et al.* (2017) explored the role of FFO on the possibility of firms' financial distress for Pakistani companies listed at the Karachi Stock Exchange. Their study revealed a negative but significant association between FFO and firm financial performance as measured by financial distress. Shan and Xu (2012) investigated whether firm financial performance which was measured by the amount of bad debt provisions in financial institutions in Chinese listed companies was affected by FFO and the study found no relationship.

Mori and Towo (2017:160) in a study of Tanzanian firms showed that:

> *… a significant difference in board composition and profitability between local and foreign-owned banks. Local banks have a higher income and profits. With their contextual knowledge they are able to attract diverse board of directors who contribute positively to their performance. The paper also found that large boards and those with women on them were associated with high profitability.*

2.2.5.4 Large ownership/Ownership concentration and firm financial performance

Chen *et al.* (2017) showed that ownership concentration, whereby a large number of shares are owned by one shareholder, negatively impacted investment efficiency especially in SOEs compared to private firms in China. However, it was observed that ownership concentration through mutual funds was positively associated with investment efficiency of investee companies. Furthermore, Dato *et al.* (2018) who studied the effect of ownership concentration with firm financial performance in Ghanaian listed firms found that ownership concentration positively affected firm financial performance as measured by ROTA, ROE and Tobins's Q. Gaur *et al.* (2015) in a study of companies listed on the New Zealand Stock Exchange, showed that reduced ownership concentration led to inferior ROTA, ROE and ROS. In addition, it was found that high ownership concentration reduced the positive influence of board independence on firm financial performance and it attenuated the positive effects of board competence and board size on ROTA, ROE and ROS.

Su *et al.* (2010) investigated how ownership concentration affected executive compensation in emerging economies in a study of non-state-owned firms and SOEs in China. The study found that there was no significant association between ownership concentration and executive compensation in state-owned enterprises (SOEs), while the relationship was U-shaped in non-state-owned firms. While, Sheikh and Wang (2012) empirically investigated whether ownership concentration affected capital structure choices of Pakistani firms and they found a positive impact on long term debt ratio and total debt ratio. Conversely, Li *et al.* (2008) reported a negative relationship between ownership concentration and firm financial performance as measured by financial distress in Chinese listed firms. However, Al Farooque *et al.* (2010) in a study of listed firms on the Dhaka Stock Exchange in Banglandesh found a significant positive co-deterministic association between ownership concentration and firm financial performance meaning that these variables affected each other simultaneously.

2.2.5.5 Institutional ownership/ block ownership/Mutual funds and firm financial performance

The association between institutional or block ownership and firm financial performance was found to be positive by Abor and Fiador (2013), Kao *et al.* (2019) and Abdelsalam *et al.* (2008), and found negative by Udin *et al.* (2017) and Darmadi and Gunawan (2013) whilst Aljifri and Moustafa (2007) did not find any relationship at all. Abor and Fiador (2013) examined the effect of institutional ownership on dividend pay-out policy in four countries in the sub-Saharan Africa namely Kenya, Ghana, South Africa and Nigeria. Their findings were mixed in that institutional ownership positively influenced dividend pay-out among South African, Ghanaian and Kenyan firms compared to Nigeria where the relationship was negative.

2.2.5.6 Insider ownership/ Director ownership/Management Ownership/Boards shareholdings and firm financial performance

Share ownership in a firm by board members was found to have a positive influence on firm financial performance measured by EPS in listed firms in Sri Lanka (Wijethilake *et*

al., 2015). Sewpersadh (2019) who examined the association between corporate governance factors and the practice of debt financing in Johannesburg Stock Exchange (JSE)-listed companies found that corporate governance practices had a significant influence on capital structure decisions of firms listed on the JSE and that ownership was positively related to leverage.

2.2.5.7 Family ownership and firm financial performance

Setiawan *et al.* (2016) investigated the effect of family ownership on dividend payments in Indonesian companies and found a negative relationship whilst Kao *et al.* (2019) found a positive association between family-controlled firms and firm financial performance using Tobin's Q and market to Book ratio for Taiwanese listed firms.

2.2.5.8 Share ownership, corporate governance and firm financial performance

The association between share ownership, corporate governance and firm financial performance may be depicted as in Figure 2.2 based on the empirical literature.

Figure 2. 2: Relationship between share ownership, corporate governance and firm financial performance

Source: Author, 2019

Summarised from the empirical literature, the effect of share ownership on firm financial performance was as per Table 2.3.

The majority of the studies (46%) show a positive association between share ownership and firm financial performance and in some cases this association was significant (25%) irrespective of the firm financial performance indicator used and the

country in which the study was located. Table 2.3 provides the proportions from the studies.

Share ownership vs firm financial performance	Number	%
+	13	46.4
S +	7	25.0
S -	2	7.1
-	5	17.9
N	1	3.6
TOTAL	**28**	**100**

S = significant, + = positive, - = negative, N – no effect

Table 2. 3: Summary of share ownership effect on firm financial performance

Source: Author, 2019

2.2.6 Corporate Governance attributes and firm financial performance

Corporate governance attributes that have been studied empirically include board size, board composition, board intensity, board independence, CEO duality, board meeting frequency, independent committees, board compensation, board involvement, firm characteristics, gender diversity, board committee size, board competence, supervisory boards, board experience, board age, share ownership, board tenure and how busy directors are, among others.

2.2.6.1 Board size and firm financial performance

Board size is a vital attribute in corporate governance as the shareholders in appointing board members will appoint a certain number of members giving rise to a board size or the enabling legislation will stipulate the board size. Recent studies that have investigated the connection between board size and firm financial performance have provided varied results. Some studies have established a positive relationship, whilst others have found a negative relationship and yet others have found no relationship at all using different measures of financial performance.

Adeabah *et al.* (2019) found a positive influence of board size on firm efficiency in Ghana. Similarly, Gaur *et al.* (2015) found that, in New Zealand firms, board size positively affected ROTA, ROE and ROS. This was also the case in Shan and Xu (2012) resuls that revealed a positive association between board size and the level of bad debts provisioning in Chinese firms. Yasser *et al.* (2017) also found a positive association between Tobin's Q, ROTA and Earnings Value Added (EVA) in Pakistani firms whilst Sheikh and Wang (2012) revealed a positive effect of the size of the board on the long term gearing as measured by long term debt ratio and total debt ratio in Pakistani firms.

Shawtari *et al.* (2017), using discretionary accruals as a measure of firm financial performance, established a positive association in Malaysian companies while Kim *et al.* (2007) using operating efficiency ratio (fixed operating costs divided by income) established a positive relationship in American private club industry firms. McIntyre *et al.* (2007) also found a positive correlation between board size and financial performance measured by ROTA in Canadian firms. In addition, Mori and Towo (2017) revealed that firms with large boards were associated with high profitability measured by ROTA in Tanzanian firms while Muller-Kahle *et al.* (2014) found distinct difference between UK and USA firms in that in UK, the study found a positive significant impact between board size and ROTA whilst in USA firms the association was positive but not significant. Moreover, Constantatos (2019) found that ROTA and Tobin's Q were positively affected by board size in Greek firms during the financial crisis and thereafter. Also, Orozco *et al.* (2018) found that in Merco and Columbia large boards are associated with high performance. This too was the case in Kiranmai and Mistra's (2019) study that found a positive relationship in Indian firms when financial performance was measured by ROTA, Tobin's Q, ROE. The same was the case in Merendino and Melville's (2019) findings that established that the size of the board had a positive influence on ROTA for subordinate levels of board size in Italian firms.

Studies that have found a positive and significant effect of board size on firm financial performance included Bokpin (2011), Abor and Fiador (2013) and Elmagrhi *et al.* (2017)

using dividend payment in Ghana, Kenya and UK, respectively, Chen *et al.* (2017) in Chinese firms using investment efficiency, Bokpin *et al.* (2011) using liquidity in Ghana, Abor (2007) using gearing in Ghana, Kabir and Thai (2017) in Vietnamese firms using ROE, ROTA and Tobin's Q, Shettima and Dzolkarnaini (2018) using ROTA and ROE in Nigeria, Afrifa and Tauringana (2015) in UK SMEs in UK, and Nas and Kalaycioglu (2016) using export earnings in Turkey.

Studies that have found a negative impact of board size on firm financial performance included Wijethilake *et al.* (2015) using EPS in Sri Lanka, Nyamongo and Temesgen (2013) using Tobin's Q and ROTA in UK listed firms, Haider and Fang (2016) in China using operational risk, Al‐Saidi, and Al‐Shammari (2013) in Kuwait using ROTA and Tobin's Q, Palaniappan (2017) in India using Tobin's Q and ROTA.
In a number of studies, board size was found to have no effect on firm financial performance. These studies included Dato *et al.* (2018) in Ghanaian firms, Kao *et al.* (2019) in Taiwanese firms, Aljifri and Moustafa (2007) in UAE firms and Saidat and Seaman (2019) in Jordanian firms using ROE, Tobin's Q and ROTA.

Titova (2016) found a U-shaped inverse association between the size of the board and firm financial performance measured by firm efficiency in USA firms. This study employed firm efficiency as compared to financial measures like Tobin's Q, ROTA and EPS.

A summary of the empirical findings on the effect of the size of the board on firm financial performance is provided in Appendix 12. 37.5% of the surveyed studies show a positive association between board size and firm financial performance and in some cases this association was significant (34.4%) irrespective of the firm financial performance measure used and the country in which the study was located as shown in Table 2.3. The conclusion is that board size affected firm financial performance.

Board size vs firm financial performance	Number	%
+	12	37.5
S +	11	34.4
U-Shape		
-	5	15.6
N	4	12.5
TOTAL	32	100

'* - S = significant, + = positive, - = negative, N – no effect. U-shaped is when the relationship rises then falls and later rises as board size changes.

Table 2. 1: Effect of board size on firm financial performance

Source: Author, 2019

2.2.6.2 Board composition and firm financial performance

Board composition refers to how boards are structured (Adams *et al.*, 2008). Some of the factors affecting board composition include number of outside directors, gender diversity, shareholder representatives on boards, CEO duality, age of board members, experience of board members, independence of directors, tenure of board members, minority shareholder representation on boards, director backgrounds and personalities, political connections, skills and incentives (Adams *et al.*, 2008).

Hemphill and Laurence (2014) opined that in addition to industry-based expertise being a preferred attribute of a board member who is independent, there are other attributes such as risk, regulatory/governmental, international, technology and marketing expertise that are important in board composition.

Studies that found a significant and positive effect board composition on firm financial performance included Egbunike and Odum (2018), Dato *et al.* (2018), Abor and Fiador (2013), Abor (2007) in Ghana, Nigeria, Kenya and South Africa. These studies used earnings management, ROTA and operational efficiency, dividend pay-out and leverage respectively, to assess board composition vis a vis firm financial performance. To this effect, Thrikawala *et al.* (2016) revealed a positive but not significant effect of

board composition on firm financial performance as measured by ROTA and Capital Asset Ratio in Pakistani listed companies. Bokpin *et al.* (2011) revealed a significant and negative influence of board composition on liquidity in Ghanaian listed firms while Abdelsalam *et al.* (2008) revealed no effect on dividends paid in Egyptian listed firms.

2.2.6.2.1 Board diversity and firm financial performance

McIntyre *et al.* (2007) sought to look at the association between key board composition variables and firm financial performance in Canadian firms. They found that high levels of experience, modest levels of variation in age and team tenure and appropriate board size were associated with firm financial performance measured by ROTA, Tobin's Q and EVA.

2.2.6.2.2 Gender diversity and firm financial performance

Board diversity such as gender diversity as measured by the presence of females on boards showed a positive effect on firm financial performance as measured by Tobin's Q (Nerantzidis & Tsamis (2017) in listed companies in Greece suggesting that the reason for this was because firms disclosed female participation so as to be socially and legitimately acceptable. Furthermore, Mori and Towo (2017) found that boards with females on them were related with high financial performance in Tanzanian firms because female board members contributed to the diversity of board composition and in particular with reference to knowledge on the local environment. In respect of SOEs, Usman et al. (2018 and 2019) established that gender-diverse boards have a lower cost of debt, reduce information asymmetry between management and shareholders, limit excessive compensations for the CEOs and management. Maji and Saha (2021) who investigated how gender diversity in Indian firms influenced financial performance and their finding was that firm financial performance was postively affected by gender diversity though it was not homogeneous in every location of firm performance due to the peculiar characteristics of the different locations and cultures. Thrikawala *et al.* (2016) using ROTA in Pakistani firms found that gender diversity had a negative and

significant effect on firm performance arguing that female contribution in the board room was affected by domestic and cultural factors. There has been no studies in Zambian SOEs on the gender diversity and its effect on firm financial performance.

2.2.6.2.3 Minority shareholder representatives on Boards and firm financial performance

Merendino and Melville (2019) showed that directors appointed by non-controlling shareholders do not influence firm financial performance. Adams *et al.* (2008) has found that the presence of stakeholder on boards has an effect on firm financial performance and in the case of labour representatives, they are able to impact firm policies to their advantage as opposed to that of the shareholders.

2.2.6.2.4 CEO duality and firm financial performance

CEO duality means that the Chief Executive Officer of a company is also the board Chairperson (Adams *et al.*, 2008) and for example, in US firms almost 80% of the firms have CEO duality (ibid.).

Studies have investigated whether CEO duality affects firm financial performance. Bokpin (2011) found no effect of CEO duality on dividend pay-out ratio in Ghanaian listed firms. Simillary, Nyamongo and Temesgen (2013) using ROTA and Tobin's Q in Kenyan firms found no effect of CEO duality. Sheikh and Wang (2012) also found no effect on long term debt ratio and total debt ratio. Elmagrhi *et al.* (2017) found a positive effect of CEO duality on dividend payment in UK small and medium sized enterprises and the explanation was that in order to maintain a good relatiosnhip with shareholders managers pay a higher dividend in poorly governed firms.

Al‐Saidi, and Al‐Shammari (2013) found that CEO duality in Kuwait listed firms positively affected firm financial performance using ROTA and Tobin's Q, Shawtari *et al.* (2017) found that CEO duality positively affected discretionary accruals in Malaysian

firms, and Gaur *et al.* (2015) found a positive influence of CEO duality on ROTA, ROE, and ROS in New Zealand listed firms because the unification of CEO and chairperson of the board leads to goal congruence and thereby affecting firm performance positively.

Conversely, Kao *et al.* (2019) found a negative effect of CEO duality on Tobin's Q, ROTA and ROE in Taiwanese listed firms and Titova (2016) found that CEO duality had a negative association with firm financial performance measured by cost efficiency in publicly traded US banks.

Studies that have found a significant and positive effect of CEO duality on firm financial performance include Sewpersadh (2019) who found a positive and significant impact on leverage in Johannesburg listed firms; Egbunike and Odum (2018) in Nigeria using earnings management as a measure of firm financial performance and Abor (2007) using gearing in Ghanaian companies. In addition, Koufopoulos *et al.* (2010) found that the CEO had a high level of influence on board composition.

2.2.6.2.5 Non-Executive Directors and firm financial performance

Board composition measured by the number of non-executive members on the board was found to be significant and positive in a number of studies. These included Egbunike and Odum (2018) in Nigeria using earnings management as a measure of firm financial performance; Abor and Fiador (2013) in Sub-Sahara Africa using dividend payment; Abor (2007) in Ghana using gearing; and Dato *et al.* (2018) in Ethiopia using ROTA and social efficiency.

Al-Saidi and Al-Shammari (2013) and Nas and Kalaycioglu (2016) revealed a positive influence on firm financial performance measured by ROTA and solvency, ROTA and Tobin's Q, export performance in a sample of international firms from across the globe, Kuwait and Turkey, respectively. Sheikh and Wang (2012) revealed a positive relationship with leverage in Pakistani listed firms. Afrifa and Tauringana (2015) reported no effect on Tobin's Q in UK SMEs that were listed on the London Stock

Exchange arguing that the effect of corporate governance factors on firm performance differs between different types of firms. However, Bokpin *et al.* (2011) found a significant and negative effect using liquidity in Ghana and Thrikawala *et al.* (2016) using ROTA in Pakistani found inconclusive results whilst Abdelsalam *et al.* (2008) found no effect in Eqyptian firms using dividend payment.

2.2.6.2.6 Board independence and firm financial performance

The independence of individual board members is one of the corporate governance factors that has been studied in terms of its relationship with firm financial performance. The findings are however very mixed as shown in the following Table 2.4:

Corporate Governance Attribute	**Firm financial performance measure**	**Relationship***	**Study(ies)**	**Firms in the Country**
Board Independence				
Studies in developed countries				
	Dividend pay-out	N	Shan and Xu (2012)	China
	Earnings management, ROTA , Tobin's Q	-	Constantatos (2019)	Greece
	Tobin's Q	N	Wang *et al.* (2017) Elmagrhi *et al.* (2017)	China China
	Tobin's Q	S, +	Muller-Kahle *et al.* (2014)	UK
	ROE, ROTA, ROS	+	Gaur *et al.* (2015)	New Zealand
Studies in developing countries	ROTA, ROE, and Tobin's Q	+	Kao *et al.* (2019)	Taiwan
	Discretionary accruals	+	Shawtari *et al.* (2017)	Malaysia
	Underpricing of	+	Darmadi and	Indonesian

	IPOs		Gunawan (2013)	
	Tobin's Q, ROTA and EVA	-	Yasser *et al.* (2017)	Pakistani
	Net profit	-	Kiranmai and Mistra (2019)	Indian SOEs
Studies in Sub-Saharan Africa	Efficiency	-	Adeabah *et al.* (2019)	Ghana
	ROE, ROTA	+	Nyamongo and Temesgen (2013)	Kenya
	Dividend pay-out	N	Bokpin (2011)	Ghana

* S = significant, + = positive, - = negative, N – no effect, I = Inverse

Table 2. 2: Board Independence

Source: Author, 2019

Studies have also found that the independence of board members has other types of effects on firm financial performance. For example, Palaniappan (2017) showed that board independence moderated the association between ROE and ROTA in Indian manufacturing firms while Titova (2016) found that board independence had an inverted U-shaped relationship (at lower levels of board independence the relationship was lower which rose and then fell as board independence increased) with firm cost efficiency in publicly traded US banks while Merendino and Melville (2019) found that board independence had a non-linear effect (the relationship was not constant across the ranges of board independence) on ROTA in Italian firms.

Nguyen *et al.* (2019) who examined numerous characteristics of independent directors' activities and work found that directors who are independent in Vietnamese firms placed greater emphasis on their consultative role than their monitoring role and that these directors faced difficulties including asymmetry of information and the influence of majority shareholders which were significant. The majority shareholders' influence prevented independent board members from properly executing their role on the board as independent members.

Phi (2019) showed that board members were not truly independent in a study of Indian firms and Oba *et al.* (2014) revealed that boards of directors comply with the governance practices established by state agencies for listed Turkish firms. However, in the case of committee and independent members that influenced the majority shareholders' control domain and private benefits, the boards were found not to be truly independent (ibid.).

2.2.7 Independent Committees and firm financial performance

Board committees, which are a structure used by a board to carry out detailed work, is another board attribute that has been studied and in particular how the independent board committees affected firm financial performance. Board independence was found not to have affected firm value measured by Tobin's Q by Chan *et al.* (2011) in listed firms on the Hong Kong Stock Exchange. However, independent board committees were found to affect EPS of listed firms in Sri Lanka by Wijethilake *et al.* (2015).

2.2.8 Board of directors' effectiveness in SOEs

The effectiveness of the board of directors of SOEs has been studied by Wasowska and Postula (2018), Simpson (2014), Mbo and Adjasi (2017) and Limbo (2019).

Wasowska and Postula (2018:1) showed that in Polish SOEs

> *" legally designed relationships among the management board, supervisory board, and the state treasury, represented by the minister and ministry officials, constitute the key formal governance mechanisms in Polish SOEs. They are, however, complemented by relationships between SOEs and their stakeholders and distorted by other informal phenomena, including informal non-institutional behaviour, mechanisms grounded in cognitive and normative institutions, and perception of the relationship structure by the actors themselves. As a result, key corporate governance actors differ in their perception of governance influences upon SOEs."*

Simpson (2014:238) showed that "state-owned enterprises boards comply with the minimal governance issues outlined in the legal frameworks establishing them but the

boards exhibited significant weaknesses in the areas of board performance evaluation, criteria for board appointment, the balance of executive directors and non-executive directors, and other board characteristics, indicating a departure from general practices".

Thompson *et al.* (2019) who examined corporate governance practices amongst boards members of SOEs in Barbados by employing institutional and agency theoretical framework found that board of directors:

> *"Perceived that they perform their roles and responsibilities in an effective and efficient manner, influence decision making, exercise control in SOEs and conduct well-organized meetings. However, respondents from the various stages report that there is lack of accountability and transparency, inadequate disclosure, lengthy board meetings resulting in excessive delays in decision making, unclear accounting and auditing guidelines, and a lack of training in financial and CG matters. Political interference, board appointment and composition are also cited as major concerns. (Thompson, 2019:2)"*

A key issue relating to how boards show their performance is the amount of disclosures that they make. Mbo and Adjasi (2017) investigated this issue in SOEs in Botswana based on a case analysis approach. They found that boards engaged in a selective approach which defined how SOEs disclosed their good financial performance which was targeted at the selected stakeholders in an organisational environment dominated by political players. Another finding was that political influence on SOEs was not driven by self-interest. Limbo (2019) found that in SOEs from the transport sector in Namibia, the poor financial performance of SOEs was due to how these SOEs were managed.

2.2.9 Board Meeting Frequency and firm financial performance

The frequency of board meetings is a corporate governance factor that has been considered as to its effect on firm financial performance using several measures of financial performance. EPS and Net profit have been found to be positively affected by board meeting frequency by Wijethilake *et al.* (2015) and Kiranmai and Mistra (2019) in Indian and Pakistani listed firms respectively. Using Tobin's Q, Nerantzidis and Tsamis (2017) revealed a significantly positive relationship between board meeting frequency and Tobin's Q in Greek listed firms. Dividend pay-out was found to be negatively but

significantly associated with board meeting frequency by Elmagrhi *et al.* (2017) in UK firms that were listed on the AIM London Stock Exchange. In Chinese listed companies, Shan and Xu (2012) found that board meeting frequency had no effect on bad debts provisioning.

2.2.10 Board Involvement in Strategy deveolpment and firm financial performance

Studies that have been undertaken to establish whether financial performance was affected by board involvement in strategy include Kim *et al.* (2007) and Adams *et al. (*2008). Kim *et al.* (2007) found that there was a positive association between operational efficiency, measured by the operating costs to income ratio, and board involvement in strategy in American firms while Adams *et al. (*2008) who surveyed directors found that the directors were involved in strategy formulation.

2.2.11 Quality of corporate governance and firm financial performance

Corporate governance composite indices have been used to measure the quality of corporate governance practices. The effect of corporate governance indices and firm financial performance as measured by ROTA, ROE and EPS was found to be positive by Wahyudin and Solikhah (2017) in the case of go-public companies in Indonesia. In Egyptian-listed firms Shahwan (2015) found that there was a relatively low corporate governance score and they found no positive association between CG practices and financial performance although they found a negative effect on financial distress which was insignificant.

2.2.12 Corporate Governance Disclosures and firm financial performance

In comparing the corporate governance disclosures by firms in the BRICS (Brazil, Russia, India, China and South Africa) countries, Oliveira *et al.* (2016), found varying levels of disclosures between the countries. The varying levels of disclosures were explained by the existing norms and laws in the different legal systems within the

countries. Brazil recorded the highest median number of companies which made disclosures of corporate governance practices followed by India, Russia, South Africa and China in that order.

2.2.13 Board Ethical Commitments and firm financial performance

Salin *et al.* (2019) studied the influence of board ethical commitment (as measured by the level of compliance by the board with ethical requirements of corporate governance codes) and firm financial performance in Malaysian firms. Their main finding was that ethical commitment by the board positively and significantly affected firm financial performance as measured by ROE, ROTA, Tobins Q, market-to-book value and net profit margin.

2.2.14 SOEs Compared to Privately Owned Firms

Bozec and Breton (2003) investigated whether financial performance in SOEs in Canada improved when the SOEs were corporatized. The results were that when SOEs are corporatized the financial performance of SOEs improved significantly. This suggested that the main difference in the improved financial performance was as a result of the varying objectives of the firm and not the property or some political activities. Phi (2019) showed that SOEs had inferior performance in ROTA, were highly geared and SOE were more labour intensive with high labour costs compared to private owned firms in a sample of international firms.

In a systematic and structured review of international literature, Gakhar and Phukon (2018) found major and significant improvements in firm financial performance in the post-privatisation period for SOEs that were privatised. A study by Hassoun and Aloui (2017) established that, to improve ROTA, ROE and ROS, in Middle Eastern and North African (MENA) countries, government ownership and the proportion of NEDs could be a substitute for auditors from the Big Four audit firms and CEO duality and foreign ownership re-enforced each other in improving firm financial performance in privatised

SOEs. Hassoun and Aloui (2017)'s study focused on the interactional effects of internal corporate governance factors and their effect on firm financial performance.

2.3. Firm financial performance Measures

Herciu and Serban (2018) have opined that measuring firm financial performance is complex and challenging. According to Hausen and Wernefelt (1989) firm financial performance is affected by factors grouped into (1) organisational, (2) environmental and (3) people factors. Firm financial performance measures may be categorised in several other ways such as the use of objective, financial and non-financial, subjective, short term and long term measures.

The main theoretical underpinnings of long-term and short term firm financial performance include Corporate Governance, the Knowledge Based View (KBV), Resource Based View (RBV), Firm Orientation and positioning, Firm diversification, Stakeholder theory and Corporate Social Responsibility, Agency Theory and Mergers and Acquisition strategies (Martynov &Shafti, 2016).

Herciu and Serban (2018) have identified measures of firm financial performance to include objective financial measures of profitability, measures of product market performance and shareholder returns measures. Firm financial performance can also be measured using subjective non-financial measures (Williams, 2018) which include service quality, staff development, customer satisfaction, environmental protection and firm reputation, among others. ROTA is one of the most frequently used measure of firm financial performance (Williams, 2018). From the literature survey conducted in this study the findings were that ROTA was the most frequently used firm financial performance measure (27%) as shown in Table 2.5. This was followed by Tobin's Q at 19% and ROE at 11%.

Firm financial performance Measure	Number	%
Return on Total Assets (ROTA)	29	27
Tobins Q/Firm Value	20	19
Return on Equity (ROE)	12	11
Dividend pay-out	5	5
Return on Sales(ROS)	4	4
Earnings per Share(EPS)	4	4
Economic Value Added(EVA)	3	3
Net Profit Margin	3	3
Total Debt to Total Capital(leverage)	3	3
Market to book value	3	3
Operating Efficiency	2	2
Corporate Cash/Liquidity	2	2
Stock Return	2	2
Sales Efficiency	1	1
Net income efficiency	1	1
Cost of capital	1	1
Investment Efficiency	1	1
Earnings Management	1	1
Social efficiency	1	1
Loan size	1	1
Bank Efficiency	1	1
Growth	1	1
Long Term Debt Ratio	1	1
Total Debt Ratio	1	1
Export Perf.	1	1
ROIC	1	1
Altman Z-Score	1	1
TOTAL	**106**	**100**

Table 2. 3: Firm financial performance measures employed

Source: Author, 2019.

In this study, ROTA was used to measure firm financial performance in assessing the effect of corporate governance factors on firm financial performance as it has been the most frequently used measure of firm financial performance as shown in Table 2.5. Return on Investment (ROI) or Return on Equity (ROE) was not used in the study because the available SOE data showed that in most SOEs the equity was negative. Other ratios that were used to measure short term liquidity, long term solvency and

operating gearing were the current ratio, the total debt to equity ratio and the operating profit margin ratio respectively.

2.4. Research Methodology

Based on the research papers reviewed, the most popular methodology used in investigating the association between corporate governance attributes and firm financial performance was quantitative (81%), followed by Qualitative (10) and mixed methods (combining quantitative and qualitative) (9 as shown in Table 2.6.

	Quantitative	Qualitative	Mixed Methods
No. of research Papers	102	13	11
%	81	10	9

Table 2. 4: Research Methodology employed

Source: Author, 2019.

These research methodology adopted in this study was the Quantitative methodolgy which followed what the majority of other studies have used and this further considered in more detail as part of the Research Methodology in Chapter Four.

2.5. Corporate Governance Theories

The literature search has identified a number of theories on corporate governance that were employed in several prior studies. The agency theory has been the most dominant theory which is further broken down into principal-agency theory and principal-principal theory, followed by the resource dependency theory, stakeholder and stewardship theories as shown in Table 2.5.

Corporate Governance Theory employed in prior studies	Number of studies	%
Agency(incl. principal – principal, principal-agency)	69	47
Resource Dependency	18	12
Stakeholder	11	7
Stewardship	10	7
Signalling	5	3
Institutional	4	3
Managerial hegemony	3	2
Legitimacy	3	2
Group Decisions	2	1
Resource based	2	1
Property Rights	2	1
Public choice	2	1
Political economic theory	2	2
Capital structure	1	1
Dividend policies	1	1
Leadership perspective	1	1
Obfuscation	1	1
Life cycle	1	1
Market learning	1	1
Resource hegemony	1	1
Multi-task	1	1
Multi-principal	1	1
Tournament	1	1
Equity Incentives	1	1
Integrated framework	1	1
Interlocks	1	1
Shareholder supremacy	1	1
Managerial perspective	1	1
Firm perspective	1	1
Welfare economics	1	1
TOTAL	**150**	**100**

Table 2. 5: Corporate Governance Theories

Source: Author, 2019.

These theories have been considered in more detail as part of the Theoretical and Conceptual Framework in Chapter Three.

2.6. Summary

Following the identified themes from the empirical literature the main findings are as follows.

Overall, the importance of corporate governance may be considered in several ways based on the above literature. Corporate governance has an influence on the financing of a firm in that well governed firms attract higher premiums from investors, have access to cheaper debt finance and hence reduced cost of capital and have lower leverage.

The factors that affect corporate governance and which have been researched empirically include share ownership structure, firm characteristics, firm level risk, industry, country, national culture and legislation, among others. Research into the effect of share ownership on firm financial performance has produced varied results. However, the majority of the surveyed studies (46%) that have been considered in this literature review show a positive association between share ownership and firm financial performance and in some cases this association is significant (25%), irrespective of the firm financial performance measure used and the country in which the study was conducted.

In terms of economic and financial performance, as measured by Return on Equity (ROE), Return on Assets (ROTA) and Return on Investment (ROI) for instance, better governed firms outperform poorly governed firms, have more efficient operations, provide higher returns to investors and in terms of the public sector they provide improved service delivery. Additionally, better governed firms have reduced risk profiles as the corporate governance systems provide safe guards against such vices as corruption and mismanagement.

The association between corporate governance attributes and firm financial performance has been empirically researched and there is extensive literature (Bett & Tibbs, 2017). However, the research findings have produced mixed results. For instance, research into how board size affected firm financial performance has produced mixed results (37%) as of the surveyed studies show a positive association between board size and firm financial performance and in some cases this association is significant (25%) independent of the firm financial performance measure used and

the country in which the study was located. Using a number of corporate governance attributes, specific findings in each of these attributes and their effect on firm financial performance are described below:

2.7 Conclusion

In this chapter the literature on corporate governance and firm financial performance in general and specifically on the empirical association between corporate governance attributes and firm financial performance was conducted. The chapter comprehensively evaluated empirical studies on the association between corporate governance and firm financial performance.

CHAPTER THREE: THEORETICAL AND CONCEPTUAL FRAMEWORKS

3.0 Introduction

The purpose of this chapter is to review and establish the theories already existing in the corporate governance and firm financial performance constructs, the relationships between them and to what degree the existing theories have been investigated in prior research. A theoretical framework consisting of concepts together with their definitions was developed and this was used in the study followed by a conceptual framework. Consequently, the chapter starts with a consideration of the corporate governance theories. This is followed up with a detailed review of the mechanisms employed in the practice of corporate governance. The next section deals with the theories on firm financial performance measurements and in the final section of the chapter, the conceptual framework used in the study is presented.

3.1 Corporate Governance Theories

There are several theories of corporate governance that have been employed by various researchers in explaining the diverse roles of corporate boards (Simpson, 2014) and no one single theory of corporate governance can used to fully elaborate the heterogeneity and complexity of the board functions in an organisation (Madhani, 2017). These theories have influenced corporate governance development related to board activities, functions and how board compositions affect firm financial performance (Maher and Andersson, 1999).

Varying theoretical perspectives have been identified from the literature review. These include economics and non-economics-based theories (Simpson, 2014), signalling theories, theories on rights of shareholders, institutional theories, capital structure theories, and political economic theories, among others.

In this chapter, a critical synthesis of the different theories in terms of assumptions on the relationships between the various actors in the governance of firms, the different

challenges posed by the relationships and proposed governance mechanisms with respect to the Board of Directors for resolving the identified challenges and how corporate governance mechanisms improved firm financial performance is conducted. Broadly, the theories are grouped into economics-based theories and non-economics-based theories.

3.1.1 Economics Based Theories

3.1.1.1 Agency Theory

The dominant perspective that has been employed to research corporate governance has been the agency theory (Wasowska &Postula, 2018). The agency theory relates the behaviour of managers against the interests of the owners of a business. Jensen and Meckling (1976) perceive the corporate governance relationship as a contract, under which managers operate corporate businesses on behalf of shareholders. Managers are considered as agents to the principals (shareholders) and it is argued that the agents, being self-interested, may not always act in the best interest of shareholders and therefore make decisions which are advantageous to themselves but disadvantageous to owners (Anh & Khanh, 2017).At the centre of agency theory in firms are assumptions concerning the relationship between the owners of the business and the agents that the owners of the business have engaged to operate and manage the business on their behalf. Panda and Leepsa (2017), regard agency theory as one theory that is mainly concerned with the issue of the agency problem and how this agency problem can be solved or at least minimized. The issue of agency problem is not new in as far as the performance of firms are concerned as Panda and Leepsa (2017:75) have noted: “the history of agency problem dates back to the time when human civilization practiced business and tried to maximize their interest. Agency problem is one of the age-old problems that persisted since the evolution of the joint stock companies”. In addition, Constantatos (2019) has observed that the agency problem was identified by Adam Smith (1776) as early as the 18th century.

The Agency theory assumes the existence of a conflict of interest between the shareholders (the principals) and the managers (the agents) who manage a firm as agents of the principals. In order to minimise conflict, firms incur costs (Gaur *et al.,* (2015) citing Jensen and Meckling (1976) and Berle and Means (1932). Jensen and Meckling have opined that as managers are in control of the running of the company, they use that control to make decisions which favour their specific objectives at the cost of the shareholders. Among the agency costs include the costs associated with the appointment of a board of directors as a mechanism which part of the corporate governance systems who then monitor and control the management behaviour. Jensen and Meckling have gone further to argue that in order to minimise agency costs, employment contracts for managers should be appropriately structured with clauses to guarantee that the behaviour of managers is not only aligned with that of the firm but also of the shareholders.

In serving their own interests, managers may pursue strategies that increase their personal wealth by, for example, having enhanced salaries, bonuses and their reputations (Constantatos, 2019) or by the managers avoiding to take the necessary risks that are required in order to pursue the principals' interests and to enhance shareholder value (Mallin, 2010). On the other hand, shareholders pursue firm value maximization (Constantatos, 2019) and with maximized firm value, the shareholders gain in form of increased dividends and residual ownership of the firm.

At the basic level, the shareholders are considered as a unitary group while management is also considered as a unitary group without consideration of the fact that shareholders may comprise dispersed shareholders and management may comprise different levels of management employees. At this level, the agency problem has generally been referred to as the principal-agency theory or Type I Agency problem which is principally noted in cases where a high level of ownership diffusion exists (Constantatos, 2019). The Type I Agency theory has also been referred to as the Shareholder Theory or the Shareholder Supremacy Theory.

3.1.1.1.2 Corporate governance mechanisms under Agency theory

In agency theory, the corporate governance mechanisms are primarily concerned with the protection of shareholder interests (Sewpersadh, 2019) and these corporate governance mechanisms should therefore be designed in such a way as to ensure the alignment of agents' interests to those of the shareholders (Jensen and Meckling, 1976, Sanjaya *et al*., 2015, Sewpersadh, 2019). In this regard the attributes of corporate governance would include establishing an effective board.

3.1.1.1.3 Agency contracts

The agency contracts specify the contractual rights for the agents and principals (Jensen and Meckling, 1976) and the expected performance criteria by which agents are evaluated and rewarded thereof (Gaur *et al.,* 2015). However, as contracts cannot cover all unforeseen events or circumstances, the agency problem is not fully resolved through agency contracts and this gives managers some discretion to allocate financial resources based on their preferences and choices (Shleifer & Vishny, 1997).

3.1.1.1.4 Board of directors

In agency theory, for the board of directors to be effective in its duty, the board attributes would include the following:

i. Small board size as small boards improve monitoring and control of the managers and financial performance of the firm (Jensen, 1993);
ii. Having independent board members and a majority non-executive director which enhances the monitoring role and firm financial performance (Fama & Jensen, 1983, Gaur *et al*., 2015);
iii. Separation of the roles of the Chairman of the Board and the CEO which prevents one individual from having a dual role as a board member and as a member of management (Harris & Helfat, 1998);
iv. Managerial stock ownership (Panda & Leepsa, 2017);
v. Increased proportion of the debt compared to the equity in the financing of the firm which enhances management performance to comply with debt contractual requirements such as debt timely repayments (Panda & Leepsa, 2017);

vi. Mechanisms to prevent information asymmetry through strongly established and transparent systems (Panda and Leepsa, 2017); and

vii. Strong ownership concentration (Panda and Leepsa, 2017).

3.1.1.1.5 Agency Theory Summary

An overall summary of the agency theory in corporate governance and the suggested governance mechanisms to improve firm financial performance is as shown in Table 3.1 below:

Parties to the relationship	**Assumptions**	**Corporate Governance mechanisms to improve firm financial performance**
Principals (Shareholders)	• Shareholders are considered as a unit • Interested in the Maximization of investment returns • Not in control of the firm • Cannot trust the managers	• Ownership concentration • Agency Contracts • Board plays a monitoring role Boards of Directors with: • Smaller board size • Separation of CEO/Chairmanship • NEDs • Managerial stock ownership • Strong information structure
Agents (Managers)	• Are in control of the firm • Opportunists • Self-interested	

Table 3. 1: Agency Theory

Source: Author, 2019

3.1.1.1.6 Criticisms of Agency Theory

The Agency theory has been criticized on a number of grounds especially on the key assumptions relating to the behaviour of managers and shareholders. Moreso, for its concentration on shareholders yet there are other stakeholders that equally play a role on boards. Arising from these criticisms, the agency theory has been extended by various scholars to include stewardship theory which has a different perspective on the behaviour of managers; stakeholder theory that goes beyond shareholders to include other stakeholders; Type II agency theory concerning the relationship between minority shareholders and majority shareholders; Type III agency theory being concerned with the relationship between shareholders and debt holders; and agency problems within management which is concerned with the relationship between managers and subordinates. These variants of the agency theory are considered below:

3.1.1.2 Stewardship Theory

The stewardship theory is one other theory on corporate governance (Constantatos, 2019). The stewardship theory suggests that maximization of the firm's performance is the manager's primary objective because a manager's desire to attain performance targets and success are accomplished when the firm achieves superior performance (Kyereboah-Coleman, 2007). This theory takes the view that it is not always true that managers are self-interested and opportunistic as assumed in the agency theory (Donaldson, 1995). Simpson (2014) has noted that proponents of the stewardship theory argue that managers concentrate on working for the well-being of the firm as a whole and as team players and are less prone to having self-interests and goals. As a result, managers must be trusted as they would account fully for their stewardship.

The managers' motivation is the desire to succeed (Sewpersadh, 2019) and their motives are aligned with that of the shareholders in that successful firm financial performance satisfies both the managers and the shareholders. Due to the self-motivation by managers, the stewardship theory suggests that control devices are not

needed (Constantatos, 2019). Consequently, “managers should be given autonomy based on trust, which minimizes the cost of monitoring and controlling behaviour of the managers and directors” (Gaur *et al*., 2015:4).

3.1.1.2.1 Role of the Board under stewardship theory

Under the stewardship theory the role of the board of directors includes that of being consultants and advisors to the management to ensure that management engage in actions that would improve the returns to the shareholders and in ensuring a mutual cooperation between shareholders and management (Constantatos, 2019, Sewpersadh, 2019).

3.1.1.2.2 Board composition

Regarding board composition, the stewardship theory suggests a board with diverse membership. This diversity stems from experience and skills sets, with the CEO being the board chair as well and having a majority of directors being executive as the executive directors understand the business better (Donaldson, 1990 & Gaur *et al.,* 2015). An identified advantage of having the chair of the board being the CEO as well is the unification of leadership and goal alignment.

3.1.1.3 Stakeholder Theory

In the stakeholder model which is much wider in the consideration of the principals, Corporate governance is used to explain the network of informal and formal relations involving the organisation (Maher & Andersson, 1999, King IV, 2016). Simpson (2014) has noted that the stakeholder theorists contend that all other groups or individuals who are affected by the activities of the organization or can affect the activities of the organization are considered as principals of an organization. This means that it is not only shareholders who are considered as the principles but other interested parties as well (Freeman, 1984; Donaldson & Preston, 1995; Clarkson, 1995).

King IV (2016) has called for a stakeholder inclusive approach to corporate governance stating that:

> There is an interdependent relationship between the organization and its stakeholders, and the organization's ability to create value for itself depends on its ability to create value for others. An organization becomes attuned to the opportunities and challenges posed by the triple context in which it operates by having regard to the needs, interests and expectations of material stakeholders (23).

The term stakeholder has been defined in several ways. According to Freeman (1984, p. 46) stakeholders are "any group or individual who can affect or is affected by the achievement of the organization's objectives". Gaur *et al. (*2015) suggest that three attributes can be used to show whether an individual or groups of individuals are stakeholders and the three attributes are: the legitimacy of relationship with the firm, the power to influence the firm and the urgency of their claim on the firm. King IV has defined stakeholders as:

> *Those groups or individuals that can reasonably be expected to be significantly affected by an organization's business activities, outputs or outcomes, or whose actions can reasonably be expected to significantly affect the ability of the organization to create value over time. (17)*

King IV (2016:17) further classifies stakeholders into internal stakeholders and external stakeholders. He goes on to state that internal stakeholders are directly affiliated with the organization and would include its governing board, management, employees and shareholders while external stakeholders could include trade unions, civil society organisations, government, customers and consumers. Furthermore, King IV (2016) suggests that certain stakeholders are always material stakeholders and this includes internal stakeholders. On the other hand, other stakeholders may or may not be material which includes external stakeholders.

For Schilling (2000), stakeholders can equally be grouped into two categories, primary and secondary. On one hand, stakeholders with a contractual relationship with an organisation are regarded as primary stakeholders and these include shareholders, management, creditors, employees, and customers. On the other hand, those

stakeholders that do not have a contractual relationship with an organisation are considered as secondary stakeholders and these include the general public, the community, competitors, activists, journalists and analysts (Constantatos, 2019).

Another stakeholder categorisation involves classifying stakeholders as either normative or derivative stakeholders (Phillips, 2003). In this categorisation, those stakeholders who the organisation has a moral obligation of fairness are referred to as normative stakeholders and the derivative stakeholders are those stakeholders to whom the organisation has no ethical responsibility of fairness but they could benefit or harm the organisation such as activists and competitors.

3.1.1.3.1 The role of the board under stakeholder theory

Under the stakeholder theory, corporate governance is concerned with what is best for stakeholders and it involves balancing the role of the board, management and stakeholders by focusing on the firm in being transparent in its reporting and disclosure of corporate governance practices and continued dialogues among all parties involved in order to balance their conflicting needs (Fassin, 2012; Hemphill & Laurence, 2014).

Particular roles of the board under this theory comprise a political role and a leadership role (Cornforth and Edwards, 1999 and King IV, 2016). Further, King IV (2016) has suggested that the board should make decisions by taking into account the interests of not only the shareholders but also the interests of the firm and the stakeholders.

3.1.1.3.2 Board composition in stakeholder theory

Hemphill and Laurence (2014) have opined that corporate governance under the stakeholder theory involves balancing the role of the board, management and stakeholders and that this balance may be achieved through board members being truly independent from all stakeholders, or by appointing stakeholder representation to the board. At the very fundamental level, the corporate governance factors that positively affect firm financial performance include board size and board competence

with the assumption that a more competent and larger board is better positioned to protect the interests of diverse stakeholder groups (Constantatos, 2019).

3.1.1.3.3 Criticism of the stakeholder theory

The stakeholder theory has been criticized on several grounds. For instance, there is ambiguity in the definition of stakeholders which depends on whether a broad or narrow definition is assumed. This is makes it very difficult to identify all stakeholders which poses an unrealistic task for the agents or managers (Constantatos, 2019). Additionally, Schilling (2000), has noted that there is no agreement on whether all stakeholders should be treated with the same level of importance or indeed what criteria to use in arriving at the prioritization of the needs of stakeholders.

Hemphill and Laurence (2014) have argued that board members may experience accountability conflicts due to the wide dispersion of stakeholders and their interests which the board members have to balance. Also, the stakeholder theory ignores a firm's core function, which is to provide the maximum return and value to shareholders (Constantatos, 2019) and it does not consider the likelihood that the ineffectiveness or absence of external institutions can hamper the board's ability to direct and control the firm (Chakrabarty and Bass, 2014). Specifically, for SOEs, it is often a challenge to the board and management to manage a widespread range of stakeholder groups with conflicting interests. The conflicting interests are almost impossible to reconcile and the "good performance of SOEs gets eroded in chasing too many conflicting stakeholder interests" (Mbo & Adjasi, 2017:2).

3.1.1.4 Shareholder Theory

In the shareholder model, which is the narrowest form, corporate governance frequently describes the prescribed system of accountability of senior management to shareholders only (Maher & Andersson, 1999). According to Sewpersadh (2019), the shareholder theory postulates that a primary duty of management is wealth maximization of shareholder and corporate governance is about what is best for the shareholders. It emphasizes value distribution and protection for shareholders from a

unitary perspective concerned with the external actors (ibid.) Shareholder wealth maximization being premised on the management being efficient in their operations resulting in increased firm profitability and residual firm value (Friedman, 1962, Berle & Means, 1932;). The need for good corporate governance stems from the assumption that managers cannot be trusted and should be monitored through agency contracts and effective boards of directors whose primary duty is to ensure that managers act to maximize shareholder wealth (Hemphill & Laurence, 2014). Thus, the intended outcome of the shareholder theory is the maximisation of the shareholder wealth (Hemphill and Laurence, 2014).

3.1.1.5 Shareholder Supremacy

Under the shareholder supremacy theory, which is also referred to as Type I Agency theory, the board of directors as a system is considered as a means by which shareholders exert control over management. The board is accountable only to shareholders (including minority shareholders) but further play a key role in the protection of the interests of minority shareholders from being exploited by the majority shareholders (Hemphill & Laurence, 2014).

3.1.1.6 Principal-Principal agency problem – Type II agency problem

In the Type II agency theory, which is also referred to as principal-principal agency problem, the conflict is considered to be between different shareholder groups in an organisation with dispersed shareholders as opposed to a single shareholder (Jiang and Peng, 2011; Shan and Xu, 2012; Safdar *et al.,* 2019). The different principal groups include: (i) minority v majority shareholders (Ali *et al*., 2007), in which it is assumed that the majority shareholders extract more benefits out of a firm as compared to minority shareholders (Shleifer & Vishny, 1997; Safdar *et al.,* 2019); (ii) family shareholders v non-family shareholders; (iii) foreign shareholders v local shareholders in multinational corporations; and (iv) institutional shareholders v non-institutional shareholders.

In resolving the Type II agency conflict, the corporate governance attributes comprise (for example) engaging independent board members and having high quality and independent auditors (Safdar *et al*., 2019).

3.1.1.7Equity holders – Debt holders agency problem - Type III Agency problem

A conflict is assumed to arise between equity holders and debt holders in the financing of a firm. This conflict is known as the Type III Agency problem or theory (Constantatos, 2019). The conflict arises in that the debt holders are considered to be weaker than the shareholders especially in the case of diversified shareholders who would make decisions to expropriate wealth from the firm at the expense of the debt holders. The expropriation occurs through decisions made by the shareholders and in form of dividend payments for instance. The shareholders are assumed to be involved in deciding which type of projects to invest in so that they would gain more as the projects provide returns in the form of profits which are only available to the shareholders as equity holders (Constantatos, 2019).

3.1.1.8 Agency problems within management

Within a firm, agency theory suggests that agency conflicts may arise between functional managers being the agents and the top management being the principal (Milgrom & Roberts, 1990, 1995) due to the separation of interests between the principal (top management) and the agents (functional managers). For example, when authority to make decisions is delegated to functional managers, there is a chance that they will use their specific knowledge to make decisions for their own benefit that may be to the detriment of the firm (Christie *et al*., 2003).

3.1.1.9 Management Hegemony/Supremacy Theory

In the management hegemony theory, the managers are assumed to control the board of directors and the managers are considered superior (Cohen *et al*., 2008). The mechanisms which managers employ to control the board include management having an input in choosing board members who are not independent and therefore ineffective and management controlling the timing, quality and level of the flow of information to

the board for decision making (Constantatos, 2019). The board is, therefore, seen to be a rubber stamp of management decisions and is more symbolic than being effective in the controlling and monitoring the managers. The role of the board is mainly to ratify and legislate actions taken by management (Constantatos, 2019). Hung (1998) has suggested specific tools that can be used for the management theory to be effected such as dispersed shareholdings, management arranging for a capital structure with more debt than equity thereby taking away the control by shareholders and management exerting influence over who is appointed to the board.

3.1.1.9.1 The role of the board under management hegemony theory

The main theoretical assumptions under the management hegemony theory are with respect to the role of the board of directors and information asymmetries. It is assumed that the main role of the board of directors is serving as a managerial tool that provides support for the resolutions and decisions made by the management (Mace, 1971). At the centre of this theory is the manifestation of the limitations in decision making arising from information asymmetries. The board of directors is assumed to have no power to exercise control over management and to accomplish their fiduciary duty due to lack of information (Constantatos, 2019).

3.1.1.9.2 Criticism of management hegemony theory

The management hegemony theory has been criticised due to limited empirical evidence (Constantatos, 2019). Hung (1998) have argued that ultimate control of management lies with the board as the board has the power to terminate the contracts of the CEO and other managers.

3.1.1.10 Resource dependency theory

The Resource dependency theory, which is based on a more sociological approach, presents accessibility to capital as a critical dimension to the debate on corporate governance in addition to the separation of control and ownership (Kyereboah-Coleman, 2007). The resource dependency theory posits that firms are dependent on

actors or stakeholders in the environment in which the firm operates who provide access to needed resources and, therefore, have an impact on the firm's strategy (Pfeffer & Salancik, 1978).

Under the resource dependence theory, a key role of the board members is in providing an external link between the firm and the external environment through for instance networking and through the linkages the board can narrow the gap between the firm and its external environment which serves as a vital mechanism for attracting resources and thereby improving firm financial performance(Pfeffer & Salancik, 1978). The resources that boards provide include information, skills, legitimacy and this can also be a competitive tool for the firm as it conveys knowledge and facilitates access to much needed external resources (Pfeffer, 1972; Audretsch &Lehmann, 2005).

3.1.1.10.1 The role of the board under resource dependency theory

Boards are seen as having an important external role as a link among the resources the company depends on, the company and its stakeholders (Wasowska and Postula, 2018). The board's role is to act as a partner to management assisting them in effectively setting strategies and policies for the company and not to monitor management, as stated by the agency theory (Cohen *et al* 2008).

3.1.1.10.2 Board composition under resource dependency theory

Under the Resource dependence theory, larger boards are preferred as they are considered to improve external relations, advisory capacity, deliberations and counselling and thus financial performance of firms (Pfeffer, 1972 & Orozco *et al*. 2018). An increase in board size, according to Pfeffer and Salancik (1978), provides access to external relationships which brings more information and the needed access to financial and inter-organizational coordination (Pfeffer, 1972). Large boards, according to Cohen *et al*., (2008), can improve the quality of opinions and deliberation upon decision making, richness of viewpoints, access to information and resources as well as broadening the strategic spectrum of the company. The proposed attributes of board members include know-how in setting corporate strategy, industry expertise,

access to external resources and independence (Cohen *et al*., 2008) and board of directors whose members possess professional qualifications (Pfeffer, 1972).

Haider and Fang (2016) suggests that board size depends on the firm's environmental needs and a firm that has more external interdependencies should have a larger board (Pfeffer, 1972). Accordingly, different studies have found that larger boards are more efficient and effective (Yermack, 1996) for larger firms because they have greater needs for advice (Coles *et al*., 2008) and larger boards are associated with higher firm value (Jensen, 1993).

3.1.1.10.3 Criticism of the Resource Dependency Theory

Cohen *et al*., (2008) have criticised the theory from the point of view that for the Resource Dependency theory to be effective, there should be large board sizes and that the board should consist of professionally qualified and experienced board members and this results in increased costs of monitoring and hiring of board members. In respect of SOEs, Mbo and Adjasi (2017) and Bortolotti and Pinotti (2008) have argued that political players exert significant influence over the resources that SOEs possess thereby reducing the control of SOEs. Maura (2007) has further suggested that politicians abuse external resources to satisfy their political interests rather than that of the firm.

3.1.2 Non-Economics Based theories

The non-economics-based theories include institutional, signalling and legitimacy theories. These are considered next.

3.1.2.1 Institutional Theory

This theory is premised on the assumption that the firm operates within external institutions such as the society at large and the corporate governance is therefore affected by rules and norms emanating from the external institutions (Constantatos,

2019). The institutional rules and norms may be classified into formal and informal (North, 1990). The formal rules comprise laws and contracts while social values and norms are the normative rules. In addition, common beliefs, assumptions and meanings are referred to as cognitive rules (Scott, 2001). Taking a corporate governance perspective, each of these rules and norms render different rationales for compliance by firms (Constantatos, 2019).

A rationale for compliance is where a firm tends to adopt corporate governance practices that are followed by similar institutions through a process of homogenisation (Constantatos, 2019, Cohen *et al.,* 2008)). An example of a homogenisation process is isomorphism whereby firms either mimic other firms or are coerced to adapt other behaviours (DiMaggio & Powell, 1983). In coercive isomorphism two key factors affect the behaviour of a firm. Firstly, the firm responds to informal and formal pressures exerted by other firms a firm interacts with and is dependent on. Secondly, the pressures emanate from society through cultural influences.

In normative isomorphism, the firm is mainly affected by the information provided by academic and professional bodies including accounting and auditing firms. These institutions or professional bodies provide frameworks of expected behaviour of firms. Whenever the environment within which a firm operates is considered uncertain or information coming from the environment is uncertain, this makes the firms to mimic the behaviour of firms that are leaders in the industry and this is referred to as mimic/cognitive isomorphism (Frumkin & Galaskiewicz, 2004; Constantatos, 2019).

3.1.2.2 The role of the board in institutional theory

Corporate governance, in institutional theory, implies that in an uncertain environment, the boards are symbolic and ceremonial (Constantatos, 2019). The corporate governance factors such as board appointment process, board composition and structure and the establishment of board committees are designed so as to meet societal and participant expectations. The corporate governance practices in firms therefore tend to be similar to those other firms in the same industry.

3.1.2.3 Criticism of Institutional Theory

Yazdifar (2003) has criticized the institutional theory in that it is too focused on institutional factors without taking into account the effects of and interactions between external factors such as political and internal factors like firm specific cultural elements. It further ignores organizational change processes and self-interest driven behavior of employees in an organisation.

3.1.2.4 Signalling Theory

In the signalling theory the disclosure of corporate governance practices is considered to signal certain information to users of financial information about the performance of the firm and its future prospects. The key assumption in the signalling theory is the assumption of information asymmetry that exits between managers and the users of the information (Darmadi & Gunawan, 2013). There are two broad types of signals that firms send out via corporate governance disclosures depending on the financial status or intent of the firm. On one hand, firms may disclose information about corporate governance practices to show that the firm is better than other firms if the intention is to attract investors (Campbell *et al.*, 2001; Elzahar & Hussainey, 2012; Nerantzidis & Tsamis, 2017). On the other hand, firms that are performing poorly may hide the bad information by for example disclosing complex and not easy to understand narratives (Mbo & Adjasi, 2017). Signalling theory is particularly important in explaining disclosures made in IPOs in that there is a tendency by firms to under-price their shares in initial price offerings as a means of signalling the superior quality so as to attract potential investors (Allen & Faulhaber, 1989).

3.1.2.5 Legitimacy Theory

A variant of signalling theory is legitimacy theory of corporate governance. In this theory, corporate governance disclosures by firms are made in such a way as to legitimise the firm's existence in society in which the firm operates (Hassan *et al*., 2019). One important assumption is that that the behaviour of firm managers is driven by legal and societal expectations and in order to survive in a particular society,

managers have to disclose corporate governance practices that are congruent with societal expectations and hence ensure firm survival and better firm financial performance (Noronha *et al.*, 2018). The main focus of legitimacy theory is the preservation of a licence to operate and to comply with all regulatory requirements (Guthrie & Parker, 1989).

The licence to operate a firm in legitimacy theory may be conferred by outsiders or society and also it may be conferred by the firm through obfuscation (O'Donovan, 2002; Hassan *et al.,* 2019). Smith *et al*. (2006) have explained that obfuscation is the process of disguising information to minimise the importance of information. The use of legitimacy theory in research has been in the area of corporate social responsibility research which has been widely done (Noronha *et al.* 2018).

3.1.2.6 Public choice theory and political influence on SOEs governance

The public choice theory assumes that politicians are self-interested individuals who flourish on the weaknesses of systems which are intended to monitor and evaluate their performance (Shaw, 2008). In the context of SOEs, management and governance structures are more often than not exposed to political appointment processes, typically boards and CEOs who are appointed by Ministers and other political officers (Mbo & Adjasi, 2017). This then creates significant challenges for board and management to effectively manage political pressures and manipulation (Mbo & Adjasi, 2017). In SOEs politicians carry political power that they employ to appoint and disappoint board members and management in particular the CEO. Furthermore, state-owned firm managers lack incentives to maximize corporate profitability and efficiency as the firm is total or partially owned by the state (Mbo & Adjasi, 2017). In some cases, vital resources that are needed by the firm are often diverted to insignificant projects which then limits the choices available to the board and management for projects that contribute to firm financial performance.

3.2 Corporate Governance Mechanisms

Research on the association between corporate governance and firm financial performance may be grouped into two main broad categories. The first category comprises studies that investigate the association between corporate governance and firm financial performance using constructed corporate governance indices. Such studies include Gompers *et al.,* (2003), who constructed a governance index, the Gompers, Ishii, Metric index (GIM index); Brown and Caylor (2006) who constructed a summary governance measured referred to as Gov-score; and Bebchuk *et al.,* (2009) who constructed the entrenchment index). These studies investigated the relationship between the indices and various measures of firm financial performance.

The second group comprises studies that test the relationship between specific common factors of corporate governance and firm financial performance. A number of common indicators of governance, including the size of the board of directors, the proportion of female directors on the board, the percentage of independent directors, the separation of leadership, the compensation and the tenure of top management have been widely used to investigate their correlations with firm financial performance (Anh and Khanh, 2017).

3.3 Firm financial performance theories and measures of firm financial performance

According to Herciu and Serban (2018), the determinants of firm financial performance include corporate governance, strategic positioning, IT competency and intangible assets, firm diversification, environmental management and production innovation.

Firm financial performance as a construct may be classified into long-term and short-term performance (Martynov and Shafti, 2016). The main theoretical underpinnings of firm financial performance include the Knowledge Based View (KBV), Resource Based View (RBV), Corporate Governance, Firm Orientation and positioning, Firm diversification, Stakeholder theory and Corporate Social Responsibility, Agency Theory

and Mergers and Acquisition strategies (ibid.). According to Herciu and Serban (2018), the determinants of firm financial performance include corporate governance, strategic positioning, IT competency and intangible assets, firm diversification, environmental management and production innovation. Another way of categorizing factors affecting firm financial performance was proposed by Hansen and Wernerfelt (1989) and comprised three factors namely organizational factors, environmental factors and people factors.

Herciu and Serban (2018) have identified measures of firm financial performance to include objective financial measures of profitability, measures of product market performance and shareholder returns measures. Firm financial performance can also be measured using subjective non-financial measures (Williams , 2018) which include environmental protection, staff development, service quality, customer satisfaction, firm reputation among others. ROTA is one of the most frequently used measure of firm financial performance (Williams 2018). In this study ROTA was used to measure firm financial performance.

3.4 Corporate governance theories - a summary

From the foregoing review of the corporate governance theories an overview of theories could be summarized as in Appendix 13.

The main corporate governance theories identified from the literature include Agency, Management hegemony, Stewardship, Resource dependency, Stakeholder, Institutional, Signalling, Legitimacy and Public choice theory and political influence. These theories differ in their consideration of the assumptions relating to the parties involved, the main focus of the theory, the role of the board of directors and the desirable board composition that is required to solve the identified conflict between the parties. The Agency theory, which is further sub-divided into Type I, II and III, focuses on the misaligned interests between controlling shareholders and non-controlling

shareholders, management and shareholders and shareholders and bond-holders respectively. The role of the board, in this case, is assumed to be that of monitoring and controlling management and the desirable board composition is mainly independent non-executive directors and separation of the roles of the Chairperson of the Board and the CEO.

Under the Management hegemony theory, the identified parties are management and the board members. The theory is focused on the effect of management dominating the board through management control mechanisms which include ownership diffusion, information asymmetry and management choosing board members.

The Stewardship together with the Resource dependency theories are concerned with the conflict between management and the shareholders. The stewardship theory assumes that the management serve the firm and their own interest but the management are assumed to be trusted and dependable stewards for the shareholders.. The desirable board composition is large board sizes, independent board members and board member with industry expertise with access to external resources.

The Stakeholder theory is concerned with the conflict between stakeholders and management. In this theory the management are assumed to be serving stakeholders in addition to serving the shareholders.. The desirable board composition is large board sizes, diversity on boards with stakeholder representatives on the board, competent and independent board members with industry experience.

The legitimacy theory is closely interrelated to the stakeholder theory except that the parties involved are the wider society and management. The focus is how to preserve a firm’s legal and social licence to operate in society and corporate governance disclosures are made to satisfy the need to comply with societal expectations. Board diversity and representatives from the community are desirable board composition

characteristics. In the signalling theory the conflict is between the users of financial information and management. It is assumed that managers use corporate governance disclosures to signal superior performance and firms with poor financial performance will obfuscate bad information through the use of complex and difficult explanations. The role of the board is to monitor and control the management.

In the Public choice theory and political influence theory, conflict is between politicians and management and the board. The main assumption is that politicians are self-serving individuals exert political pressures on the management and the board. A key source of political power is that the boards and CEOs are appointed by politicians and others connected to the politicians. The board in this case responds to the political pressures and end up playing a political role. The desirable board composition to counter the political pressures is to have independent board members and also diverse representatives on the board representing different constituents.

3.5 Theoretical framework adopted

Evidently, there are many theories that scholars have utilized in discussing the association between corporate governance practices and firm financial performance. It is clear that a comprehensive theory of the underlying determinants of corporate governance and firm financial performance does not yet exist (Abraham & Shrives, 2014). However, the agency theory is fundamental because it is premised on the relationship between two parties to a contract or relationship. There have been suggestions that a combination of theories do provide a greater insight than using only the agency theory which has been widely applied by the majority of corporate governance practices and disclosure studies. The agency theory does not provide the full explanation and therefore an integrative approach is desired where the researcher traingulates theories.

In SOEs the corporate governance mechanisms consist of several agents encircled by various principals so the principal-agency relationship is multi-faceted and its analysis goes beyond the agency theory. Mitnick (1973:9**)** recognized that in SOEs there are

> *heterogeneous preferences or goal conflicts, competition among principals and agents as well as between them, problems of collective action, a more complicated palate of interests and therefore different incentives mobilized to control them and varying sources and mechanisms to mitigate informational asymmetries.*

Therefore, in the public sector, as in SOEs, the agency theory is still applicable as it provides a cornerstone in which firm governance is based (Mbo & Adjasi, 2017). However, due to the issues suggested by Mitnick (1973), one needs to consider extended stakeholders as in stakeholder theory. Also, as SOEs are created by a political process through the government the political economic theory in corporate governance has to be recognized in order to understand the practices and disclosures in corporate governance and the influence on firm financial performance. The Management hegemony theory is not applicable as board members are appointed by the ministers of the respective ministries and management do not play a significant role in the appointment process.

Justifications

The agency theory has been included as it is a fundamental theory in corporate governance because it is premised on the relationship between two parties to a contract or relationship. In SOEs there is a contractual relationship between management and the government as the shareholder representatives. This relationship presents conflicts and the board of directors and corporate governance practices serve to monitor and control the management.

As opposed to the agency theory, in SOEs the Stakeholder Theory of Corporate governance is also relevant in the sense that the principals extend beyond the the government as shareholder representatives as the SOEs are owned by the public and these SOEs are formed by the government to achieve certain public interest objective.

As a result, they are extended to other groups or individuals who are affected by the activities of the SOE or can affect the activities of the SOE. As was suggested by King IV (2016) a stakeholder inclusive approach was more appropriate in corporate governance. Under the stakeholder theory, corporate governance is concerned with what is best for stakeholders and it involves balancing the role of the boards of SOEs, management and stakeholders by focusing on the firm being transparent in its reporting and disclosure of corporate governance practices. Particular roles of the board of SOEs under this theory comprise a political role and a leadership role and it is assumed that the boards of SOEs should make decisions by taking into account the interests of not only the government but also the interests of the firm and the stakeholders.

In SOEs in Zambia, board members are usually appointed on the basis of being representatives of stakeholders. Stakeholder representation on boards is one of the characteristics of the board composition under stakeholder theory and the assumption that a larger board is better positioned to protect the interests of diverse stakeholder groups which justifies the inclusion of this theory in this study. Most of the SOEs in Zambia have large boards.

Institutional theory plays a relevant role in SOEs as corporate governance practices are affected by external institutions such as regulation, social and the norms and expectations from stakeholders. The institutional rules and norms include the formal Acts under which the SOEs are established and registered. These various Acts have specific corporate governance requirements which are required to be complied with by the SOEs. A rationale for compliance is where SOEs tend to adopt corporate governance practices that are followed by other SOEs through a process of homogenization. To an extent, institutional theory applies in this study as the boards of SOEs may be more symbolic and ceremonial and the corporate governance factors such as board appointment process, board composition and structure and the establishment of board committees are designed so as to meet government and

societal expectations. The corporate governance practices in SOEs therefore tend to be similar to those other firms in the same industry. However, this theory may not foster good corporate governance as in practice the board is more symbolic and ceremonial but it may hinder good corporate governance practices and therefore in the context of SOEs this theory is applicable in explaining the corporate governance practices in SOEs.

The public choice theory has been included as part of the theories because politicians play a key role in the appointment of board members for SOEs and thereby the management and governance structures are more often than not exposed to political appointment processes..

On this basis an integrative and multi-prolonged theoretical approach has been adopted in this study in order to better understand corporate governance practices and disclosures in SOEs in Zambia. The main theoretical perspectives that have underpinned and guided the study accordingly include agency, stakeholder, political economic and institutional theories. This approach is in line with that followed by Nerantzidis and Tsamis (2017), Gaur *et al*. (2015), Singh and Gaur (2009), and Elzahar and Hussainey (2012).

As regards the choice of theories in respect of firm financial performance, objective measures of performance have been adopted following Herciu and Serban (2018). The objective measures of SOEs financial performance used include ROTA to measure SOEs profitability or returns that are generated from the resources available for the SOEs, the current ratio which measures short term liquidity, operating margin which measures the operational gearing and for long term solvency the total debt to total equity ratio.

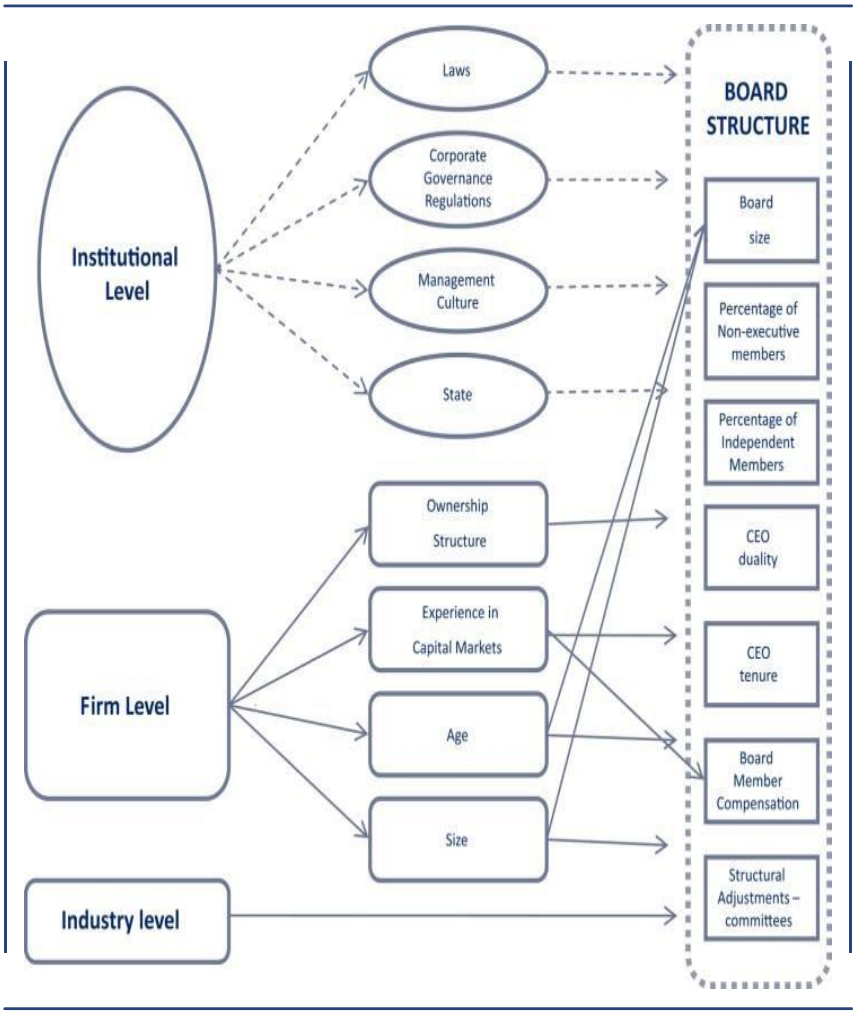
3.6 Conceptual framework adopted

In this section the conceptual framework employed in the study is inductively developed from the relevant literature that has been reviewedin this thesis. The framework is informed by the agency theory, Stakeholder Theory of Corporate

governance, Institutional theory and the public choice theory. Further than this, key concepts linked to coporate goveranace form the conceptual framework that adresses firm performance .

3.7 Factors affecting Corporate Governance practices

Oba *et al* (2014) has categorised the factors affecting corporate governance as being external institutions, firm level factors and industry factors. Figure 3.1 is the conceptual framework from Oba *etal.,* (2014).



Source: Oba *et al.,* (2014)

Based on the literature and in addition to Oba *et al*., (2014), the identified factors that affect the corporate governance practices of a firm may be summarized as per the

Table 3.2. The corporate governance factors have been cross referenced to the literature in Table 3.2

Factor	Reference to Literature review
External Institutions/factors:	2.2.4
Industry	2.2.4
Country	2.2.4
Legislation	2.2.4
Corporate governance codes	2.2.4
Culture	2.2.4
Firm level characteristics:	**2.2.5**
Firm type	2.2.5
Firm Size	2.2.5
Firm Growth	2.2.5
Firm Age	2.2.5
Management	2.2.5
Risk culture	2.2.5
Financing structure	2.2.5
Share ownership:	**2.2.6**
State ownership	2.2.6.1
Foreign firm ownership (FFO)	2.2.6.2
Large ownership/Ownership concentration	2.2.6.3
Institutional ownership/Mutual funds/Block ownership	2.2.6.4
Insider ownership/Management Ownership/Boards shareholdings/Director ownership	2.2.6.5
Family ownership	2.2.6.6

Table 3. 2: Factors affecting corporate governance

Source: Author, 2020

3.8 Corporate Governance attributes affecting firm financial performance

The corporate governance factors or attributes affecting firm financial performance are depicted in Table 3.3. These have been cross referenced to the literature and justifies their inclusion.

Factor	Reference to Literature review
Corporate Governance attributes:	**2.2.7**
Board size	2.2.7.1
Board composition:	**2.2.7.2**
Board diversity	2.2.7.2.1
Gender diversity	2.2.7.2.2

Minority shareholder representatives on Boards	2.2.7.2.3
CEO duality	2.2.7.2.4
Non-Executive Directors	2.2.7.2.5
Board independence	2.2.7.2.6
Independent committees	2.2.8
Board Meeting Frequency	2.2.10
Board Involvement in Strategy	2.2.11
Board competence	2.2.11
Board compensation	2.2.11

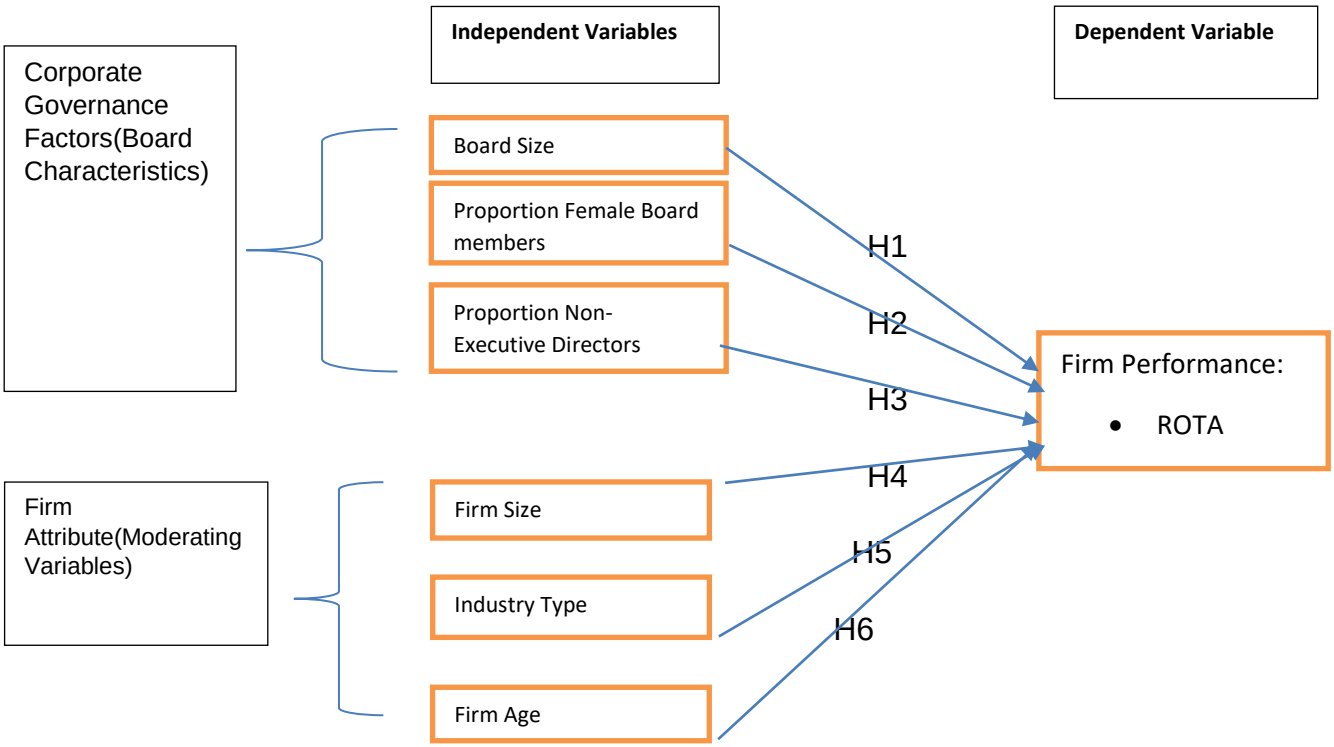
Table 3.3: Factors affecting corporate governance

Source: Author, 2020

3.9 Conceptual framework employed in the study

From the foregoing, the conceptual framework adopted in the study is shown in Figure 3.2.

Conceptual Framework – Research Objective (iii)



Note: H1 – H6 are alternative hypothesis under Research Objective (iii).

Figure 3. 2: Conceptual Framework

Source: Author's conceptualisation, 2020

3.10 Conclusion

In this chapter the theoretical and conceptual frameworks together with the corporate governance mechanisms and the firm performance measures employed in the study have been considered.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.0 Introduction

In this chapter, an outline of the research methodology and methods that were used in the study is provided. Matters covered in this chapter include the research type, research approach, philosophical assumptions and ethical considerations. The philosophical assumptions covered ontological, epistemological and human nature assumptions. Sample design and the data collection processes are presented.

4.1 Methodology

Noting that methodology is the theoretical framework that supports the methods chosen, the reseacher has found it imperrative to describe how the study was approached, the choice of techniques, which the researcher selected (Silverman, 2000; Collis and Hussey, 2003; Leedy and Ormrod, 2001; McGregor and Murname, 2010; Smith, 2012). The study was approached from the methodology inherent of the positivist paradigm.

The study was predominantly explanatory. It explores and describes phenomena as secondary activities. This fits what Abfalter (2014) positis about empirical rsearch like this one. He notes that the main objective of an empirical research like this one is to observe and describe phenomena, to explain causation of these phenomena, and to forecast future outcomes, developments and actions.

A quantitative approach has been adopted in this study as from the literature most studies found used a quantitative approach.

4.2 Research Approach

Noting that this study stems from causation to resolving the problem of firm performance, a multi method approach was followed. In this study, a within paradigm multiple methods approach was employed as the researcher set to address each research question hypotheses based on specific methods. The research questions and hypotheses were answered concurrently (Morse, 2003). This was then followed by the application of functional pragmatism.The rationale for this approach is based on the premise that the collection of data involved use of a survey questionnaire and a documantary analysis of financial statements as well as audit reports to render information on form of descriptions of corporate governance practices and financial performance of the SOEs from 2002 to 2017

The approach involved, firstly, discovering the financial performance of the SOEs under study and the corporate governance phenomenon as practiced by these SOEs; secondly, categorising the observed corporate governance attributes and establishing relationships between the attributes and firm financial performance as measured by ROTA; thirdly, undertaking an opinion survey on the observed corporate governance practices; and fourthly, suggesting a corporate governance framework for SOEs in Zambia. This approach relied on the inductive strategy that embraces the thinking when researchers desire to develop a framework or theory to be built (Alberti-Alhtaybat *et al.*, 2012) and in this case presenting the ideal elements of corporate governance befitting the SOEs in Zambia. This requires the application of functional pragmatism.

4.2.1.1 Describing the firm financial performance and corporate governance practices in SOEs from 2002 to 2017

The sources of knowledge in describing the corporate governance practices and firm financial performance in SOEs from 2002 to 2017 comprised both secondary sources and primary sources. For corporate governance being a social construct, the

knowledge comes from both secondary and primary sources which are important and the analysis was scientific.

Secondary sources

In the first step documentary sources of knowledge such as existing annual reports, Auditor General's reports (Auditor General, 2008 – 2018), SOEs' Acts enacted for the establishments of the SOEs and Articles of Association made up the secondary sources of knowledge that facilitated the description of the corporate governance practices in SOEs in Zambia and their financial performance.

The data gathered from the secondary sources are presented in Table 4.1 below:

Area	**Data**
Entity	Company Name
Entity Type	Type of entity
Legislation	Enabling Acts
Corporate Governance Attributes	Board appointing Authority
	Board appointment process
	Board composition
	Ex Officio board members
	Board tenure
	Board size
	Board diversity – gender representation on the board
	Transparency – publication of annual reports and audited financial statements
	Board member skills requirements
	Board chairmanship

	Non-Executive Directors of the Board
	Executive Directors of the Board
	Shareholdings
Financial performance Information	Total Assets
	Profit before Tax (PBT)
	ROTA – calculated as PBT/Total Assets

Table 4. 1: Data from secondary sources

Source: Author, 2019

Primary sources

In the second step, primary sources of knowledge comprised the collection of quantitative data from the traditional sources and analysing the association between corporate governance attributes and firm financial performance using inferential statistics. The corporate governance attributes were identified and categorized into the independent variables of BSIZ, PNED, PIND, PFEM and CEOD and the dependent variable ROTA. These variables were recorded for each company for each year over the period of study. ROTA was calculated from the statement of comprehensive income for each company. The data collected was in the form of panel data covering the period 2002 to 2017. STATA v 13.0 computer software was used to conduct multiple regression analysis to discover the association between the independent variables and the dependent variable based on the panel data.

The research study employed a longitudinal research perspective related to the collection of panel data covering the period 2002 to 2017.

4.2.1.2 Understanding why there has been weak corporate governance in SOEs in Zambia from 2002 to 2017

Sources of data

In order to understand why there has been weak corporate governance in SOEs in Zambia, the source of data used for this category were the people who practiced corporate governance. The data were collected by sending out questionnaires to members of the Institute of Directors as opposed to the board members of SOEs as the Institute of Directors members were considered to be more independent.Primary knowledge was obtained through inferential statistics using Multiple Regression Analysis in STATA in order to understand the association between corporate governance practices and firm financial performance. In addition, the SOEs financial performance was compared to those of listed companies on the LUSE in order to understand more of the situation at hand.

4.2.1.3 Changing the elements of corporate governance befitting SOEs in Zambia

The source of knowledge for this category was both secondary and primary. The primary sources comprised significant authorities on corporate governance who were sent a questionnaire and the secondary source comprised a comparative analysis of the observed corporate governance phenomenon and comparing the observed phenomena with other models from the literature review.Consequently, the development of the corporate governance framework for SOEs in Zambia was arrived at through an induction reasoning process of arriving at a conclusion based on a set of observations.

The ontological position adopted assumed the nature of reality as being an objective realistic ontology that is based on measurable or quantitative reality and nominalist ontology in which reality is multiple and subjective as seen by particular individuals whose views are subjective or qualitative as socially constructed by the participants in the questionnaire surveys.

4.2.2 Epistemological Assumptions

Epistemological assumptions are assumptions on the nature of justifying how we know what counts as real knowledge (Mwanza, 2017). In other words, epistemology is justification for knowledge (ibid.). According to Mwanza (2017), epistemological

assumptions may be categorised as positivist or humanist assumptions. In the positivist assumption concepts, theoretical frameworks and generalizable rules are used to justify knowledge. The positivist assumption can further be divided into inductive realist epistemology or critical rationalist or Deductive realist epistemology. The inductive realist epistemology helps in exploring and explaining phenomena while critical rationalist or deductive realist epistemology uses theories systematically by organising ideas to explain particular phenomena and is based on deductive reasoning and is theory centred.

In the study, the basic epistemological assumption that was employed was that a theoretical and conceptual framework guided the research. As to the choice between humanist epistemology and positivist epistemology, the latter was adopted in that theorising was aimed at mapping out the contexts in which corporate governance was practiced and studying corporate governance systems, processes and constructing a corporate governance framework that could change the corporate governance practices among SOEs in Zambia so as to improve their financial performance.

As the research assumed corporate governance practices and firm financial performance as objective constructs or realities, the epistemic rules assumed that there ought to be a cause-and-effect type of association between corporate governance attributes and firm financial performance measured by ROTA. The epistemic model adopted for the research determined that the study searched for premises that helped to explain the cause-and-effect relationship.

4.2.3 Human Nature Assumptions

The human nature assumptions are concerned with whether humans, in this case participants in the survey questionnaire, are considered as free agents (voluntarism or free will assumption) or humans are constrained in their decision making (deterministic assumption). The orientation to the research adopted was that of voluntarism or free will as the participants were assumed to be social construction creators and symbol users without any constraints.

4.2.4 Methodological assumptions

Methodological assumptions that guided this study were rooted in nomothetic methodology (Burrell & Morgan, 1979). Nomothetic methodology promotes 'the search for universal laws by a process of identifying tangible concepts and then constructing tests which allow the concepts to be measured" (Mwanza, 2017:10). The research methodology that is applied in this study has a linkage with the type of reality sought in order to answer the research questions (Coomans et al., 2009; Creyer et al., 2011); Crossman, 2019).

Triangulation

In order to control bias and establishing valid propositions, triangulation was undertaken. Two different types of triangulation were considered in this study and these are theoretical triangulation which refers to the use of more than one theoretical framework to guide the conceptualization of the study and the interpretation of the data and methodological triangulation which refers to the use of more than one method to gather the data (Denzin, 1978, Patton, 1999). Triangulation was achieved by using inferential statistics and an opinion survey through a questionnaire and multiple sources of data. This approach is consistent with Patton (1999) and it enabled a comprehensive understanding of the firm financial performance and corporate governance phenomena in SOEs in Zambia. The use of statistics combined with information about the lived experiences of individuals who were selected as respondents to the questionnaire provided triangulation. Multiple data sources comprised documentary data sources from annual reports and data from questionnaires on the same phenomena.

4.3 Sample Design and Details of the Data Collection Process

4.3.1 Sampling Frame

The sampling frame comprised all the SOEs in Zambia that were in existence during the period 2002 to 2017 including those that were not under the IDC giving a total of 86

institutions. According to IDC (2015), there were 33 SOEs in Zambia under the IDC. For listed companies all the 23 companies were included. There were two SOEs that were listed. The data set being considered was a panel data comprising a time dimension (2002 to 2017) and a cross-sectional (firm dimension). The design was chosen as the population was small. The use of panel data thus allowed meaningful statistical analysis from the increased number of observations. There were gaps in the panel data as not all the institutions panel data were available for the years 2002 to 2017 and consequently, in the analysis the number of observations varied depending on the panel data availability.

For the questionnaires, maximum variation type of sampling sampling was used to select participants of interest from members of the Institute of Directors of Zambia (IoDZ) who are generally regarded as practitioners and experts in corporate governance. Noting that IoDZ is made up of trainers of trainers, Directors and Chief Excutives of private firms as well as SOEs, the researcher desired to have an assortment of repondents. This type of sampling allowed the researcher to pick a wide range of variations on dimensions of interest to obtain information about the significance of various circumstances on firm performance and coporate governance. Initially, the researcher compiled a samling frame from the data base of potentially relevant repondents based on a scoping frame and assigning respondents a label as belonging to the following categories:

a) Director

b) Chief Executive Officer

c) Shareholder

d) Trainer of Trainers

This scoping exercise was rather exploratory and was done in a systematic way. In the case of this study, the researcher was then able to sample based on this variation from each stated sampling frame. This sampling yields: ‘(1) high-quality expected detailed

descriptions of phenomana, which are useful for documenting uniqueness, and (2) important shared patterns that cut across cases of firms and derive their significance from having emerged out of heterogeneity. Presuming that different firms practice their own coporate governance and these then would illuminate different aspects of the phenomenon under investigation and as such, maximum variation sampling was eployed to construct a holistic understanding of the phenomenon by synthesizing experinces that differed on several dimensions (Suri, 2011). This type of sampling fits the stage of analysis as the aim is to uncover as many different key dimensions as possible.

4.3.2 Data Collection

4.3.2.1 Secondary Data

Annual reports of SOEs and the published Auditor General's reports provided secondary data that was collected. Annual reports of companies were obtained from the companies, the companies' websites and also from IDC, being the holding company for most SOEs. Primary data was collected using a structured questionnaire to persons/institutions of interest in corporate governance.

The panel data collection sheet that was employed to record the variables were as per Table 4.2.

S/N	COMPANY NO.	INDUSTRY	SOE OR LISTED	YEAR	BSIZ	NO. OF NED	PNED	NO. OF IND	PIND	NO. FEM	PFEM	CEOD	PBT	TA	ROTA

Table 4. 2: Panel Data Collection Sheet

Source: Author, 2020.

The variables are described in Table 4.3.

Variable	Description
S/N	Serial number
COMPANY NO.	Company Number
INDUSTRY	Industry in which company operates
SOE or LISTED	SOE if company a SOE or Listed if company is listed
YEAR	Financial Year
BSIZ	Board size
NO. OF NED	Number of Non-Executive Directors
PNED	Proportion of NEDs
NO. OF IND	Number of Independent Directors
PIND	Proportion of Independent directors
NO. FEM	Number of female directors
PFEM	Proportion of female directors
NCOM	Number of committees
CEOD	CEO duality 0 if CEO is not also Chairman of the Board, 1 if CEO is also the Chairman
PBT	Profit before tax
TA	Total Assets
ROA	Return on total Assets

Table 4. 3: Description of variables

Source: Author, 2019

4.3.2.2 Questionnaire design

Primary data were collected using a structured questionnaire to persons/institutions of interest in corporate governance. Appendix 1 contains the questionnaire. The design of the questionnaire was referenced to the research objectives and the literature review.

4.3.2.3 Ethical Considerations

4.3.2.3.1 Privacy and Confidentiality

Regarding the privacy and confidentiality of data from the questionnaires, the supervisors of the work have had access to the data. No other parties shall have access to the data. In the letter of introduction to the respondents, it was clearly stated that the data were to be used solely for academic purposes and a copy of the final thesis could be made available to the respondents upon request. Further, the

respondents were informed that their participation in the survey was on a voluntary basis and confidentiality of information was assured.

The findings from the study would be publicised firstly by placing the thesis on the University of Lusaka Thesis and Publications Institutional Depository portal (http://research.unilus.ac.zm/xmlui/). It is also planned that the findings would be disseminated by publication of journal articles.

4.3.2.3.2 Association with Participants

The study did not pose any harm to participants as the responses in Google Forms were anonymous and not identifiable to the respondent and names of the institutions in the sample were not disclosed. The researcher was not associated with participants in a way that might have influenced the ethical appropriateness of conducting the research.

4.3.2.3.3 Invitation of Participants

Participants were invited through e-mail invitations in Google Forms. In the letter of introduction information about the study was provided including the research title, purpose of the study and the research objectives. Participation was voluntary and participants were informed as such.

4.3.2.3.4 Informed consent

As pointed out above, the description and purpose of the study were provided to participants, including informing them that participation was voluntary. This information was provided in the invitation email seeking their participation. Thus, the researcher ensured that the purpose of the study and its possible implications were known to participants. This way, the researcher made sure that informed consent had been obtained and that participation was purely voluntary.

4.3.2.3.5 Ethical Clearance for the Study

Prior to carrying out the research, ethical clearance was obtained from the University of Lusaka Ethics Committee in full compliance with the ethics University guidelines.

4.3.3 Data Analysis

The data that were generated were analysed using the regression analysis and descriptive statistics in STATA v 13.0. Multivariate regression analysis models were used to describe the association between variables and the t-tests for analysis of variances.

The rationale for the use of STATA statistical package was that the software is widely used and it provided all the data manipulation, visualization, statistics, and automated reporting that was required in the quantitative part of the research. In addition, the researcher was very familiar with the use of STATA.

4.4 Reliability and validity

A pilot study was undertaken to ensure validity and reliability of the research instruments and data analysis methods. The pilot study was carried out by issuing the data collection instruments to two experts in corporate governance and corporate finance who completed the evaluated the data collection instruments to ensure relaibility and validity of the instruments. Their observations were then incorporated in the data collection instruments.

Reliability

To test for the reliability of questionnaire, survey data the Cronbach's reliability test was used.

Validity

The accuracy of measurements and whether they actually measure what they are intended to measure was considered as per the Table 4.4. The questionnaire was pre-tested.

Variable	Description	Accuracy of measurement
S/N	Serial number	The numbers were sequentially recorded
COMPANY NO.	Company Number	The numbers were sequentially recorded
SOE or LISTED	SOE if company is a SOE or Listed if company is listed	A company was considered SOE as per the IDC classification and Listed if the firm was included in the LUSE data base of listed companies
SOE AND LISTED	SOE if company is a SOE and also Listed	A company was considered SOE as per the IDC classification and Listed based on the LUSE data base of listed companies
YEAR	Financial Year	This was derived from the Annual report
BSIZ	Board size	Measured by the number of board members disclosed in the annual report
NO. OF NED	Number of Non-Executive Directors	Measured by the number of NED board members as per the annual report
PNED	Proportion of NEDs	This was calculated as: $\frac{NEDs}{Board\ Size}$
NO. OF IND	Number of Independent Directors. Directors were considered independent if this was disclosed in the annual report	Measured by the number of Independent Board members as reported in the annual report
PIND	Proportion of Independent directors	This was calculated as: $\frac{Number\ of\ Independent\ Directors}{Board\ Size}$
NO. FEM	Number of female directors	Measured by the number of Female board members as per the annual report

PFEM	Proportion of female directors	This was calculated as: $\frac{Number\ of\ Female\ Directors}{Board\ Size}$
CEOD	CEO duality 0 if CEO is not also Chairman of the Board, 1 if CEO is also the Chairman	This was measured by checking whether the Chairman of the Board was also the CEO as disclosed in the annual report
PBT	Profit before tax	This was taken from the Annual report as disclosed in the Statement of Comprehensive Income
TA	Total Assets	This was taken from the Annual report as disclosed in the Statement of Financial Position
ROTA	Return on Total Assets	This was computed in Microsoft Excel by the ratio: $\frac{PBT}{TA}$

Table 4. 4: Accuracy of measurement

Source: Author, 2019

4.5 Questionnaire Data

Questionnaire data in the study was analysed quantitatively.

4.6 Presentation of Questionnaire Data Analysis

The questionnaire data analysis was conducted based on a deductive thematic analysis approach. In this regard, the themes were identified in the literature review chapter and from the theoretical framework. The identified themes included corporate governance attributes affecting financial performance in SOEs such as board composition, board size and membership, board appointment process, board accountability and transparency. The design of the data collection instrument being the questionnaire was based on these themes and respondents were then surveyed to give their opinion on the various questions that were being tested. For example, respondents were asked to give their opinion on whether board size affected the

financial performance of SOEs and whether the effect was positive or not and to make any other comments to support their opinion.

A Likert scale based on a Five-point scale was employed comprising the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

The other comments were then analysed with reference to additional information derived from the comments and the themes to ensure that the comments were related to the identified themes derived from the literature and theoretical frameworks. The responses were analysed by use of Microsoft Excel software.

In writing up the findings, the analysis followed the themes. The questionnaire analysis data was presented using summary data reported in form of narratives, frequency summaries of particular responses and thematic areas used to summarise the findings.

4.7 Quantitative methods

The association between firm financial performance and corporate governance attributes was assessed by regression analysis. The data that were analysed comprised data acquired from annual reports and annual financial statements of the SOEs.

4.8 Panel data analysis method

The study adopted the panel data analysis approach in which the data sets comprised both time series and cross-sectional dimensions. This approach has been adopted in

several studies in social science research (Yaffee, 2003; de Jager, 2008). The cross-sectional units were SOEs and the time series dimension was the period 2002 to 2017.

4.9 Quantitative data measurements

4.9.1 Research Design

The expo facto research design was used as the study intended to review events that have indeed already taken place. The study was quantitative in nature and utilised annual data for the period from 2002 to 2017, collected from the annual Financial Statements of the sampled institutions data sources. The data used were the board characteristics and the financial data. The study considered 33 State Owned Enterprises in Zambia and 23 listed firms including two listed SOEs.

4.9.2 Model Specification

The key aspect of the study was to investigate the relationship between corporate governance attributes and firm financial performance in SOEs. The variables selected for the estimation of the equation was included based on the theory and literature. As a result, the following equations were used. The overall multi-variate regression model that was employed in the study was in the form:

Model: $ROTA_{it} = \alpha + \beta 1 BSIZit + \beta 2\ PNEDit + \beta 3\ PINDit + \beta 4\ PFEMit + \beta 5 CEODit + \beta 6 AGEit + \beta 7 FSIZit + \beta 8 INDUSTRYit + \varepsilon$

Where:

i	= company i
t	= at Year t
α	= constant
$\beta 1$ - $\beta 6$	= Coefficients
ε	= residuals
BSIZ	= Size of the Board
PNED	= Proportion of Non-Executive Directors on the Board

PFEM = Proportion of Female Board members

ROTA = Return on Total Assets

AGE = Number of years between the sample year and the year of incorporation.

FSIZ = Log of Total Assets as a measure of firm size

INDUSTRY = Type of Industry that a company belongs.

The lag effect was not included in the model due to non-availability of the panel data for all the years.

4.9.3 Hypotheses – Research objective (iii)

The hypotheses that were used to discover the relationship between corporate governance attributes and firm financial performance in SOEs were as follows:

Null Hypothesis (H_0)

There is no relationship between ROTA and corporate Governance variables of [Board Size, Board independence, proportion of Non-Executive Directors, Gender Diversity, Number of Board committees and CEO duality] in SOEs in Zambia

Alternate Hypotheses (H_1-H_6

H1

There is a relationship between the corporate governance factor of BSIZ with ROTA for SOEs in Zambia.

H2

There is a relationship between the corporate governance factor of PNED with ROTA for SOEs in Zambia.

H3

There is a relationship between the corporate governance factor of PFEM with ROTA for SOEs in Zambia.

H4

There is a relationship between the institutional factor of FSIZ with ROTA for SOEs in Zambia.

H5

There is a relationship between the institutional factor of INDUSTRY with ROTA for SOEs in Zambia.

H6

There is a relationship between the institutional factor of firm AGE with ROTA for SOEs in Zambia.

Research Objective (iv)

- To compare the firm financial performance and corporate governance practices between SOEs, listed SOEs and private listed firms

A second set of hypotheses were used to test whether there was a difference in the corporate governance practices and financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE). The alternative and null hypotheses were as follows:

Null Hypothesis (H_0)

There is no difference in the corporate governance practices and financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE)

The Alternative Hypotheses that were tested were as follows:

H7

There is a difference in ROTA of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H8

There is a difference in ROTA of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H9

There is a difference in ROTA of listed SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

For corporate governance practices:

The Alternative Hypotheses that were tested were as follows:

H10

There is a difference in the BSIZ of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H11

There is a difference in the BSIZ of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H12

There is a difference in the BSIZ of listed private companies as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H13

There is a difference in the PNED of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H14

There is a difference in the PNED of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H15

There is a difference in the PNED of listed private companies as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H16

There is a difference in the PFEM of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H17

There is a difference in the PFEM of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H18

There is a difference in the PFEM of listed private companies as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

The two-sample t-test assuming unequal variances was the statistic used to test the hypotheses.

4.9.4 Explanation of Operational Variables

4.9.5 Data Description and sources

Table 4.5 provides more inclusive perspective of the variables included in the econometric models.

Variable	Measurement Type	Type of variable
Board Size (BSIZ) is the number of board members.	Ratio	Independent (predictor)
Proportion of Non-Executive members on the Board (PNED) is number of non-executive directors on the board divided by the size of the board	Ratio	Independent (predictor)
Number of Independent Directors on the Board (PIND) was measured by counting the	Ratio	Independent (predictor)

number of independent board members on the board		
Gender diversity (PFEM) is defined as the percentage of female members on the board of directors. This was measured by dividing the number of female board members by the size of the board.	Ratio	Independent (predictor)
Number of Board committees (NCOM) is the number of board committees.	Ordinal	Independent (predictor)
CEO/Chairperson duality is defined as the separation of CEO position from Chairperson of the board. This will be measured as 1 if CEO is also Chairperson of the Board and 0 if separated.	Nominal	Independent (predictor)
Return on Total Assets (ROTA) is defined as the ratio of profit before tax divided by the total assets.	Ratio	Dependent (outcome or effects)
Firm Age – measured in years	Ratio	Moderating*

Note *:Variable impacts the strength of the link between the independent variables and the dependent variable.

Table 4. 5: Operational variables used in the study

Source: Author, 2020

4.9.6 Quantitative Data Analysis

4.9.6.1 Econometric Techniques and Analysis

This study embarked on post estimation techniques such as the unit root tests and lag length selection criterion was followed.

This study utilised panel data analysis so as to investigate the association between ROTA and corporate Governance variables of [Board independence, Board Size, proportion of Non-Executive Directors, Gender Diversity, Number of Board committees and CEO duality] in SOEs in Zambia. The study estimated different panel models that included random, fixed and pooled effects.

From literature, it is well established that a number of economic variables are never stationary. Therefore, estimating a regression model using non-stationary variables would only lead to spurious results. The literature provides a number of panel unit root tests like the Philip Peron (PP) test and the Fisher-type tests utilising Augmented Dickey Fuller (ADF) test.

The test of unit roots in the variables was followed by estimation of the regression model based on the order of integration of the variables. For instance, in the event that the variables are found to be integrated of order zero (i.e., I (0)), then a regression estimation would involve the pooled Ordinary Least Square (OLS), fixed and random effects models.

The choice of the suitable model for use in the study employed the F-test in consideration of fixed and pooled OLS and then the Hausman test in consideration of fixed and random effects model. Thereafter, post estimation techniques such as tests for serial correlations, heteroscedasticity, model specification and normality were conducted accordingly. Further, graphical test for stability were employed.

4.9.6.2 Statistical Techniques and Analysis

The t-value measured the size of the difference in the financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE).

4.9.6.3 Model Validation

The regression model that was developed was validated through the process of analysing whether the regression residuals are random. This was done so as to determine the degree to which the regression model that was developed and employed

in the study was an accurate representation of the SOE Board real world performance from the perspective of the intended uses of the model. An F-test and the adjusted R^2 and a graphical analysis of the residuals were used to validate the model. The choice of the suitable model for the study employed the F-test in consideration of fixed and pooled OLS and then the Hausman test in consideration of fixed and random effects model. Thereafter, post estimation techniques such as tests for serial correlations, heteroscedasticity, model specification and normality were conducted accordingly. Furthermore, the model that was developed was based on the theoretical foundations from the literature review.

4.9.6.4 Detailed Account of how data was collected

The data was collected by reading company annual reports and reports of the auditor general that contained financial and corporate governance information for respective years. Financial data included Profit before tax, operating profit, total assets, current assets, current liabilities, the size of the board, the number of female board members, the number of non-executrive directors, number of independent board members where this was disclosed specifically and date of company registration. Computations were then done for ROTA, proportion of female board members, proportion of non-executive directors, proportion of independent directors, firm age, current ratio, operating gearing and financial gearing. Industry type was obtained from the IDC website and also from the LUSE industry classification on the website of LUSE. Listed firms were identified from the LUSE website and SOEs were identified from the IDC website.

The panel data was unbalanced because there were gaps in the data as some information was not available for certain firms in some years.

The summary statistics of the overall data that was collected and analysed was as in Appendix 16 and is described below.

Description of sample sizes

Due to the unbalanced nature of the observed panel data, the sample size differed depending on the availability of the data for the observed variables. The sample sizes for ROTA, BSIZ, PNED and Firm Size was 345 observed data over the period covered by the study while for PFEM the sample size was 170. The 345 was further disaggregated into 127 for listed private firms, 200 for unlisted SOEs and 18 for listed SOEs. The PFEM was 32 which is above the minimum threshold of 32 for validity of statistical analysis.

Description of the central tendency of the observed panel data

The mean of the observed panel data for BSIZ, PNED, PFEM, ROTA and Firm Size were 8.90; 0.87; 0.21; 0.00 and 4.46 respectively. The segregated means for ROTA were 0.14 for listed private firms, -0.08 for unlisted SOEs and 0.02 for listed SOEs.

Description of the spread of the observed panel data

The standard deviations were 3.03 for BSIZ, 0.18 for PNED, 0.12 for PFEM, 0.27 for ROTA and 1.33. for firm size.

Description of the shape and spread of the observed panel data

The skewness of the observed panel data was found to be 1.08 for BSIZ, -1.86 for PNED, 0.23 for PFEM, -1.32 for ROTA and .14 for Firm size. The Kurtosis was 1.27 for BSIZ, 4.55 for PNED, -0.02 for PFEM, 11.97 for ROTA and -0.16 for firm size.

4.10 Conclusion

In this chapter, an outline of the research methodology and methods that were used in the study has been provided. Matters covered in this chapter included the research type, research approach, philosophical assumptions and ethical considerations. The philosophical assumptions covered ontological, epistemological and human nature assumptions. Sample design and the data collection processes were also presented.

CHAPTER FIVE: RESEARCH FINDINGS

5.0 Introduction

In this chapter a description of how the collected data were prepared, presented analyzed and then used to test the research hypotheses is presented. The data were initially entered into a Microsoft Excel database from which Statistical computer software STATA SE 13 was used to analyze the data by running regression analyses. Graphical tools like graphs, tables, charts and printouts were used to present the results of the data analysis. The chapter presents all the research findings including description of the result of the data analysis especially those from the hypotheses testing and questionnaire analysis. An interpretation of research findings in light of the research problem and research questions are discussed in Chapter Six providing a link between the findings from the study and the research problem that was studied.

5.1 Research Objective One

In this objective, the research sought to discover and document the financial performance and corporate governance practices in SOEs from 2002 to 2017. Under this objective, the first question that was investigated was: “What have been the financial performance and corporate governance practices in these institutions (SOEs) from 2002 to 2017?”

5.1.1 Financial Performance analysis of SOEs

In addressing the above question, this section sought to discover the financial performance of SOEs from 2002 to 2017 by use of financial ratios. The key financial ratios investigated included ratios measuring profitability, financial gearing and liquidity of SOEs. In measuring the profitability ROTA and the ratio of fixed operating costs to

revenue were employed, the ratio of total liabilities to total equity was employed to measure long term liquidity or Financial Gearing and the Current Ratio or the ratio of current assets to current liabilities was employed to measure short-term liquidity. Table 5.1 provides a description of the variables.

Variable	Measure	Definition
Profitability	Return on Total Assets	Total profit before tax/Total Assets
Profitability	Fixed cost ratio	Fixed Operating Costs/Revenue
Long Term liquidity Risk	Financial Gearing	Total Liabilities/Total Equity
Short-term Liquidity	Current Ratio	Total Current Assets/Total Current Liabilities

Table 5. 1: Description of variables to measure financial performance of SOEs

Source: Author, 2020.

5.1.2 Trend analysis of the Profitability measured by ROTA

The panel data was analysed based on the trends from 2002 to 2017 in order to establish whether there was an improvement or decline in the financial performance of SOEs over the period. This was considered appropriate in order to address the emprirical knowledge gap identified.

There was an improvement in the firm financial performance as measured by the mean of the ROTA over the period as shown in Table 5.2. Over the period the overall mean was negative 8.01% meaning that the SOEs made losses over the period.

Year	Mean of ROTA
2002	(0.7081)
2003	(0.3653)
2004	(0.2624)
2005	(0.2113)
2006	(0.0876)
2007	(0.0577)
2008	(0.0082)
2009	(0.0402)
2010	0.0085
2011	0.0136
2012	(0.0383)
2013	(0.0406)
2014	(0.1055)
2015	(0.0162)
2016	(0.0692)
2017	0.0373
Overall Mean	**(0.0801)**

Table 5. 2: ROTA trend analysis

Source: Author, 2020

5.1.2.1 Trend analysis of the Fixed Cost to Revenue ratio

Table 5.3 shows that the overall fixed cost to revenue ratio recorded over the period was a mean of 108.94% meaning that the fixed costs were more than the revenue. In 2014 the spike in the ratio was one SOEs that recorded a ratio of 2,835% as 2014 was the first year of operation and there was little revenue as compared to fixed costs.

YEAR	Mean of Fixed Costs to Revenue Ratio
2002	104.10%
2003	126.22%
2005	130.10%
2006	115.01%
2007	96.59%
2008	97.18%
2009	102.69%
2010	91.79%
2011	90.83%
2012	95.64%
2013	100.14%
2014	194.13%
2015	91.15%
2016	86.89%
2017	111.60%
Overall Mean	**108.94%**

Table 5. 3: Fixed cost to Revenue ratio Trends

Source: Author, 2020

5.1.2.2 Trend analysis of the Short-Term liquidity

The Current ratio measured by the ratio Total Current Assets divided by Total Current Liabilities was employed to discover the short-term liquidity of the SOEs. Table 5.4 shows that overall, the mean Current Ratio was 1.86 and the trend was generally upwards. The spike in 2014 was due to one SOE that had very low current liabilities of K19,740 as compared to the current assets of K6.5m.

Year	Mean of Short Term Liquidity
2002	2.879
2003	1.9237
2005	3.5412
2006	1.4808
2007	0.7466
2008	0.8726

2009	2.9584
2010	0.8716
2011	0.8866
2012	0.6933
2013	1.6111
2014	5.4131
2015	1.9531
2016	1.5229
2017	0.5205
Overall Mean	**1.8583**

Table 5. 4: Short Term Liquidity Trends

Source: Author, 2020

5.1.2.3 Trend analysis of the Financial Gearing

The financial gearing ratio measured by the Total Liabilities/Total Equity was employed to discover the long term liquidity of the SOEs. Table 5.5 shows that overall, the mean ratio was negative 4.23 and the trend was generally flat over the period except for a spike in 2007. The spike in 2007 was due to two SOEs that recorded performance of negative 271.48 and negative 702.58, respectively.

Year	Mean of Financial Gearing
2002	19.964
2003	-1.5034
2005	12.659
2006	-1.4925
2007	-96.0401
2008	0.0604
2009	-0.0521
2010	-1.8782
2011	-1.6024
2012	1.6483
2013	1.1441
2014	5.3797

2015	-1.9522
2016	1.7987
2017	-1.6127
Overall Mean	**-4.232**

Table 5. 5: Financial Gearing Trends

Source: Author, 2020

Financial gearing – Negative Gearing

The financial gearing ratio was further analysed separately into those showing negative ratios and those showing a positive ratio in order to obtain further insight into the performances of the separate entities. The overall mean over the period was -3.72 and the trend was an upward trend over the period of the study for negative ratio trend as per Table 5.6. The implication was that over the period there an improvement in the financial gearing.

Year	Mean of Negative Gearing
2002	-5.1112
2003	-4.7361
2005	-2.7634
2006	-2.10265
2007	-2.27888
2008	-4.03906
2009	-3.66541
2010	-6.24665
2011	-5.35375
2012	-3.74791
2013	-3.53924
2014	-3.02443
2015	-1.92248
2016	-3.06366
2017	-4.16531
Overall Mean	**-3.717342**

Table 5. 6: Financial Gearing ratio – Negative ratios trend

Source: Author, 2020

Financial gearing – Positive Gearing trend

The overall mean over the period for companies with positive gearing was 2.67 and the trend was a downward over the period for positive ratio as per Table 5.7.

Year	Mean of Positive Gearing
2002	4.3945
2003	4.3876
2005	1.4521
2006	2.5197
2007	3.0355
2008	2.3379
2009	3.1096
2010	1.6166
2011	1.4669
2012	5.5728
2013	1.0633
2014	1.4785
2015	2.3116
2016	4.2299
2017	0.9400
Overall Mean	**2.6611**

Table 5. 7: Financial gearing – Positive Gearing trend

Source: Author, 2020

5.1.3 Corporate governance practices in SOEs from 2002 to 2017

The corporate governance practices were described thematically. The themes comprised legal status, board appointing authority, board appointing process, board size, board tenure and eligibility for re-appointment, type of board, board composition, board nominations and ex-officio members of the board, CEO duality and timely production of annual audited financial statements.

5.1.3.1 Legal Status

Figure 5.1 showed that 42% (37 out of 86) institutions were incorporated under the Companies Act Cap 388 while 58% (49 out of 86) institutions were incorporated under various Acts of Parliament other than the Companies Act. In total there are over 37 different enabling Acts under which the SOEs and statutory bodies are founded.

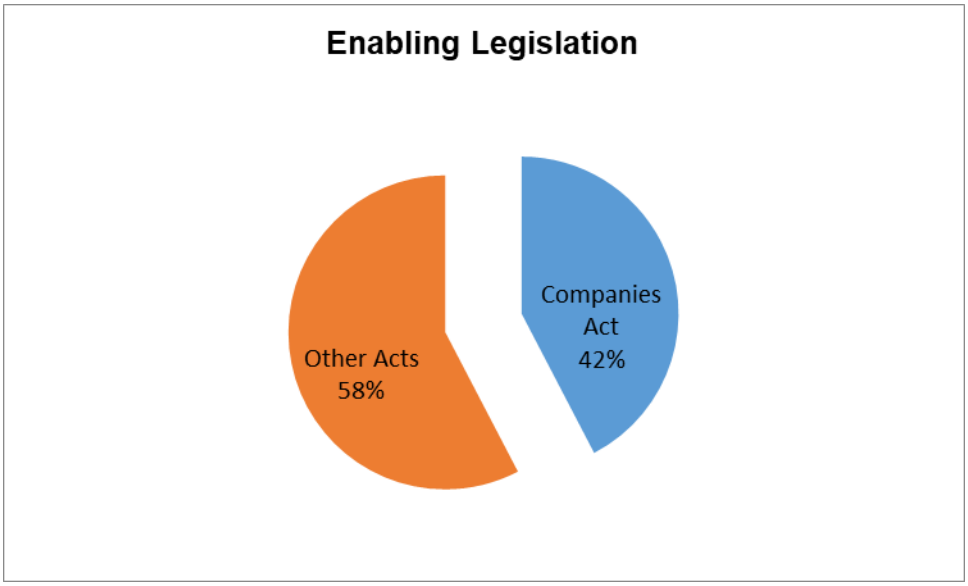


Figure 5. 1 Enabling legislation

Source: Author, 2020.

5.1.3.2 Type of board

The findings show that one SOE had a two-tier board comprising a Council of Ministers which superintended over a second board of directors. All the other institutions comprised a single tier board.

5.1.3.3 Board Appointing Authority

The boards were appointed by the Minister in almost all institutions except for four boards that were appointed by the Republican and the Republican President was also the chairperson of the board of one of the SOEs.

In another SOE, the Minister, representing the Government holding Class A shares, appointed four of the members whilst five members were appointed by the shareholders of Class B shares. Boards of subsidiary companies of SOEs were appointed by the holding companies.

5.1.3.4 Appointments of Chairpersons and Vice Chairpersons

The appointments of Chairpersons were found to be as per Table 5.8 which is a summary of Appendix 1. In most cases, the appointing authority also appointed the chairpersons of the Board.

Appointing Authority	Number	Percentage (%)
Appointed by the Minister	33	80
Appointed by the President	2	5
Appointed from among members	4	10
Designated Chairperson	2	5
TOTAL	**41**	**100**

Table 5. 8: Appointing Authority for Chairpersons

Source: Author, 2020

5.1.3.5 Board size

The overall size of the board ranged from a minimum of five members to a maximum of 18 members with a mean of 10 members. For companies registered under the Companies Act, the board size ranged from a minimum of six members to a maximum of 11 members with a mean of 9 members. For companies registered under other legislation other than companies Act, the size of the board ranged from a minimum of

five members to a maximum of 18 members with a mean of 11 members. Table 5.9 provides the summary statistics on Board size.

	Descriptive Statistic	Board Size
Overall		
	Minimum	5
	Average	10
	Maximum	18
Limited companies	Minimum	6
	Average	9
	Maximum	11
Others	Minimum	5
	Average	11
	Maximum	18

Table 5. 9: Board Size

Source: Author, 2020

5.1.3.6 Board tenure

The overall tenure of a board ranged from a minimum of two years to a maximum of four years with an average of three years. For companies incorporated under the Companies Act, the tenure of the board ranged from a minimum of three years to a maximum of four years with an average of three years. For companies registered under other legislation other than companies Act, the tenure of the board ranged from a minimum of two years to a maximum of four years with an average of three years. Table 5.10 provides the summary statistics on Board tenure:

5.1.3.7 Board composition

The compositions of the Boards of Directors is summarized in Table 5.11.

In most of the statutory bodies the board positions are designated for specific office holders from the government and/or representatives from specific institutions. Appendix 2 contains the detailed description of the board composition.

Board composition by:	Total
Designated representatives	48
By Direct Appointment	24
Mixed (some by designation and others appointed)	12

Table 5. 10: Board composition

Source: Author, 2020

The IDC board on 29th December 2015 passed a resolution pertaining to the number of Board members on IDC subsidiaries. It was resolved that the boards shall comprise the Permanent Secretary or a representative of the Ministry responsible for the Sector Policy, and a maximum of five (5) members from the private sector. The Managing Director was also a board member (Auditor General, 2015).

5.1.3.8 NEDs

On average, it was found that Non-Executive Directors comprised 97% of the board composition. The Chief Executive Officers, who are part of management, were also members of the board.

5.1.3.9 Gender diversity on Boards

The findings show that only one SOE namely, Rural Electrification Authority's board composition has a quota of two positions reserved for female board members as provided for under the Rural Electrification Authority Act No. 20 of 2003.

5.1.3.10 Transparency and accountability – Production of annual audited financial statements

Based on the auditor general's reports from 2012 to 2016, it was found that a number of statutory bodies (refer to Figure 5.2) and SOEs had not produced audited financial statements annually as was required by the various enabling legislation under which the SOEs operated and contrary to good corporate governance. The number of SOEs in Figure 5.2 are more than the sample size of 86 because some of the SOEs did not submit annual reports in more than one year.

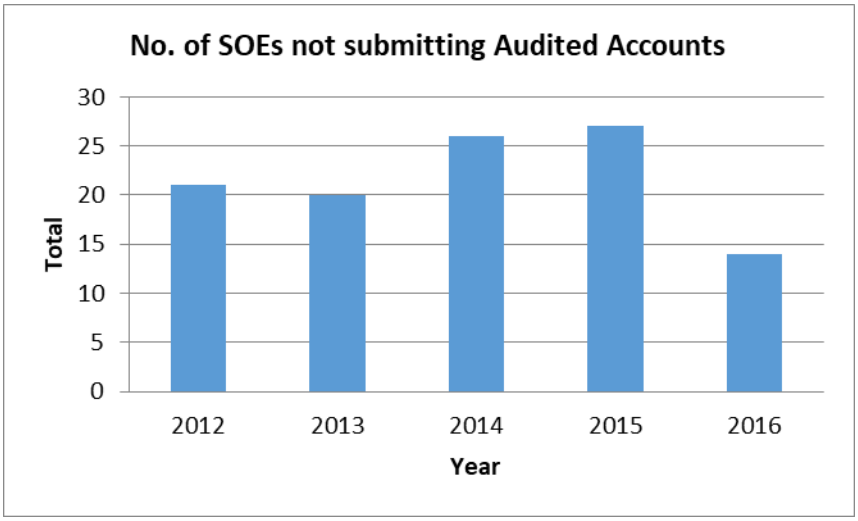


Figure 5. 2: Number of statutory bodies and SOEs not submitting Audited Financial Statements

Source: Author, 2020

5.1.4 Descriptive Analysis of the corporate governance practices and financial performance of SOEs based on profitability

SOEs were analysed further by comparing loss making SOEs to those that recorded profits as measured by ROTA. Appendix 19 contains the summary statistics. It was found that:

i. BSIZ was larger for loss making SOEs as compared to profit making SOEs

ii. ROTA for loss making SOEs was a mean of -21% compared to a mean of 7% for profit making SOEs. Listed SOEs recorded a mean ROTA of 2%.

iii. PFEM for loss making SOEs was 29% compared to 26% for profit making SOEs whilst the PNED was 99% for loss making SOEs and 96% for profit making SOEs.

5.2 Understanding the relationship between corporate governance factors and firm financial performance in SOEs in Zambia from 2002 to 2017

5.2.1 Inferential statistics

In the first part of this section, scientific knowledge was obtained through inferential statistics using Multiple Regression Analysis in STATA SE 13.0 software so as to comprehend the association between corporate governance practices and firm financial performance. In addition, the SOEs financial performance was compared to those of listed companies on the LUSE.

Hypotheses

The following hypotheses were used to test the relationship between corporate governance attributes and firm financial performance in SOEs:

Null Hypotheses (H_0)

There is no relationship between ROTA and corporate Governance variables of [Board Size, Board independence, proportion of Non-Executive Directors, Gender Diversity, Number of Board committees, Company Age and CEO duality] in SOEs in Zambia

Alternate Hypothesis (H_1)

There is a relationship between ROTA and corporate Governance variables [Board Size, Board independence, proportion of Non-Executive

Directors, Gender Diversity, Number of Board committees, Company Age and CEO duality] in SOEs in Zambia

A second set of hypotheses were used to test whether there was a difference in the financial performance of SOEs as compared to companies on the Lusaka Securities Exchange (LuSE). The alternative and null hypotheses were as follows:

Null Hypothesis (H_0)

There is no difference between the ROTA of SOEs and that of LUSE listed companies

Alternate Hypothesis (H_1)

There is a difference between the ROTA of SOEs and that of LUSE listed companies

The statistic that was used to test the hypotheses was the two-sample t-test assuming unequal variances.

Additionally, a third set of hypotheses were used to test whether there was a difference in the corporate governance factors of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE). The alternative and null hypotheses were as follows:

Null Hypothesis (H_0)

There is no difference in the corporate governance factors of SOEs and that of listed companies on the Lusaka Securities Exchange (LuSE)

Alternate Hypothesis (H_1)

There is a difference in the corporate governance factors of SOEs and that of listed companies on the Lusaka Securities Exchange (LuSE)

The statistic that was used to test the hypotheses was the two-sample t-test assuming unequal variances.

5.2.2 Quantitative Data Analysis

5.2.2.1 Econometric Techniques and Analysis

The Random Effect Model under GLS regression was conducted for the regression analysis and the t-test was employed to compare the SOEs, listed SOEs and private firms listed on the LUSE.

Description of Variables

The variables that were explored in the econometric analysis in the study are described in the methodology section.

5.3 Comparative Financial Performance and corporate governance practices between SOEs, listed SOEs and private listed LUSE companies

5.3.1 Financial Performance measured by ROTA for SOEs, listed SOEs and private listed LUSE companies

There has been a general decline in the financial performance of entities over the period. The mean ROTA for LUSE companies was on average positive whilst that of SOEs was negative and declining. Refer to Figure 5.3 as the basis.

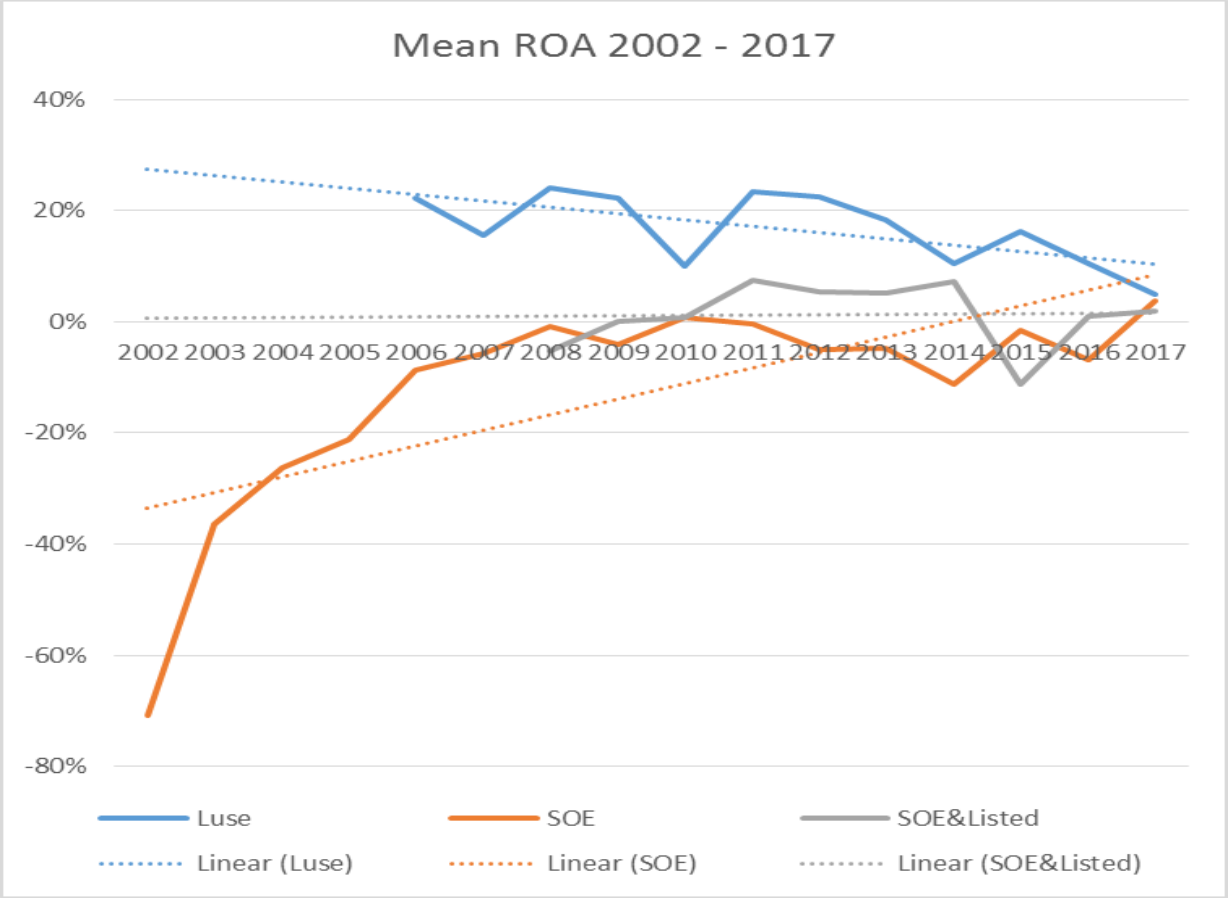


Figure 5. 3: Mean ROTA

Source: Author, 2020

Trend in the Mean of Board Size for SOEs, listed SOEs and private listed LUSE companies

The mean board size has declined over the period of the study for SOEs and LUSE companies except for the Listed SOEs which recorded an increase. Figure 5.4 depicts the trend.

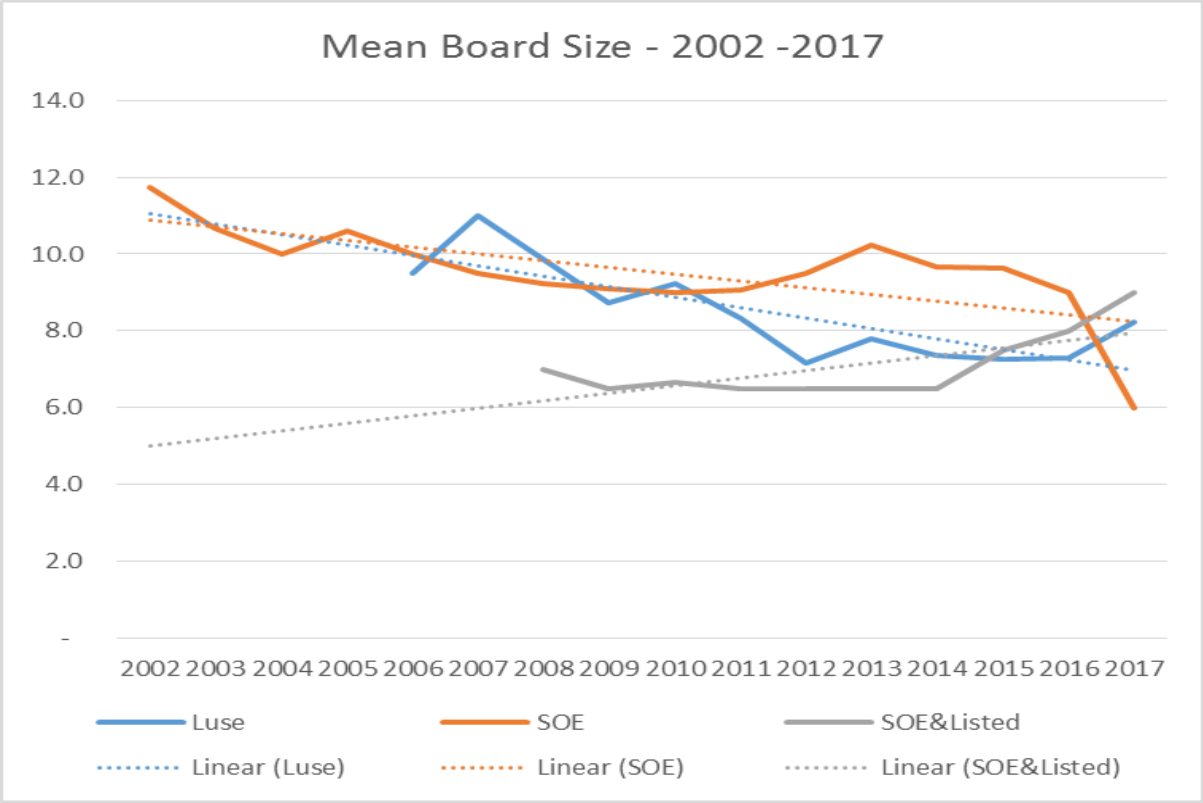


Figure 5. 4: Mean Board Size

Source: Author, 2020

Trend in the Mean of PNED for SOEs, listed SOEs and private listed LUSE companies

As shown in Figure 5.5, the proportion of non-executive directors has not changed much over the period of the study. SOEs had the highest proportion of NEDs followed by listed SOEs.

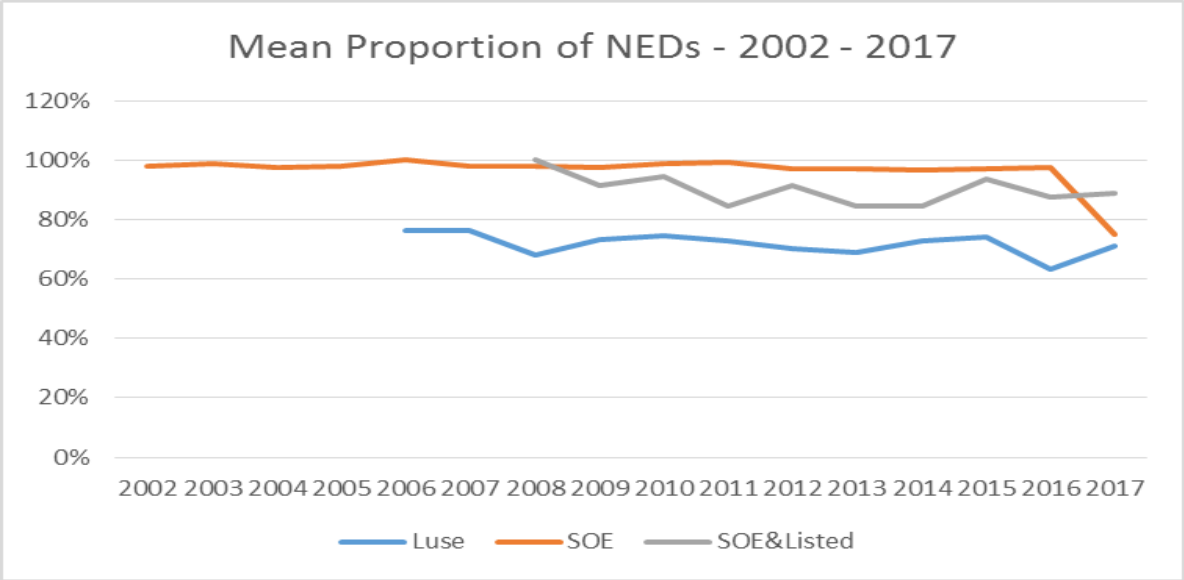


Figure 5. 5: Mean PNED

Source: Author, 2020

Trend in the mean of PFEM for SOEs, listed SOEs and private listed LUSE companies

As shown in Figure 5.6, there has been a noticeable increase in the average proportion of female board members on boards of all the three group of companies.

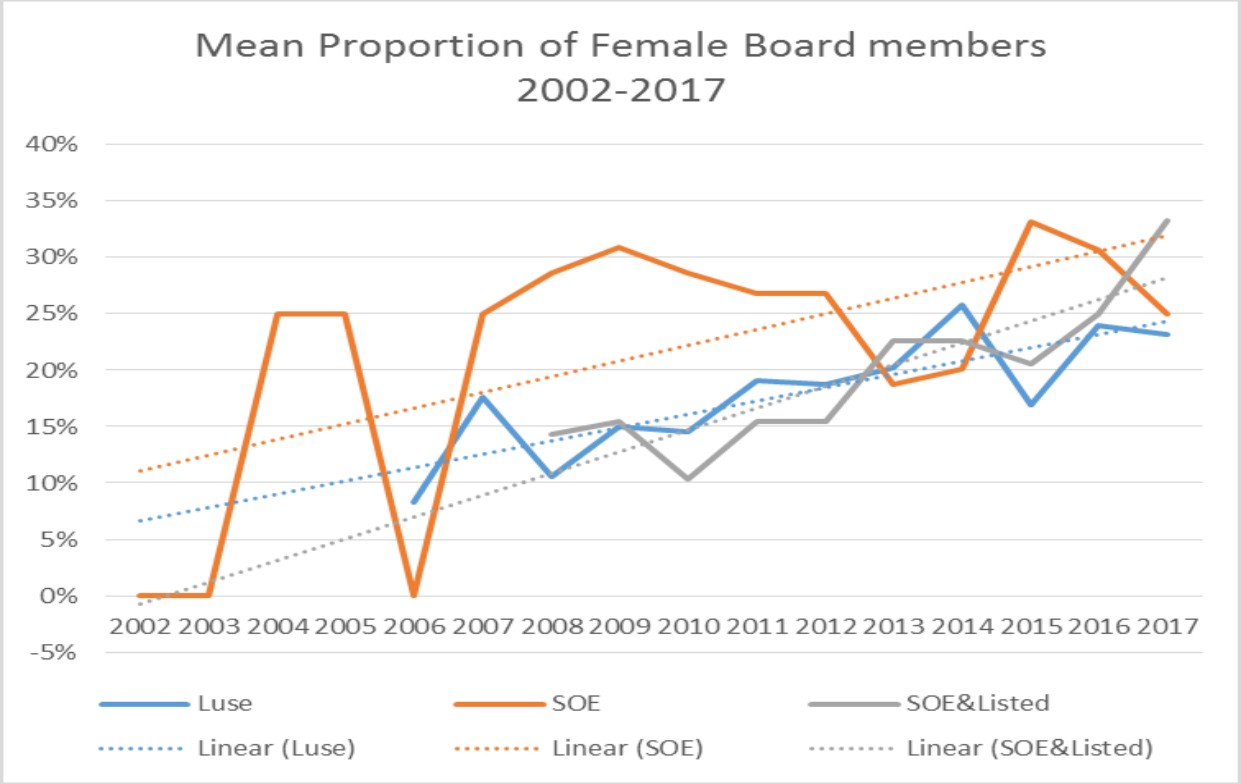


Figure 5. 6: Mean Proportion of Female Board members

Source: Author, 2020

Descriptive Statistics

The descriptive statistics of the overall data that was collected and analysed was as in Appendix 16. Preliminary statistical analysis is presented in Appendix 17.

5.2.4 POST ESTIMATION TECHNIQUES

5.2.4.1 Random Effect Model

The Random Effect Model under GLS regression was conducted using .xtreg command in STATA and the results are as shown in Tables 5.20 to 5.23.

Rendom effects model for unlisted SOEs.

Table 5.20 shows the results of the random effects model for unlisted SOEs.

Unlisted SOEs

```
. summarize ROA PNED PFEM FSIZ
```

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	206	-.0949489	.2999499	-1.676346	.8755638
PNED	206	.9770778	.0561707	.6666667	1
PFEM	32	.2576276	.08004	.0909091	.375
FSIZ	206	5.207694	.9741167	3.291813	8.943936

```
. xtreg ROA BSIZ PNED PFEM FSIZ Industry_Code, re theta

Random-effects GLS regression                   Number of obs      =        32
Group variable: Company_No                      Number of groups   =         6

R-sq:  within  = 0.3556                         Obs per group: min =         1
       between = 0.5519                                        avg =       5.3
       overall = 0.5472                                        max =        13

                                                Wald chi2(5)       =     31.41
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------ theta -------------------------
  min      5%       median        95%       max
0.0000   0.0000     0.0000      0.0000    0.0000
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
BSIZ	.0480684	.0277472	1.73	0.083	-.0063151	.102452
PNED	.724969	.5558907	1.30	0.192	-.3645567	1.814495
PFEM	-1.561293	.5286573	-2.95	0.003	-2.597442	-.5251436
FSIZ	.0823342	.0644163	1.28	0.201	-.0439193	.2085878
Industry_Code	-.0676703	.018485	-3.66	0.000	-.1039002	-.0314404
_cons	-.768486	.5635843	-1.36	0.173	-1.873091	.3361189
sigma_u	0					
sigma_e	.17555674					
rho	0	(fraction of variance due to u_i)				

Table 5. 11: Random Effects Model for unlisted SOEs

Source: Author, 2020

The research findings are as follows:

i. There is a positive relationship between BSIZ and ROTA for unlisted SOEs. The relationship is not significant (p>0.05). The correlation coefficient is 0.048.
ii. There is a positive relationship between PNED and ROTA for unlisted SOEs. The relatiosnhip is not significant (p>0.05). The correlation coefficient is 0.72.
iii. There is a negative relationship between PFEM and ROTA for unlisted SOEs. The relatiosnhip is significant (p<0.05) with a correlation coefficient is -1.56.
iv. There is a positive relationship between FSIZ and ROTA for unlisted SOEs. The relatiosnhip is insignificant (p<0.05). The correlation coefficient is -0.082.
v. There is a negative relationship between Industry_Code and ROTA for unlisted SOEs. The relatiosnhip is significant (p<0.05). The correlation coefficient is -0.068.
vi. Overall, the results are significant with a p-value of 0.000(p<0.05) with a R^2 of 55%
vii. The results are not limited by the number of observed panel data of 32 which is above the minimum acceptable number of 30 for inferential statistics analysis.

Overall, however, the p-value of 0.000 suggests that we reject the Null Hypothesis that ROTA is not affected by corporate governance attributes of board size, company age, proportion of non-executive directors and proportion of female board members. The model accounted for 55% of the overall variance in ROTA for SOEs.

Random Effects model for listed private firms

Table 5.12 shows the results of the random effects model for listed private SOEs.

```
. summarize ROA BSIZ PNED PFEM FSIZ
```

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	127	.1424715	.2082937	-.1724159	1.345679
BSIZ	127	8.070866	2.693853	4	16
PNED	127	.6966453	.1891264	0	1
PFEM	126	.1979379	.1319681	0	.5555556
FSIZ	127	3.54507	1.475223	1.633468	9.073955

```
. xtreg ROA BSIZ PNED PFEM FSIZ Industry_Code, re theta

Random-effects GLS regression                   Number of obs      =       126
Group variable: Company_No                      Number of groups   =        21

R-sq:  within  = 0.1677                         Obs per group: min =         2
       between = 0.3894                                        avg =       6.0
       overall = 0.2911                                        max =        13

                                                Wald chi2(5)       =     31.69
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------- theta -------------------------
  min       5%       median        95%       max
0.3142    0.3142     0.4880     0.6409    0.6533
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
BSIZ	-.0162844	.0082919	-1.96	0.050	-.0325363	-.0000325
PNED	-.0570189	.1063948	-0.54	0.592	-.2655488	.1515111
PFEM	-.2678065	.1371	-1.95	0.051	-.5365175	.0009045
FSIZ	-.0363325	.0104691	-3.47	0.001	-.0568515	-.0158134
Industry_Code	.0261298	.0119352	2.19	0.029	.0027372	.0495225
_cons	.4006964	.1116647	3.59	0.000	.1818375	.6195552
sigma_u	.11356872					
sigma_e	.15135338					
rho	.36021789	(fraction of variance due to u_i)				

Table 5. 12: Random Effects Model for listed private firms

Source: Author, 2020

The research findings are as follows:

i. There is a negative relationship between BSIZ and ROTA for unlisted Private firms and relationship is not significant (p=0.055). The correlation coefficient is -0.016.

ii. There is a negative relationship between PNED and ROTA for unlisted Private firms. The relatiosnhip is not significant (p>0.05). The correlation coefficient is -0.057.

iii. There is a negative relationship between PFEM and ROTA for unlisted Private firms. The relatiosnhip is not significant (p>0.05). The correlation coefficient is -0.278.

iv. There is a negative relationship between FSIZ and ROTA for unlisted Private firms. The relatiosnhip is significant (p<0.05). The correlation coefficient is -0.036.

v. There is a postive relationship between Industry_Code and ROTA for unlisted Private firms. The relatiosnhip is significant ($p<0.05$). The correlation coefficient is 0.026.
vi. Overall, the results are significant ($p<0.05$) with a R^2 of 29%
vii. The results are not limited by the number of observed panel data of 126 which is above the minimum acceptable number of 30 for inferential statistics analysis.

Overall, the p-value of 0.000 suggests rejection of the Null Hypothesis that ROTA is not affected by corporate governance attributes of board size, proportion of non-executive directors and proportion of female board members.

The model accounted for 29% of the overall variance in ROTA for LUSE firms.

For one unit increase in Board size, ROTA is expected to decrease by 1.6%, holding all other variables constant. For one unit increase in proportion of NEDs, ROTA is expected to decrease by 5.7%, holding all other variables constant. For one unit decrease in proportion of female directors, ROTA is expected to decrease by 26%, holding all other variables constant.

5.2.4.2 Tests for heteroscedasticity using the xtgls command

The random effect model was also estimated using the .xtgls which fits panel data models with heteroscedasticity across group (time) and/or autocorrelation within a group (time). Tables 5.13 and 5.14 contain the results.

For unlisted SOEs

```
. xtgls ROA BSIZ PNED PFEM FSIZ Industry_Code

Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        homoskedastic
Correlation:   no autocorrelation

Estimated covariances      =         1          Number of obs      =        32
Estimated autocorrelations =         0          Number of groups   =         6
Estimated coefficients     =         6          Obs per group: min =         1
                                                               avg =  5.333333
                                                               max =        13
                                                Wald chi2(5)       =     38.66
Log likelihood             =  6.130303          Prob > chi2        =    0.0000
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
BSIZ	.0480684	.025011	1.92	0.055	-.0009522	.0970891
PNED	.724969	.5010731	1.45	0.148	-.2571162	1.707054
PFEM	-1.561293	.4765252	-3.28	0.001	-2.495265	-.6273206
FSIZ	.0823342	.058064	1.42	0.156	-.0314692	.1961376
Industry_C~e	-.0676703	.0166621	-4.06	0.000	-.1003275	-.0350131
_cons	-.768486	.508008	-1.51	0.130	-1.764164	.2271914

.

Table 5. 13: Tests for heteroscedasticity SOEs

Source: Author, 2020

The result suggests the rejection of the Null Hypothesis that ROTA is not affected by corporate governance attributes of board size, proportion of non-executive directors and proportion of female board members ($p<0.05$) The board size is not significant with a p value of 0.055, the proportion of non-executive directors is not significant with a p value of 0.148 and the gender diversity as measured by the proportion of females on the board is significant with a p value of 0.001 and Industry type is significant. BSIZ and PNED show a positive relationship while the PFEM reflects a negative relationship.

For private listed firms

```
. xtgls ROA BSIZ PNED PFEM FSIZ Industry_Code

Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        homoskedastic
Correlation:   no autocorrelation

Estimated covariances      =         1          Number of obs      =       126
Estimated autocorrelations =         0          Number of groups   =        21
Estimated coefficients     =         6          Obs per group: min =         2
                                                               avg =         6
                                                               max =        13
                                                Wald chi2(5)       =     52.58
Log likelihood             =  40.89734          Prob > chi2        =    0.0000
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
BSIZ	-.0153131	.0061168	-2.50	0.012	-.0273019	-.0033243
PNED	-.1256636	.0891775	-1.41	0.159	-.3004483	.0491211
PFEM	-.2899678	.1241105	-2.34	0.019	-.5332199	-.0467158
FSIZ	-.0365471	.0111456	-3.28	0.001	-.0583922	-.0147021
Industry_C~e	.0287324	.0069416	4.14	0.000	.015127	.0423377
_cons	.4370061	.0908184	4.81	0.000	.2590054	.6150069

.

Table 5. 14: Tests for heteroscedasticity LUSE

Source: Author, 2020

The p-value of 0.000 suggested rejection of the Null Hypothesis, at 5% significance level, that ROTA is not affected by corporate governance attributes of board size, proportion of non-executive directors and proportion of female board members. The board size is significant with a p-value of 0.012 and the gender diversity as measured by the proportion of females on the board is significant with a p value of 0.010. The proportion of non-executive directors is however not significant with a p value of 0.159. All the corporate governance attributes suggested a negative effect on the Return on Assets shown by the negative These results imply that for private listed firms the smaller board sizes are desirable with low NEDs and Female board members. From a theoretical perspective, low NEDs on the board means that their a higher proportion of executive directors who could be considered to be more informed about the firm operations.

5.2.5 Comparative Analysis between SOEs and LUSE companies

A second set of hypotheses were used to test whether there was a difference in the financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE) based on the ROTA performance measure. The alternative and null hypotheses were as follows:

Null Hypothesis (H_0)

There is no difference in the financial performance of SOEs compared to LUSE

Alternate Hypothesis (H_1)

There is a difference in the financial performance of SOEs compared to LUSE

The statistic that was used to test the hypothesis was the two-sample t-test assuming unequal variances.

Test for homogeneity of variances

The Levene's Test was used to determine whether two or more groups have equal variances. The data were grouped into three groups namely unlisted SOEs, Listed SOEs and Listed non-SOEs. Table 5.27 contains the results.

Robust tests for equality of variances using the robvar command

```
. robvar BSIZ, by(Category)
```

Category	Summary of BSIZ Mean	Std. Dev.	Freq.
LISTED	8.0708661	2.6938528	127
SOE	9.61	3.1476082	200
SOE&LISTED	6.8888889	.83235236	18
Total	8.9014493	3.0302013	345

```
W0  =  6.7239590   df(2, 342)     Pr > F = 0.00136701

W50 =  5.8754381   df(2, 342)     Pr > F = 0.00309876

W10 =  6.3278562   df(2, 342)     Pr > F = 0.00200205
```

Table 5. 15 Robust tests for equality of variances of BSIZ

Source: Author, 2020

W0: 6.7239590. This is the test statistic for Levene's Test centred on the mean. The corresponding p-value is **0.00136701**.

W50: 5.8754381. This is the test statistic for Levene's Test centred on the median. The corresponding p-value is **0.00309876**.

W10: 6.3278562. This is the test statistic for Levene's Test centred using the 10% trimmed mean – i.e., the top 5% and bottom 5% of values are trimmed out so they don't overly influence the test. The corresponding p-value is **0.00200205**.

No matter which version of Levene's Test was used, the p-value for each version is less than 0.05. This indicates that there is a statistically significant difference in the

variance of BSIZ between LUSE, SOE and SOE & Listed companies and the assumption of homogeneity of variances is violated. Table 5.28contains the results.

```
. robvar ROA, by(Type)
```

Type	Summary of ROA Mean	Std. Dev.	Freq.
LISTED	.15857877	.216613	111
SOE	.03389325	.0728716	15
SOE&LISTED	-.01676752	0	1
Total	.14247145	.20829368	127

```
W0  =  1.3360504   df(2, 124)     Pr > F = 0.26663928

W50 =  1.1485340   df(2, 124)     Pr > F = 0.32045115

W10 =  1.0443215   df(2, 124)     Pr > F = 0.35500487
```

Table 5. 16 Robust tests for equality of variances of ROTA

Source: Author, 2020

W0: 1.3360504. This is the test statistic for Levene's Test centred at the mean. The corresponding p-value is **0.26663928**.

W50: 1.1485340. This is the test statistic for Levene's Test centred at the median. The corresponding p-value is **0.32045115**.

W10: 1.0443215. This is the test statistic for Levene's Test centred using the 10% trimmed mean – i.e., the top 5% and bottom 5% of values are trimmed out so they don't overly influence the test. The corresponding p-value is **0.35500487**.

No matter which version of Levene's Test is used, the p-value for each version is not less than 0.05. This indicates that there is no statistically significant difference in the variance of ROTA between LUSE, SOE and SOE & Listed companies and the assumption of homogeneity of variances is violated. Table 5.29 contains the results.

```
. robvar PNED, by(Type)
```

Type	Summary of PNED Mean	Std. Dev.	Freq.
LISTED	.2820604	.36183822	94
SOE	.92923932	.18411465	200
SOE&LISTED	.93662465	.07001773	17
Total	.73403267	.38738774	311

```
W0  =  53.690544   df(2, 308)     Pr > F = 0.00000000

W50 =  23.871764   df(2, 308)     Pr > F = 0.00000000

W10 =  55.830607   df(2, 308)     Pr > F = 0.00000000
```

Table 5. 17: Robust tests for equality of variances of PNED

Source: Author, 2020

W0: 53.690544. This is the test statistic for Levene's Test centred at the mean. The corresponding p-value is **0.000000**.

W50: 23.871764. This is the test statistic for Levene's Test centred at the median. The corresponding p-value is **0.000000**

W10: 55.830607. This is the test statistic for Levene's Test centred using the 10% trimmed mean – i.e., the top 5% and bottom 5% of values are trimmed out so they don't overly influence the test. The corresponding p-value is **0.000000**.

No matter which version of Levene's Test was used, the p-value for each version is less than 0.05. This indicates that there is a statistically significant difference in the variance of PNED between LUSE, SOE and SOE&Listed companies and the assumption of homogeneity of variances is violated. Table 5.18 contains the results.

```
. robvar PFEM, by(Type)
```

Type	Summary of PFEM Mean	Std. Dev.	Freq.
LISTED	.2018093	.13232494	127
SOE	.16839411	.09298899	26
SOE&LISTED	.27546296	.03821571	18
Total	.20448165	.12301852	171

```
W0  = 10.0569760   df(2, 168)     Pr > F = 0.00007492

W50 =  8.2026131   df(2, 168)     Pr > F = 0.00039905

W10 =  8.5474687   df(2, 168)     Pr > F = 0.00029163
```

Table 5. 18: Robust tests for equality of variances of PFEM

Source: Author, 2020

W0: 10.0569760. This is the test statistic for Levene's Test centred at the mean. The corresponding p-value is **0.00007492.**

W50: 8.2026131. This is the test statistic for Levene's Test centred at the median. The corresponding p-value is **0.0003905.**

W10: 8.5474687. This is the test statistic for Levene's Test centred using the 10% trimmed mean – i.e., the top 5% and bottom 5% of values are trimmed out so they don't overly influence the test. The corresponding p-value is **0.00029163**.

No matter which version of Levene's Test was used, the p-value for each version is less than 0.05. This indicates that there is a statistically significant difference in the variance of PNED between LUSE, SOE and SOE & Listed companies and the assumption of homogeneity of variances is violated.

Test for equal variances using the T-test

A one-way ANOVA test was used to determine whether two or more groups have equal variances. The data was grouped into three groups namely unlisted SOEs, Listed SOEs and Listed non-SOEs.

Analysis of Variance

Null Hypothesis (H_0)

There is no difference in the corporate governance practices and financial performance of SOEs as compared to listed companies on the Lusaka Securities Exchange (LuSE)

The Alternative Hypotheses that were tested were as follows:

H7

There is a difference in ROTA of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H8

There is a difference in ROTA of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H9

There is a difference in ROTA of listed SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

For corporate governance practices:

The Alternative Hypotheses that were tested were as follows:

H10

There is a difference in the BSIZ of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H11

There is a difference in the BSIZ of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H12

There is a difference in the BSIZ of listed private companies as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H13

There is a difference in the PNED of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H14

There is a difference in the PNED of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H15

There is a difference in the PNED of listed private companies as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H16

There is a difference in the PFEM of unlisted SOEs as compared to listed private companies on the Lusaka Securities Exchange (LuSE).

H17

There is a difference in the PFEM of unlisted SOEs as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

H18

There is a difference in the PFEM of listed private companies as compared to listed SOEs on the Lusaka Securities Exchange (LuSE).

Table 5.19 contains the results.

Variable	SS	DF	MS	F statistic	Prob>F	Chi2(2)	Prob > Chi2
BSIZ	260.9293	2	130.4646	15.40	0.0000	30.6079	0.000
ROTA	0.2310	2	0.1155	2.74	0.0688	17.0107	0.000
PNED	27.5211	2	13.7605	223.06	0.0000	88.5773	0.000
PFEM	0.1255	2	0.0627	4.31	0.0150	28.4754	0.000

Table 5. 19: One-Way ANOVA for equality of variances

Source: Author, 2020

For BSIZ the significant level is 0.000 which is below the 0.05 and therefore there is a statistically significant difference in the mean of BSIZ between the three groups. For ROTA the significant level is 0.0688 which is above the 0.05 and therefore there is no statistically significant difference in the mean of ROTA between the three groups. For PNED the significant level is 0.000 which is below the 0.05 and therefore there is a statistically significant difference in the mean of PNED between the three groups. For PFEM the significant level is 0.0150 which is below the 0.05 and therefore there is a statistically significant difference in the mean of PFEM between the three groups. From a theoretical perspective the corporate governance practices in SOEs is explained by the stakeholder perspective which for example requires larger boards with large representation by stakeholders.

Pairwise ANOVA

A pairwise one-way ANOVA test was used to determine whether two paired groups have equal variances. The data was grouped into three groups namely unlisted SOEs (categorized as SOEs), Listed SOEs (categorized as SOEs & Listed) and Listed non-SOEs (categorized as LUSE). Table 5.20 contains the results

Variable	Category	LUSE	SOE
BSIZ	SOE	1.53913	
		0.000	
	SOE&LISTED	-1.18198	-2.72111
		0.323	0.001
PNED	SOE	0.28	
		0.000	
	SOE&LISTED	0.20	-0.08
		0.000	0.019
PFEM	SOE	0.068593	
		0.027	
	SOE&LISTED	-0.023107	-0.0909
		1.000	0.046
ROTA	SOE	-0.23	
		0.000	
	SOE&LISTED	-0.12	0.11
		0.169	0.259

Table 5. 20: Pairwise ANOVA

Source: Author, 2019

For BSIZ the significant level is 0.0000 which is below the 0.05 and therefore there is a statistically significant difference in the mean of BSIZ between SOEs and LUSE companies. With a significant level of 0.001 which is below the 0.05 therefore there is a statistically significant difference in the mean of BSIZ between the SOE& Listed companies and SOEs companies. With a significant level of 0.323 which is above the 0.05 therefore there is no statistically significant difference in the mean of BSIZ between the SOE& Listed companies and LUSE companies.

For PNED the significant level is 0.000 which is below the 0.05 and therefore there is a statistically significant difference in the mean of PNED between SOEs and LUSE companies. With a significant level of 0.019 which is below the 0.05 therefore there is a statistically significant difference in the mean of PNED between the SOE& Listed

companies and SOEs companies. With a significant level of 0.000 which is below the 0.05 therefore there is a statistically significant difference in the mean of PNED between the SOE& Listed companies and LUSE companies.

For PFEM the significant level is 0.027 which is below the 0.05 and therefore there is a statistically significant difference in the mean of PFEM between SOEs and LUSE companies. With a significant level of 0.046 which is below the 0.05 therefore there is a statistically significant difference in the mean of PFEM between the SOE& Listed companies and SOEs companies. With a significant level of 1.000 which is above the 0.05 therefore there is no statistically significant difference in the mean of PFEM between the SOE& Listed companies and LUSE companies.

For ROTA the significant level is 0.000 which is below the 0.05 and therefore there is a statistically significant difference in the mean of ROTA between SOEs and LUSE companies. With a significant level of 0.259 which is above the 0.05 therefore there is no statistically significant difference in the mean of ROTA between the SOE& Listed companies and SOEs companies. With a significant level of 0.169 which is above the 0.05 therefore there is no statistically significant difference in the mean of ROTA between the SOE and Listed companies and LUSE companies.

Test for equal variances using the T-test using the Welch Approximation

Using the t-test, the equality of the variances for BSIZ, PNED, PFEM and ROTA between the three categories was compared. Table 5.21 contains the results.

```
. ttest ROA_LUSE==ROA_SOE, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
ROA_LUSE	127	.1424715	.0184831	.2082937	.105894	.1790489
ROA_SOE	200	-.0847482	.0200207	.283136	-.1242282	-.0452681
combined	327	.0034992	.0154451	.2792959	-.0268854	.0338839
diff		.2272196	.027248		.1736118	.2808274

```
    diff = mean(ROA_LUSE) - mean(ROA_SOE)                         t =   8.3389
Ho: diff = 0                     Welch's degrees of freedom =  320.154

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000

.
```

Table 5. 21: t-test for ROTA

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for ROTA for LUSE data is not equal to underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for LUSE data is greater than the underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the ROTA for LUSE is statistically significantly greater than the mean for the ROTA for SOE companies.

For LUSE data for private firms the mean ROTA was 14.25% compared a negative 8.5% for SOE data meaning that LUSE companies are more efficient in that they provide a better ROTA as compared to SOEs as shown in Figure 5.7.

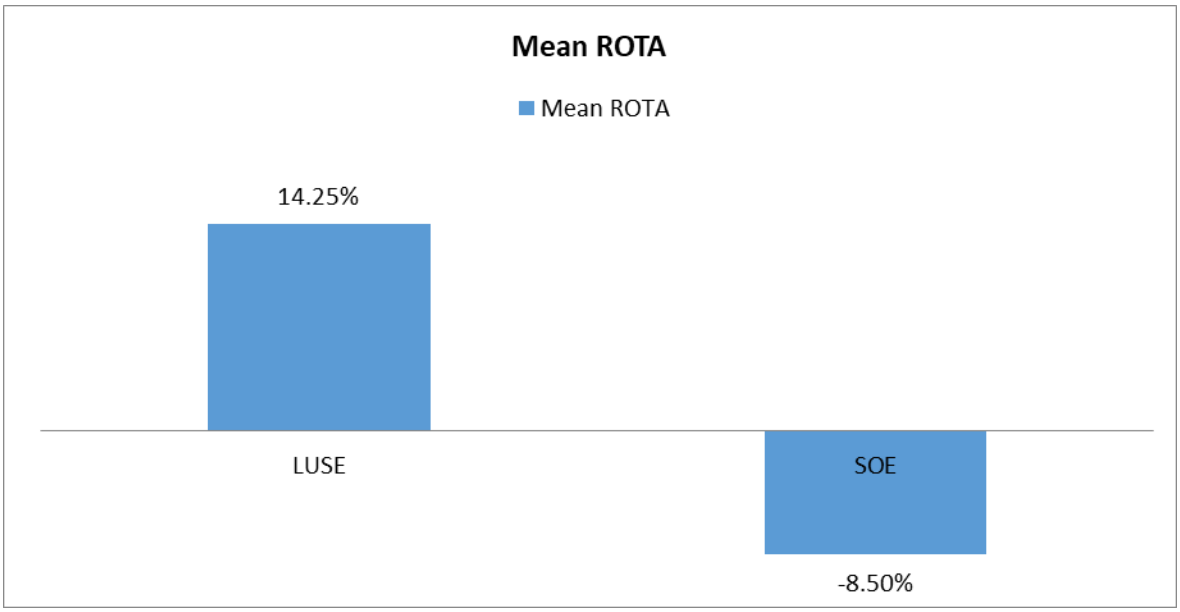


Figure 5. 7: Mean ROTA SOE v LUSE

Source: Author, 2020

Table 5.22 contains the results for the t-test for ROTA for listed private firms compared to listed SOEs.

```
. ttest ROA_LUSE==ROA_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
ROA_LUSE	127	.1424715	.0184831	.2082937	.105894	.1790489
ROA_SO~D	18	.0214898	.0187483	.0795423	-.0180656	.0610453
combined	145	.127453	.0166738	.2007794	.094496	.1604101
diff		.1209816	.0263272		.0683675	.1735958

```
    diff = mean(ROA_LUSE) - mean(ROA_SOELISTED)                   t =   4.5953
Ho: diff = 0                     Welch's degrees of freedom =  62.7947

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000

.
```

Table 5. 22: t-test for ROTA

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for ROTA for LUSE data is not equal to underlying mean of listed SOEs data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for LUSE data is greater than the underlying mean of listed SOEs data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the ROTA for LUSE is statistically significantly greater than the mean for the ROTA for listed SOE companies.

For LUSE data for private firms the mean ROTA was 14.25% compared 2.15% for listed SOE data meaning that LUSE companies are more efficient in that they provide a better ROTA as compared to listed SOEs.

Table 5.23 contains the results for ROTA for unlisted SOEs compared to listed SOEs.

```
. ttest ROA_SOE==ROA_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
ROA_SOE	200	-.0847482	.0200207	.283136	-.1242282	-.0452681
ROA_SO~D	18	.0214898	.0187483	.0795423	-.0180656	.0610453
combined	218	-.0759762	.0185323	.2736254	-.1125025	-.03945
diff		-.106238	.0274286		-.1608725	-.0516035

```
    diff = mean(ROA_SOE) - mean(ROA_SOELISTED)                    t =  -3.8733
Ho: diff = 0                     Welch's degrees of freedom =  75.5124

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0001         Pr(|T| > |t|) = 0.0002          Pr(T > t) = 0.9999

.
```

Table 5. 23: t-test for ROTA for unlisted SOEs compared to listed SOEs.

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for ROTA for SOEs' data is not equal to underlying mean of listed SOEs data with a

significance level of 0.00 at 95% confidence level. Further the underlying mean for listed SOE data is greater than the underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the ROTA for listed SOEs is statistically significantly greater than the mean for the ROTA for SOE companies.

For listed SOEs data the mean ROTA was 2.15% compared to -8.45% for SOEs meaning that listed SOEs companies are more efficient in that they provide a better ROTA as compared to unlisted SOEs.

Board size

Table 5.24 contains the results for BSIZ comparing listed firms against unlisted SOEs.

```
. ttest BSIZ_LUSE==BSIZ_SOE, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
BSIZ_L~E	127	8.070866	.2390408	2.693853	7.597811	8.543921
BSIZ_SOE	200	9.61	.2225695	3.147608	9.171103	10.0489
combined	327	9.012232	.1697005	3.068718	8.678386	9.346079
diff		-1.539134	.3266155		-2.181884	-.8963839

```
    diff = mean(BSIZ_LUSE) - mean(BSIZ_SOE)                       t =  -4.7124
Ho: diff = 0                     Welch's degrees of freedom =  299.726

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Table 5. 24: t-test for BSIZ

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for BSIZ for LUSE data is not equal to underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for LUSE data was less than the underlying mean of SOE data with a significance level of 0.00 at 95%

confidence level. We conclude that the mean of the BSIZ for LUSE is statistically significantly less than the mean for the SOE companies.

For LUSE data the mean BSIZ was 8.07 compared 9.61 for SOE data.

Table 5.25 contains the results for BSIZ comparing listed firms against listed SOEs.

```
. ttest BSIZ_LUSE==BSIZ_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
BSIZ_L~E	127	8.070866	.2390408	2.693853	7.597811	8.543921
BSIZ_S~D	18	6.888889	.1961873	.8323524	6.47497	7.302808
combined	145	7.924138	.2130968	2.566025	7.502936	8.34534
diff		1.181977	.3092409		.5672648	1.79669

```
    diff = mean(BSIZ_LUSE) - mean(BSIZ_SOELISTED)                 t =   3.8222
Ho: diff = 0                     Welch's degrees of freedom =  86.3766

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9999         Pr(|T| > |t|) = 0.0002          Pr(T > t) = 0.0001

.
```

Table 5. 25: t-test for BSIZ

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for BSIZ for LUSE data is not equal to underlying mean of listed SOE data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for LUSE data is greater than the underlying mean of listed SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the BSIZ for LUSE is statistically significantly greater than the mean for the BSIZ for listed SOE companies. For LUSE data the mean BSIZ was 8.07 compared 6.8889 for listed SOE data.

```
. ttest BSIZ_SOE==BSIZ_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
BSIZ_SOE	200	9.61	.2225695	3.147608	9.171103	10.0489
BSIZ_S~D	18	6.888889	.1961873	.8323524	6.47497	7.302808
combined	218	9.385321	.2109761	3.115025	8.969496	9.801146
diff		2.721111	.2966929		2.131097	3.311125

```
    diff = mean(BSIZ_SOE) - mean(BSIZ_SOELISTED)                  t =   9.1715
Ho: diff = 0                             Welch's degrees of freedom =  83.9256

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000

.
```

Table 5.27 contains the results for BSIZ.

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for BSIZ for listed SOE data is not equal to underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for SOE data is greater than the underlying mean of listed SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the BSIZ for SOEs is statistically significantly greater than the mean for the BSIZ for listed SOE companies. For SOE data the mean BSIZ was 9.61 compared 6.8889 for SOE data.

PNED

Table 5.26 contains the results for PNED .

```
. ttest PNED_LUSE==PNED_SOE, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
PNED_L~E	127	.6966453	.0167823	.1891264	.6634337	.7298569
PNED_SOE	200	.9763901	.0040212	.056868	.9684605	.9843197
combined	327	.867743	.0102634	.1855941	.8475522	.8879338
diff		-.2797448	.0172573		-.3138617	-.245628

```
    diff = mean(PNED_LUSE) - mean(PNED_SOE)                       t = -16.2102
Ho: diff = 0                     Welch's degrees of freedom =   140.82

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000

.
```

Table 5. 26: t-test for PNED

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for PNED for LUSE data is not equal to underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. Further, the underlying mean for LUSE data is less than the underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the PNED for LUSE is statistically significantly less than the mean for the PNED for SOE companies. For LUSE data the mean PNED was 0.6966 compared 0.97639 for SOE data.

Table 5.27 contains the results for PNED.

```
. ttest PNED_LUSE==PNED_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
PNED_L~E	127	.6966453	.0167823	.1891264	.6634337	.7298569
PNED_S~D	18	.8926367	.0166088	.0704653	.8575951	.9276783
combined	145	.7209752	.0157763	.1899721	.6897921	.7521583
diff		-.1959914	.0236114		-.2431438	-.148839

```
    diff = mean(PNED_LUSE) - mean(PNED_SOELISTED)                 t =  -8.3007
Ho: diff = 0                     Welch's degrees of freedom =  65.2048

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

Table 5. 27: t-test for PNED

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for PNED for LUSE data is not equal to underlying mean of listed SOE data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for LUSE data is less than the underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the PNED for LUSE is statistically significantly less than the mean for the PNED for SOE companies.

For LUSE data the mean PNED was 0.6966 compared 0.8926 for SOE data.

Table 5.28 contains the results for PNED.

```
. ttest PNED_SOE==PNED_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
PNED_SOE	200	.9763901	.0040212	.056868	.9684605	.9843197
PNED_S~D	18	.8926367	.0166088	.0704653	.8575951	.9276783
combined	218	.9694747	.0042234	.062358	.9611505	.9777989
diff		.0837534	.0170887		.0480222	.1194846

```
    diff = mean(PNED_SOE) - mean(PNED_SOELISTED)                  t =   4.9011
Ho: diff = 0                     Welch's degrees of freedom =  19.2858

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0001          Pr(T > t) = 0.0000
```

Table 5. 28: t-test for PNED

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for PNED for listed SOE LUSE data is not equal to underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. Further the underlying mean for listed SOES data is greater than the underlying mean of SOE data with a significance level of 0.00 at 95% confidence level. We conclude that the mean of the PNED for listed SOEs is statistically significantly less than the mean for the PNED for SOE companies. The mean PNED was 0.9764 for SOEs and 0.8926 for listed SOEs.

PFEM

Table 5.29 contains the results for PFEM.

```
. ttest PFEM_LUSE==PFEM_SOE, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
PFEM_L~E	127	.1963793	.0117674	.1326117	.173092	.2196666
PFEM_SOE	44	.227868	.0130959	.0868687	.2014575	.2542785
combined	171	.2044816	.0094075	.1230185	.1859112	.2230521
diff		-.0314887	.0176061		-.0663548	.0033775

```
    diff = mean(PFEM_LUSE) - mean(PFEM_SOE)                       t =  -1.7885
Ho: diff = 0                     Welch's degrees of freedom =  117.592

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0381         Pr(|T| > |t|) = 0.0763          Pr(T > t) = 0.9619

.
```

Table 5. 29: t-test for PFEM

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for PFEM for LUSE data is not equal to underlying mean of SOE data (p=0.0763). Further the underlying mean for LUSE data is less than the underlying mean of SOE data with a significance level of 0.0763. We conclude that the mean of the PFEM for LUSE is statistically significantly less than the mean for the PFEM for SOE companies.

For LUSE data the mean PFEM was 0.1963 compared 0.22786 for SOE data.

Table 5.30 contains the results for PFEM.

```
. ttest PFEM_LUSE==PFEM_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
PFEM_L~E	127	.1963793	.0117674	.1326117	.173092	.2196666
PFEM_S~D	18	.1742725	.021063	.0893628	.1298334	.2187116
combined	145	.193635	.0106298	.1279996	.1726244	.2146456
diff		.0221068	.0241272		-.0271508	.0713644

```
    diff = mean(PFEM_LUSE) - mean(PFEM_SOELISTED)                 t =   0.9163
Ho: diff = 0                     Welch's degrees of freedom =  30.2451

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8166         Pr(|T| > |t|) = 0.3668          Pr(T > t) = 0.1834
```

Table 5. 30: t-test for PFEM

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for PFEM for LUSE data is not unequal to underlying mean of listed SOE data with a significance level of 0.3688 at 95% confidence level.

Table 5.31 contains the results for PFEM.

```
. ttest PFEM_SOE==PFEM_SOELISTED, unpaired unequal welch

Two-sample t test with unequal variances
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
PFEM_SOE	44	.227868	.0130959	.0868687	.2014575	.2542785
PFEM_S~D	18	.1742725	.021063	.0893628	.1298334	.2187116
combined	62	.212308	.0114628	.0902579	.1893868	.2352292
diff		.0535955	.0248023		.0030969	.104094

```
    diff = mean(PFEM_SOE) - mean(PFEM_SOELISTED)                  t =   2.1609
Ho: diff = 0                     Welch's degrees of freedom =  32.3611

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9809         Pr(|T| > |t|) = 0.0382          Pr(T > t) = 0.0191
```

Table 5. 31: t-test for PFEM

Source: Author, 2020

The test using the Welch approximation formula indicates that the underlying mean for PFEM for listed SOE data is not equal to underlying mean of SOE data with a significance level of 0.0382 at 95% confidence level. We conclude that the mean of the PFEM for SOE is statistically significantly greater than the mean for the PFEM for listed SOE companies.

Effect size tests

The effect size test was conducted to quantify the difference between the paired categories emphasizing the size of the difference in the relationships between the measured.

H_0: The Null Hypothesis is that there no significant effect size in the measured variable between the categories. The effect size was considered significant if zero was not in the 95% confidence interval.

H_a: The Null Hypothesis is that there is significant effect size in the measured variable between the categories.

The esize function in STATA was employed to conduct the analysis as below.

ROTA

Table 5.32 contains the results for Effect size.

```
. esize unpaired ROA_LUSE == ROA_SOE, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    327
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |   .8850763     .6517387    1.117146
       Hedges's g  |    .883032     .6502333    1.114566
   Glass's Delta 1 |   1.090862     .8293319     1.34917
   Glass's Delta 2 |   .8025104     .5656791     1.03754
  Point-Biserial r |   .4224255      .330678     .502396
------------------------------------------------------------------------------
                  Welch's degrees of freedom =  320.1542

.
```

Table 5. 32: Effect size test for ROTA LUSE data v SOE data

Source: Author, 2020

As zero was not in the 95% confidence interval we conclude that there is significant effect size in ROTA data for LUSE companies compared to SOEs.

Table 5.33 contains the results for Effect size.

```
. esize unpaired ROA_LUSE == ROA_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    145
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |   .6127666     .1053611    1.115512
       Hedges's g  |   .6095462     .1048074    1.109649
   Glass's Delta 1 |   .5808223     .0809006    1.078487
   Glass's Delta 2 |   1.520971     .8023694     2.21768
  Point-Biserial r |    .501653     .2966803    .6454979
------------------------------------------------------------------------------
                   Welch's degrees of freedom =  62.7947

.
```

Table 5. 33: Effect size test for ROTA LUSE data v SOE & Listed data

Source: Author, 2020

As zero was not in the 95% confidence interval we conclude that there is significant effect size in ROTA data for LUSE companies compared to SOEs that are listed. Table 5.34 contains the results for Effect size.

```
. esize unpaired ROA_SOE == ROA_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    218
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |  -.3896062    -.8746201    .0979431
       Hedges's g  |  -.3882516    -.8715792    .0976025
   Glass's Delta 1 |  -.3752189     -.858464    .1089632
   Glass's Delta 2 |  -1.335616    -1.981432   -.6685177
  Point-Biserial r |  -.4071147    -.5627778   -.2035746
------------------------------------------------------------------------------
                   Welch's degrees of freedom =  75.5124
```

Table 5. 34: Effect size test for ROTA SOE v SOE & Listed data

Source: Author, 2020

As zero was in the 95% confidence interval we conclude that there is no significant effect size in ROTA data for SOE companies compared to listed SOEs.

Board Size

Table 5.35 contains the results for Effect size.

```
. esize unpaired BSIZ_LUSE == BSIZ_SOE, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    327
------------------------------------------------------------------------------
        Effect Size |   Estimate     [95% Conf. Interval]
--------------------+---------------------------------------------------------
          Cohen's d |  -.5165047    -.7422804    -.289895
          Hedges's g |  -.5153117    -.7405659   -.2892254
    Glass's Delta 1 |  -.5713504       -.8036   -.3370326
    Glass's Delta 2 |  -.4889852    -.7159054   -.2608892
   Point-Biserial r |  -.2626376    -.3611266   -.1547988
------------------------------------------------------------------------------
                    Welch's degrees of freedom =  299.7264

. esize unpaired BSIZ_LUSE == BSIZ_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    145
------------------------------------------------------------------------------
        Effect Size |   Estimate     [95% Conf. Interval]
--------------------+---------------------------------------------------------
          Cohen's d |   .4644498    -.0353102    .9615747
          Hedges's g |   .4620089    -.0351247    .9565211
    Glass's Delta 1 |   .4387683    -.0586708    .9344877
    Glass's Delta 2 |   1.420044     .7251451    2.093096
   Point-Biserial r |   .3803488     .1871907    .5328895
------------------------------------------------------------------------------
                    Welch's degrees of freedom =  86.3766

. esize unpaired BSIZ_SOE == BSIZ_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    218
------------------------------------------------------------------------------
        Effect Size |   Estimate     [95% Conf. Interval]
--------------------+---------------------------------------------------------
          Cohen's d |   .8979923     .3944878    1.396529
          Hedges's g |   .8948701     .3931162    1.391673
    Glass's Delta 1 |   .8645012     .3737264    1.353167
    Glass's Delta 2 |   3.269182     2.070137    4.451721
   Point-Biserial r |   .7075072     .5933399    .7835515
------------------------------------------------------------------------------
                    Welch's degrees of freedom =  83.9256
```

Table 5. 35: Effect size test for BSIZ

Source: Author, 2020

For BSIZ as zero was in the 95% confidence interval it cannot be concluded that there is a significant effect size for LUSE vs SOE & Listed data. As for LUSE vs SOE and SOE vs SOE & Listed, as zero was not in the 95% confidence interval it can be concluded that there is significant effect size.

PFEM

Table 5.36 contains the results for Effect size.

```
. esize unpaired PFEM_LUSE == PFEM_SOE, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    171
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |  -.2568354    -.6007199    .0881306
       Hedges's g  |  -.2556936    -.5980494    .0877388
   Glass's Delta 1 |  -.2374502    -.5810923    .1071268
   Glass's Delta 2 |  -.3624859    -.7117469   -.0092136
  Point-Biserial r |  -.1627321    -.3274439    .0173767
------------------------------------------------------------------------------
                   Welch's degrees of freedom =  117.5924

. esize unpaired PFEM_LUSE == PFEM_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    145
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |   .1723911    -.3245307    .6664961
       Hedges's g  |   .1714851    -.3228252    .6629933
   Glass's Delta 1 |   .1667034     -.327676    .6604229
   Glass's Delta 2 |   .2473826     -.256602    .7443414
  Point-Biserial r |    .164341    -.1900487    .4641969
------------------------------------------------------------------------------
                   Welch's degrees of freedom =  30.2451

. esize unpaired PFEM_SOE == PFEM_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =     62
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |   .6119424     .0394144    1.175675
       Hedges's g  |   .6042557     .0389193    1.160907
   Glass's Delta 1 |   .6169714     .0499972    1.177159
   Glass's Delta 2 |   .5997513     .0082781    1.175745
  Point-Biserial r |   .3551041     .0204667     .591599
------------------------------------------------------------------------------
                   Welch's degrees of freedom =  32.3611
```

Table 5. 36: Effect size test for PFEM

Source: Author, 2020

For PFEM as zero was in the 95% confidence interval it cannot be concluded that there is a significant effect size for LUSE compared to SOE and Listed data and LUSE compared to SOEs. As for SOE vs SOE & Listed zero is not in the 95% confidence interval it can be concluded that there is significant effect size.

PNED

Table 5.37 contains the results for Effect size.

```
. esize unpaired PNED_LUSE == PNED_SOE, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    327
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |  -2.222195    -2.561996   -1.878834
       Hedges's g  |  -2.217062    -2.556078   -1.874494
   Glass's Delta 1 |  -1.479142    -1.764974   -1.189693
   Glass's Delta 2 |    -4.9192    -5.449528   -4.386207
  Point-Biserial r |  -.8068977    -.8471373   -.7503734
------------------------------------------------------------------------------
                    Welch's degrees of freedom =  140.8197

. esize unpaired PNED_LUSE == PNED_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    145
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |  -1.093801    -1.618104   -.5621349
       Hedges's g  |  -1.088052      -1.6096   -.5591806
   Glass's Delta 1 |  -1.036298    -1.544269   -.5244652
   Glass's Delta 2 |  -2.781388    -3.821858   -1.722278
  Point-Biserial r |  -.7167873    -.7982293    -.587213
------------------------------------------------------------------------------
                    Welch's degrees of freedom =  65.2048

. esize unpaired PNED_SOE == PNED_SOELISTED, cohensd hedgesg glassdelta pbcorr unequal welch

Effect size based on mean comparison, unequal variances

                                Number of obs =    218
------------------------------------------------------------------------------
       Effect Size |   Estimate     [95% Conf. Interval]
-------------------+----------------------------------------------------------
         Cohen's d |   1.442689     .7715997    2.093688
       Hedges's g  |   1.437673     .7689169    2.086409
   Glass's Delta 1 |    1.47277     .9675476    1.974584
   Glass's Delta 2 |   1.188577     .5538584    1.802395
  Point-Biserial r |   .7447604     .4751494    .8584929
------------------------------------------------------------------------------
                    Welch's degrees of freedom =  19.2858
```

Table 5.37 Effect size test for PNED

Source: Author, 2020

As for all categories zero is not in the 95% confidence interval it can be concluded that there is significant effect size for PNEDs.

The reported results do not suffer from multicollinearity, autocorrelation or heteroskedasticity problems and prior to conducting t-tests of comparison of variances, the normality of the data was assessed using numerical methods by use of the Shapiro-Wilk test, the Shapiro-Francia test and the Skewness/Kurtosis tests. The independent variables were found not to be correlated using the Hausman test.

5.3. Quantitative Analysis

5.3.1 Sources of knowledge

In order to understand why there has been weak corporate governance in SOEs in Zambia, the source of knowledge used were the people who practiced corporate governance such as board members in the SOEs and significant others. The data were collected by sending out a questionnaire to members of the IoDZ.

5.3.2 Questionnaire Analysis

5.3.2.1 Introduction

In this section the results of the questionnaire survey are presented. The analysis includes considering testing the reliability of responses using the Cronbach's Alpha test in Stata, completion rate, number of responses, survey views and breakdown of answers per survey respondent.

5.3.2.2 Data Collection

The questionnaire was administered online using the Google Forms application Google. The completion rate, which measured the number of questions answered divided by the total number of questions in the survey, was 100%. All the questions in the questionnaire were answered by each respondent.

5.3.2.4 Cronbach's Alpha test of reliability of the survey responses

Cronbach's reliability test is one of the commonly used method for testing for the reliability of questionnaire survey data. In Stata, the Alpha command was used. The value of the scale reliability coefficient alpha was found to be 0.8489 which is close to 1 and it can be concluded that the data was reliable.

5.3.2.5 Survey response rate

A total of 18 responses were received giving a response rate of 10% out a sample of 169. Although the response rate was low, the results nevertheless provided triangulation to the inferential statistics. The sample comprised members of the Institute of Directors of Zambia. The sample size of 169 was determined using the Taro Yamane formula (Yamane, 1973) with 95% confidence interval as follows:

$$n = \frac{N}{1+Ne^2}$$

where:

n = sample size required

N = Population

e = error allowance (%)

In the study the sample was determined using the following values:

N = 292 being total number of Institute of Directors members (IODZ, 2019)

e = 0.05

n = 292/(1+292(0.5)2) = 168.8 rounded to 169.

5.3.2.6 Breakdown of Answers per Survey Respondent

The survey results are presented in Appendix 2. The survey was conducted between 1st June 2020 and 11th September 2020.

5.3.2.7 Questionnaire Responses Summary

As shown in Appendix 6, there were 18 responses and all questions were answered and the response rate was 10%.

5.3.2.8 Detailed Thematic analysis

Board Size

Question 1: The size of a board of Directors for State Owned Enterprises (SOEs) affects the financial performance of the SOE.

The question sought to find out whether the size of the board of directors of SOEs affected the financial performance of SOEs. The findings indicate that 35% of the respondents agreed that the size of the board of directors of SOEs affected the financial performance of SOEs, while 35% were neutral, 24% disagreed and 6% strongly disagreed. One respondent stated that they agreed, to a significant level, that the size and composition of the board of directors for an SOE, affects the financial performance of a state owned enterprise in Zambia ,as is similar in the private sector but at a different significant level based on a difference with regard to the variables analysed in the different sectors.

Question 2: The larger the size of the Board of a SOE the better the financial performance of a company.

The question sought to find out whether the size of Boards of SOEs lead to better financial performance of the SOEs. The findings show that 65% of the respondents disagreed that the size of the Boardof aSOE leads to better financial performance of an SOE, 17% strongly disagreed, 12% strongly agreed while 6% were neutral.

CEO Duality

Question 3: There should be a separation between the Chief Executive Officer and the Chairperson of the Board of a SOE.

The question sought to find out whether there should be a separation between the Chief Executive Officer and the Chairperson of the Board of a SOE. The findings show that 64% of the respondents strongly agreed that there should be a separation between the Chief Executive Officer and the Chairperson of the Board of a SOE, 12% were neutral, 12% strongly disagreed, while 12% disagreed.

Board composition

Question 4: There should be a balance of skills and experience of board members of SOEs.

The question sought to find out whether there should be a balance of skills and experience of board members of SOEs. The data show that 53% of the respondents strongly agreed that there should be a balance of skills and experience of board members of SOEs, 23% agreed, 12% strongly disagreed, 6% were either neutral or disagreed.

Question 5: There should be a balance of female and male board members on the Board of a SOE

The question sought to find out whether there should be a balance of female and male board members on the Board of a SOE. From the responses, 35% the respondents were neutral, 23% agreed and 12% strongly agreed while 18% disagreed and 12, strongly disagreed.

Question 6: The board of a SOE should have a majority of members who are independent.

The question sought to find out whether the board of a SOE should have a majority of members who are independent. The results show that 41% of the respondents strongly agreed that the board of a SOE should have a majority of members who are independent, 35% agreed while 24% disagreed. One respondent commented that government must accept some autonomy in the running of SOEs if they have to be financially viable and that imposing CEOs and forcing them to support government expenditure not aligned with their CSR was bad practice.

Question 7: The Board of a SOE should comprise a majority of members who are Non-Executive Directors.

The question sought to find out whether the Board of a SOE should comprise a majority of members who are Non-Executive Directors. The findings show that 47% of the respondents strongly agreed that the Board of a SOE should comprise a majority of members who are Non-Executive Directors, 18% agreed, 16% disagreed, 6% strongly disagreed and 12% were neutral.

Board Accountability

Question 8: The shareholders should draw up a shareholder performance contract with the Board of a SOE on appointment.

The question sought to find out whether the shareholders should draw up a shareholder performance contract with the Board of a SOE on appointment. 35% of the respondents strongly agreed that the shareholders should draw up a shareholder performance contract with the Board of a SOE, 41% agreed, 12% strongly disagreed and 6% disagreed or were neutral. One respondent commented that shareholders

should draw up a shareholder performance contract with the Board but there should be no government interference.

Another respondent stated that board evaluation should be encouraged and that performance of the board and its committees as well as Board chair, committee chairs and CEO should annually be evaluated.

Question 9: Performance targets should be set for each Board of a SOE.

The question sought to find out whether performance targets should be set for each Board of a SOE. From the responses, 65% of the respondents strongly agreed that performance targets should be set for each Board of a SOE, 23% agreed, 6% strongly disagreed and 6% were neutral.

Question 10: The Board of a SOE should be held accountable for the poor financial performance of the SOEs.

The question sought to find out whether the Board of a SOE should be held accountable for the poor financial performance of the SOEs. The results show that 47% of the respondents strongly agreed that the Board of a SOE should be held accountable for the poor financial performance of the SOEs, 29% agreed and 12 % were either neutral or disagreed. One of the respondents indicated that Board performance should be evaluated annually.

Question 11: The Government should develop a corporate governance code for SOEs

The question sought to find out whether the Government should develop a corporate governance code for SOEs. From the responses, 59% of the respondents strongly agreed that the Board of a SOE should be held accountable for the poor financial performance of the SOEs, 23% agreed and 6 % were neutral and 12% disagreed. One respondent contended that in addition, a number of codes are available but the challenge is in implementation of these codes.

Transparency

Question 12: The Board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny within three months of the end of the financial year.

The question sought to find out whether the Board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny within three months of the end of the financial year. They result indicate that 47% of the respondents strongly agreed that the Board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny within three months of the end of the financial year, 41% agreed and 6 % were either neutral or strongly disagreed. One respondent commented that three months may be too short for accounts to be prepared, audited and published and suggested that period should be within 6 months following year end.

Question 13: The remuneration levels for the CEO and other Executive Management of a SOE should be performance based.

The question sought to find out whether the remuneration levels for the CEO and other Executive Management of a SOE should be performance based. The findings show that 53% of the respondents strongly agreed that the remuneration levels for the CEO and other Executive Management of a SOE should be performance based, 23% agreed and 6 % disagreed and 18% were neutral.

Question 14: Board members of SOEs should be recruited through a transparent and competitive process.

The question sought to find out whether Board members of SOEs should be recruited through a transparent and competitive process. The findings show that 59% of the respondents strongly agreed that Board members of SOEs should be recruited through a transparent and competitive process, 29% agreed and 12% were neutral. One respondent commented that Boards of SOEs should not be appointed by politicians but in consultation with the Institute of Directors of Zambia and suggested that orientation of new board members should be provided by Institute of Directors of Zambia.

Government representatives on Boards

Question 15: The number of Board members representing the Government on any SOE should be restricted to one.

The question sought to find out whether the number of Board members representing the Government on any SOE should be restricted to one. The findings indicate 29% of the respondents strongly agreed that the number of Board members representing the Government on any SOE should be restricted to one, 35% agreed, 24% were neutral and 12% disagreed. One respondent said that the number of Board members representing the Government would also largely depend on board size and that one representative was adequate for average size boards.

Question 16: Board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry.

The question sought to find out whether Board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry. From the responses, 35% of the respondents strongly agreed that Board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry, 18% agreed, 29% were neutral and 18% disagreed. One respondent said that Permanent secretaries from ministries should not chair boards of SOEs.

Question 17: Board members of SOEs should not use proxies to represent them at Board meetings.

The question sought to find out whether Board members of SOEs should not use proxies to represent them at Board meetings. The results show that 59% of the respondents strongly agreed that Board members of SOEs should not use proxies to represent them at Board meetings, 29% agreed and 12% disagreed.

Gender Diversity

Question 18: The number of female board members of a SOE should be regulated by stipulated gender quotas.

The question sought to find out whether the number of female board members of a SOE should be regulated by stipulated gender quotas. The outcome was that 35% of the respondents disagreed that the number of female board members of a SOE should be regulated by stipulated gender quotas, 6% strongly disagreed, while 18% either strongly agreed or agreed. One respondent indicated that female board members should be selected to serve on SOE boards on merit.

5.4 Summary of Key findings

i. There is a positive and significant relationship between the BSIZ and ROTA for SOEs in Zambia. BSIZ for SOEs was significantly different from that of LUSE firms.

ii. There is a positive but not significant relationship between the PNED and ROTA for SOEs in Zambia. PNED for LUSE firms was found to be negatively and insignificantly related to ROTA. From the survey results, the majority of the respondents agreed that the board of a SOE should have a majority of members who are non-executive. PNED for SOEs was significantly different from that of LUSE firms.

iii. There is a negative and significant relationship between the PFEM and ROTA for SOEs in Zambia. PFEM for LUSE firms was found to be negatively and significantly related to ROTA. From the survey results, there was however, disagreements as to the need to balance the composition of the board between female and male board members and that there was no clear consensus on the question of number of female board members of a SOE being regulated by stipulated gender quotas. PFEM for SOEs was significantly different from that of LUSE firms.

iv. There was no homogeneity of variances for ROTA, BSIZ, PNED and PFEM for unlisted SOEs, Listed SOEs and Listed non-SOEs meaning that financial performance and corporate governance practices were significantly different.

v. The financial performance of SOEs in Zambia was poor as the ROTA was negative and inferior compared to listed companies, the SOEs were highly geared financially and operationally and that there were a number of corporate governance challenges in respect of SOEs which led to lack of board accountability and transparency.

i. With regard to the appointment process for board members, the majority of the respondents agreed that board members of SOEs should be recruited through a transparent and competitive process and that board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry. As regards transparency, the majority of the respondents agreed that the board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny within three months of the end of the financial year and that the Government should develop a corporate governance code for SOEs.

CHAPTER SIX: DISCUSSION OF FINDINGS

6.0 Introduction

This chapter summarises the major findings and goes on to discuss and interpret the findings, by reference to existing theory and empirical literature. The chapter also highlights the new questions, ideas and perspectives. The strengths and limitations of the research are provided together with recommendations for future research.

6.1 Research objectives

The overall research objective was to suggest solutions to the problem of weak corporate governance in SOEs in Zambia by proposing changes to the elements corporate governance that could be embraced in the operations of these institutions.

In line with the overall research objective, the specific objectives of the study and what was done in respect of each research objective were as follows:

1) To describe the financial performance and corporate governance practices in SOEs from 2002 to 2017.

In this objective, the research documented and described the financial performance and corporate governance practices in SOEs from 2002 to 2017. The financial performance of SOEs from 2002 to 2017 was analysed by use of key financial ratios measuring profitability, operating gearing, short term liquidity and financial gearing. Corporate governance practices were described thematically. The themes comprised legal status, board appointing authority, board appointing process, board size, board tenure and eligibility for re-appointment, type of board, board composition, board nominations and ex-officio members of the board, CEO duality and timely production of annual audited financial statements. Furthermore, an analysis of profit making SOEs and loss making SOEs was conducted to assess the variations in the corporate governance practices and firm financial performance.

2) To understand the relationship between financial performance and corporate governance in SOEs from 2002 to 2017.

In this objective, the research investigated the particular context within which corporate governance was practised in SOEs from 2002 to 2017 and the effect of corporate governance factors on financial performance. Inferential statistics using Multiple Regression Analysis in STATA SE 13.0 software were used in order to understand the relationship between corporate governance practices and firm financial performance in SOEs. The Null Hypotheses that were tested was that there was no relationship between ROTA and corporate Governance variables of [Board Size, Board independence, proportion of Non-Executive Directors, Gender Diversity, Number of Board committees, Company Age and CEO duality] in SOEs in Zambia.

In addition, the SOEs' financial performance and corporate governance practices were compared to those of listed companies on the LUSE because some of the SOEs were listed and therefore it was considered useful to do a comparative analysis to address the emprirical knowledge gap. The Null Hypotheses that were tested were that there was no difference in the financial performance of SOEs and listed companies and also that there was no difference in the corporate governance factors in SOEs and listed companies.

A multi-variate regression model was employed in the study using a panel data.

3) To suggest elements of corporate governance befitting SOEs in Zambia.

In this objective, the research proposed elements of corporate governance that could be embraced in the operations of these institutions. The proposed elements were derived from the inferential statistics and the questionnaire responses and also the findings from the other objectives.

6.2 Financial Performance analysis of SOEs

Between 2002 and 2017, the profitability of SOEs as measured by the mean of ROTA was -8.5% meaning that the SOEs made losses over the period. There was however,

an upward trend from -8.8% in 2002 to 3.7% in 2017 which meant that there was an improvement in the financial performance of entities over the period. The overall fixed cost to revenue ratio recorded over the period was 108.89% meaning that the fixed costs were more than the revenue and that the SOEs were operationally highly geared. In terms of short-term liquidity, the mean of the current ratio was 1.88 and the trend was generally upwards. The financial gearing ratio recorded a mean ratio of -4.22 and the trend was generally flat over the period. The SOEs were highly financially geared over the period as shown by the negative financial gearing which was due to negative equity in most of the SOEs.

In comparison, LUSE listed companies performed superior financial performance as they recorded a mean ROTA of 14.25% over the period. The trend was however downwards as the mean ROTA fell from 22% in 2002 to 10% in 2017 for LUSE companies. It was further found that listed SOEs recorded an improvement in the ROTA from -5% in 2008 to 2% in 2017.

6.3 Corporate Governance Practices in SOEs from 2002 to 2017

The corporate governance practices were described thematically. The themes comprised legal status, board appointing authority, board appointing process, board size, board tenure and eligibility for re-appointment, type of board, board composition, board nominations and ex-officio members of the board, CEO duality and timely production of annual audited financial statements.

6.3.1 Legal Status and Types of Boards

It was found that 42% of the SOEs were incorporated under the Companies Act while 58% were incorporated under various Acts of Parliament other than the Companies Act. In total there are over 37 different enabling Acts under which the SOEs and statutory bodies are founded. In terms of the type of Board, one company TAZARA had a two-tier board comprising a Council of Ministers which superintended over a second board of directors. All the other institutions comprised a single tier board. The implication for having many and varying enabling acts under which the SOEs were formed could

present a challenge in the manner in which these institutions could be held accoutable and the public perception of their governance and operations.

6.3.2 Board Appointing Authority

As regards the Board Appointing Authority, the boards were appointed by a Minister in almost all institutions. There were a number of boards that were appointed by the Republican President which included Zambia Public Procurement Authority (ZPPA), Citizen Economic Empowerment Commission (CEEC), Public Service Pension Fund (PSPF) and the Industrial Development Corporation (IDC). The Republican President also chaired the IDC Board of Directors. In the case of the Development Bank of Zambia (DBZ), the Minister, representing the Government holding Class A shares, appointed four of the members whilst five members were appointed by the shareholders of Class B shares. The Chairperson of the Show Society of Zambia appointed the board of directors for Mukuba Motel Limited. The boards of subsidiary companies of SOEs were appointed by the holding companies which included the Zamnet Ltd board that was appointed by the University of Zambia being the holding institution, Ndola Lime Limited board was appointed by ZCCM-IH, and IDC appointed the boards for ZSIC Limited and Medical Stores Limited. In most cases, the appointing authority also appointed the chairpersons of the Board. The appointment by the Republican President of the Board of the IDC and also the fact that the Republican President was also the Chairperson of the same board presented a governance challenge as far as holding the board accountable. In addition Ministers, being policy makers, should not sit on corporate boards as this compromises the governance of these institutions. From a theoretical perspective, the public choice theory and political influence provide the explanations for the observed practice. As was found by O'Connor et al. (2011), political constraints affected firm performance. Thompson et al (2019) suggested that political factors had an effect on financial performance of SOEs which can also explain the poor financial performance of SOEs.

6.3.3 Board Size

The overall size of the board ranged from a minimum of five members to a maximum of 18 members with an average of 10 members. For companies incorporated under the

Companies Act, the size of the board ranged from a minimum of six members to a maximum of 11 members with an average of 9 members. For companies registered under other legislation other than Companies Act, the size of the board ranged from a minimum of five members to a maximum of 18 members with an average of 11 members. The observed large boards of up to 18 members suggests that the underlying corporate governance theory is that of stakeholder theory in which the board composition is made of stakeholder representatives. However, the large board sizes imply increased board fees and also affects the board effectiveness and efficiency which contributed to the poor financial performance of the SOEs.

6.3.4 Board Tenure

The overall tenure of the board ranged from a minimum of two years to a maximum of four years with an average of three years. For companies incorporated under the Companies Act, the tenure of the board ranged from a minimum of three years to a maximum of four years with an average of three years. For companies registered under other legislation other than Companies Act, the tenure of the board ranged from a minimum of two years to a maximum of four years with an average of three years. In the context of this study, this finding implied that board tenure was short in that it took a much longer time for board members to fully understand the firm operations so that they could make valuable contributions to board decisions.

6.3.5 Board Composition

It was found that in most of the statutory bodies the board positions were designated for specific office holders from the government and/or representatives from specific institutions. The IDC board on 29th December 2015 resolved that “the Board of Directors of IDC subsidiaries shall comprise of the Permanent Secretary or a representative of the Ministry responsible for the Sector Policy, not more than five (5) persons from the private sector and the Managing Director” (IDC, 2015). On average it was found that Non-Executive Directors comprised 97% of the board composition. The Chief Executive Officers, who are part of the management, were also members of the

board. Only one SOE namely Rural Electrification Authority's board composition has a quota of two positions reserved for female board members as provided for under the Rural Electrification Authority Act. The observed board members being selected from designated organisations suggests that the underlying corporate governance theory is that of stakeholder theory in which the board composition is made of stakeholder representatives.

6.3.6 Transparency and Accountability – Production of annual audited financial statements

It was found that a number of statutory bodies and SOEs had not produced audited financial statements annually. This was not in compliance with laws and regulations under which the SOEs were governed and in addition there was lack of accountability and transparency. Between 2012 and 2017, there was a general improvement in the number of companies failing to produce annual financial statements reducing from 20 in 2012 to 14 in 2017. The non-production of annual reports and financial statements hindered public scrutiny of the affairs of the SOEs thereby affecting the corporate governance principle of transparency and accountability. This finding was also similar to that of Thompson et al. (2019) who found that SOEs exhibited lack of transparency and accountability.

6.4 Comparative analysis of corporate governance practices with LUSE companies

In comparison to LUSE listed companies, the mean board size has declined over the period of the study for both SOEs and LUSE companies except for the Listed SOEs which recorded an increase. The mean board size for SOEs declined from 9.5 to 8.2 while that of LUSE companies the mean board size declined from 10.6 in 2006 to 6.0 in 2017. For listed SOEs the mean board size was 7.0 in 2008 but had increased to 9.0 in 2017. The proportion of non-executive directors did not change much over the period of the study. SOEs had the highest proportion of NEDs followed by listed SOEs.

There was a noticeable increase in the average proportion of female board members on boards of SOEs and LUSE companies. By 2017 the mean proportion of female board members was 33% for SOEs, 25% for listed SOEs and 24% for LUSE companies rising from 0%, 18% and 8% respectively.

The explanation for these results is that SOEs have larger boards as compared to listed firms suggesting that the stakeholder view for the governance of SOEs was underlying the governance practices of SOEs. The noticeable increase in the female board representation over the study period suggested a move by firms to respond to the gender representation in the governance of firms. The reported difference in the financial performance in terms of ROTA between SOEs and listed firms is expected but the magnitude of the difference is large. The reported negative performance by SOEs implied that these SOEs were not even matching the revenue bases with the operational costs so that at the minimum, the ROTA should have been positive.

6.5 Understanding the relationship between corporate governance factors and firm financial performance in SOEs in Zambia from 2002 to 2017

Inferential statistics using Multiple Regression Analysis in STATA SE 13.0 software were employed in order to understand the relationship between corporate governance practices and firm financial performance. In addition, the SOEs financial performance was compared to those of listed companies on the LUSE. The panel data distribution was tested for normality and it was found that the data was not normally distributed.

From a panel of 345 data, the minimum BSIZ was 3 and the maximum was 19. The measures of central tendency for BSIZ were a mean of 8.90, a median of 8.00 and a mode of mode of 7.00. As the measures of central tendency were different the distribution of BSIZ was skewed with a skewness of 1.08. The data had a standard deviation of 3.03 and a positive Kurtosis of 1.27. The panel data was fund to be

unbalanced and as the cross-sectional data was larger than the time series periods, the panel data was a short panel as opposed to a long panel that has many time periods but few companies. The panel was considered a rotating panel as some companies were not observed for some periods for both SOEs and LUSE data.

The data were tested for stationarity using the unit root tests. As the panel data was unbalanced, the Fisher-type unit root tests utilising Augmented Dickey Fuller (ADF) and Philip Peron (PP) tests were utilised to test for stationarity of the panel data. It was found that the results were mixed as some panels were stationary and others were non-stationary. It was found that the panel data was stationery and the order of integration was I (0) under the Fisher-type tests utilising Augmented Dickey Fuller (ADF). The Fisher-type tests using Augmented Phillips-Perron test found mixed results.

The test of unit roots in the variables was followed by an estimation of the regression model based on the order of integration of the variables. The order of integration was found by differencing the given variable at different lags to establish when it became stationary using the Fisher-type tests utilising Augmented Dickey Fuller (ADF) and Philip Peron (PP) tests the Fisher. As the variables were found to be integrated of order zero (i.e. I (0)) under the Fisher-type tests utilising Augmented Dickey Fuller (ADF), then the selected regression estimation involved the Generalised Least Square (GLS). In order to determine which effect (fixed effect or random effect OLS) was more relevant and significant in the panel data, the Hausman specification test comparing fixed and random effect models was undertaken. For SOE data, as the p value of 0.0818 was greater than 0.05, the Null hypothesis was accepted that the individual effects were uncorrelated with any regressor in the model and therefore the Random Effects Model was considered appropriate. For LUSE companies, as the p value was 0.0817 which was greater than 0.05, the null hypothesis was accepted that the individual effects were uncorrelated with any regressor in the OLS model and therefore the random effects model was also considered appropriate.

The Random Effect Model was conducted using. xtreg command in STATA and it was found that the p-value was 0.000 which suggested that the rejection of the Null Hypothesis that ROTA is not affected by corporate governance attributes of board size, company age, proportion of non-executive directors and proportion of female board members for SOEs. The board size was insignificant with a p-value of 0.055, company age was not significant with a p-value of 0.207, the proportion of non-executive directors was not significant with a p-value of 0.148 and the gender diversity as measured by the proportion of females on the board was significant with a p value of 0.001 and industry type affected firm performance significantly ($p<0.05$). BSIZ and PNED positively affected firm performance whilst PFEM affected firm performance negatively. The R^2 value was 55%.

In comparison to LUSE companies, the p-value of 0.000 suggested a rejection of the Null Hypothesis that ROTA is not affected by corporate governance attributes of board size, proportion of non-executive directors and proportion of female board members. The board size was significant with a p-value of 0.012 and the gender diversity as measured by the proportion of females on the board was significant with a p-value of 0.019. The proportion of non-executive directors was however not significant with a p value of 0.159. Board size and proportion of female directors suggested a negative effect on the ROTA shown by the negative coefficients of -0.053 and -0.290 respectively. For non-executive directors there was lso a correlation coefficient of 0.126.

Overall, for both SOEs and listed firms, the results suggest that corporate governance factors significantly affected firm financial performance. BSIZ affected ROTA significantly but differently in that for SOEs the effect was positive and for listed firms it was negative. Theoretically in respect of listed firms with smaller board sizes, this could be explained by the Type I agency theory which calls for smaller board sizes for example. As for SOEs, this could be explained by the stakeholder theory which has larger board sizes and diversity of board composition with representatives from stakeholder group representatives.

6.6.2 Test for Equal Variances using the t-Test using the Welch approximation

Prior to conducting the t-test for equal variances, the tests for assumptions were conducted to ensure validity of the statistical tests. Using the t-test, the equality of the variances for BSIZ, PNED, PFEM and ROTA between the three categories was compared. The test using the Welch approximation formula indicated that the underlying mean for:

i. ROTA for LUSE data was not equal to underlying mean of SOE data with a p-value of 0.000. It was concluded that the mean of the ROTA for LUSE was statistically significantly greater than the mean for the ROTA for SOE companies. For LUSE data the mean ROTA was 14.25% compared a negative 8.01% for SOE data meaning that LUSE companies were more efficient in that they provided a better ROTA as compared to SOEs.

ii. ROTA for LUSE data was not equal to underlying mean of listed SOEs data with a p-value of 0.000. Further the underlying mean for LUSE data was greater than the underlying mean of listed SOEs data with a p-value of 0.000. It was concluded that the mean of the ROTA for LUSE was statistically significantly greater than the mean for the ROTA for listed SOE companies. For LUSE data the mean ROTA was 14.25% compared 2.15% for listed SOE data meaning that LUSE companies were more efficient in that they provided a better ROTA as compared to listed SOEs.

iii. ROTA for SOEs data was not equal to underlying mean of listed SOEs data with a p-value of 0.000. Further the underlying mean for listed SOE data was greater than the underlying mean of SOE data with a significance level of 0.000 at 95% confidence level. It was concluded that the mean of the ROTA for listed SOEs was statistically significantly greater than the mean for the ROTA for SOE companies. For listed SOEs data the mean ROTA was 2.15% compared to -8.45% for SOEs meaning that listed SOEs companies were more efficient in that they provided a better ROTA as compared to unlisted SOEs.

iv. BSIZ for LUSE data was not equal to underlying mean of SOE data with a p-value of 0.000. For LUSE data the mean BSIZ was 8.07 compared 9.61 for SOE data.

v. PNED for LUSE data was not equal to underlying mean of SOE data with a significance level of 0.000. For LUSE data the mean PNED was 0.6966 compared 0.97639 for SOE data.

vi. PNED for LUSE data was not equal to underlying mean of listed SOE data with a significance level of 0.000. For LUSE data the mean PNED was 0.6966 compared 0.8926 for SOE data.

vii. PNED for listed SOE LUSE data was not equal to underlying mean of SOE data with a significance level of 0.000. It was concluded that the mean of the PNED for listed SOEs was statistically significantly less than the mean for the PNED for SOE companies.

viii. PFEM for LUSE data was not equal to underlying mean of SOE data (p= 0.0763). Further the underlying mean for LUSE data was less than the underlying mean of SOE data(p= 0.0763). We conclude that the mean of the PFEM for LUSE was statistically significantly less than the mean for the PFEM for SOE companies. For LUSE data the mean PFEM was 0.1963 compared 0.22786 for SOE data.

ix. PFEM for LUSE data was not unequal to underlying mean of listed SOE data (p= 0.3688).

x. PFEM for listed SOE data was not equal to underlying mean of SOE data with a significance level of 0.0382 at 95% confidence level. It was concluded that the mean of the PFEM for SOE was statistically significantly greater than the mean for the PFEM for listed SOE companies.

6.6.3 Effect Size Tests

The effect size test was conducted to quantify the difference between the paired categories emphasizing the size of the difference in the relationships between the measured variables. It was found that there were significant effect sizes.

6.8 Discussions and interpretation of findings

This discussion is thematically organised according to the findings presented in Chapter Five.

6.8.1 Financial performance

The study has contributed to the state of knowledge on the financial performance of SOEs from 2002 to 2017 showing that over this period the SOEs recorded a negative 8.5% ROTA, the mean financial gearing was a negative 4.22 and an operating gearing of 108.89%. SOEs were analysed further by comparing loss making SOEs to those that recorded profits as measured by ROTA. BSIZ was larger for loss making SOEs as compared to profit making SOEs, The corporate governance practices for profit making SOEs resembled those of the listed firms which exhibited smaller board sizes which is explained in the context of Type I agency theory and institutional theory. Type I agency theory suggests smaller board sizes and the institutional theory suggests that firms tends to adopt corporate governance practices that are followed by similar institutions through a process of homogenisation.

This has added further empirical knowledge to the existing knowledge regarding the poor financial performance of SOEs in Zambia (Armitage, 2014, Chanda et al., 2015, Auditor General,2018,). In comparison, LUSE listed companies performed far much better as they recorded a mean ROTA of 14.25% over the period which is consistent with the study by Gakhar and Phukon (2018) in respect of SOEs which found that SOEs had inferior performance in ROTA, were highly geared and had high operational gearing in comparison to firms that were privatised such as those private firms that are listed and are private in the context of this study.

6.8.2 Corporate Governance Practices

The finding that there were many differing Acts under which the SOEs and statutory bodies were founded could mean that the governance of these entities could be a challenge insofar as the uniformity of the legal framework for the governance of the

entities was concerned. As Armitage (2014) had suggested the governance of SOEs in Zambia continued to be a challenge.

Another challenge that the study has revealed which might hinder good corporate governance practices is the fact the Republican President chairs the Board of the IDC which makes it difficult for board accountability. Secondly, the idea of board membership being designated by specific government positions, which may lead to the appointment of a board member without being subjected to a competitive process, rather than being subjcted to a competitive selection process is against the principle of corporate governance. This is worsened by failure to produce and publish, for public scrutiny, audited financial statements on a timely basis which in turn leads to lack of transparency and accountability. These challenges indicated poor corporate governance in SOEs.

There was a noticeable increase in gender diversity as the average proportion of female board members on boards improved over the period of the study. This is explained in terms of the institutional theory that postulates that corporate governance practices of firms are affected by environmental and other societal influences within which firms operate and one such aspect is the increased demand for gender balance on corporate boards and within governance systems. The board size and proportion of non-executive directors were statistically different between SOEs and listed companies implying that corporate governance practices between SOEs and LUSE companies were different which is explained in terms of the type I agency theory that suggests smaller boards for private firms and stakeholder theory that prosposes larger boards to accommodate all stateholders on the boards for SOEs.

6.8.3 The relationship between corporate governance factors and firm financial performance in SOEs in Zambia from 2002 to 2017

The overall finding is that for SOEs and listed LUSE firms the ROTA was significantly affected by corporate governance attributes of board size, proportion of non-executive directors and proportion of female directors on boards. However, the relationships were negative for listed firms whilst for SOEs board size and proportion of non-executive directors had a positive effect. Further to the finding that SOEs had recorded inferior

performance in ROTA could be explained by the involvement of politicians in the determination of boards in SOEs as compared to LUSE firms which is in line with the political economic theory of coprorate governance for SOEs.

Prior studies that suggested that corporate governance positively affected firm financial performance included Jensen and Meckling (1976), Koerniadi and Tourani-Rad (2014) and Shahwan (2015). The World Bank (2006) and the IFC (2006) have both suggested that good corporate governance enhances firm financial performance. Specific to SOEs, Hanousek and Kocenda (2003) and Grossi et al. (2015) have suggested that improvement in financial performance of SOEs was due to improved corporate governance.

The implication of these findings is that there is need to improve the corporate governance practices in SOEs in order to enhance their financial performance.

6.9 Changing the elements of the Corporate Governance model for SOEs in Zambia

In line with suggestions by Wanyama *et al.* (2009), improvements in corporate governance practices require improvements in the corporate governance frameworks.

From the inferential statistics in which it was found that corporate governance factors significantly affected firm financial performance of LUSE firms and the LUSE firms recorded superior financial performance, it is suggested that there is need for the SOEs corporate governance practices to be improved so as to improve their financial performance. The study proposes that a corporate governance code for SOEs in Zambia be developed similar to what is pertaining to LUSE firms. The following changes to the corporate governance model for SOEs in Zambia is proposed:

Board Sizes

Board sizes should be reduced for all SOEs as large board sizes are a cost to the SOEs and present challenges in terms of effectiveness and efficiencies

Board Accountability

A system be developed to hold Boards accountable for the poor financial performance of the SOEs;

Transparency and disclosure

The boards of SOEs should issue and publish Annual Reports for public scrutiny within three months of the end of the financial year as required by the Companies Act;

Board Performance agreement

The shareholders should draw up a shareholder performance contract with a board of an SOE on appointment. In addition, board performance targets should be set for each Board of a SOE;

Board Independence and Non-Executive Directors

There should be a separation between the Chief Executive Officer and the Chairperson of a board of a SOE. The SOE board should have a majority of members who are independent. A board should be balanced in terms of experience, skills, age and the appointment of female board members should be on merit rather than based on quotas;

Board recruitment

Board members of SOEs should be recruited through a transparent and competitive process;

Government representatives on the Board

The number of board members representing the Government on any SOE should be reduced. Board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry but should be based on individual merit;

Board meetings and use of Proxies

Board members of SOEs should not use proxies to represent them at board meetings;

The proposed corporate governance constituents could be included as part of the corporate governance code for SOEs in Zambia.

6.10 Conclusion

The major findings of the study have been presented in this chapter including the discussion and interpretation of the findings in the context of existing literature and theories. The chapter also highlighted the new questions, ideas and perspectives.

CHAPTER SEVEN: CONCLUSION, RECOMMENDATIONS AND CONTRIBUTION

7.0 Introduction

The chapter is organised into four parts. The first part is the conclusion of the study which provides a summary of the entire study. The second part provides recommendations on what should be done in light of the new information arising from the study. This is followed by the third part which provides of contributions to knowledge in light of the findings and discussions of the study. The final part of the chapter presents limitations of the study and suggestions for further research.

7.1 Conclusion

From the study, it is evident that there has been very little empirical research on the financial performance of SOEs and how financial performance is affected by corporate governance in SOEs in Zambia. The financial performance of State-Owned Enterprises (SOEs) in Zambia has been widely reported as being poor and this has been attributed to, among others factors, weak corporate governance.

Arising from the above, the overall research objective was to suggest solutions to the problem of weak corporate governance in SOEs in Zambia by proposing changes to the elements corporate governance that could be embraced in the operations of these institutions. The specific objectives of the study were to describe the financial performance and corporate governance practices in SOEs; to understand why there has been weak corporate governance in SOEs; to determine the relationship between corporate governance factors and firm financial performance; and to develop strategies for changing the constituents of corporate governance befitting these institutions.

To achieve the above objectives, the research approach adopted quantitative analysis based on the philosophical pragmatism critical theory. The study employed a random effect model using the Generalised Least Squares (GLS) statistical technique.

The findings of the study have showed that SOEs reported negative returns on total assets and were highly geared during the period 2002 to 2017. By reporting negative return on total assets over the period, the SOEs continued to be a drain to the Zambian economy. SOEs were analysed further by comparing loss making SOEs to those that recorded profits as measured by ROTA. BSIZ was larger for loss making SOEs as compared to profit making SOEs, ROTA for loss making SOEs was a mean of -21% compared to a mean of 7% for profit making SOEs and listed SOEs recorded a mean ROTA of 2% and the PFEM for loss making SOEs was 29% compared to 26% for profit making SOEs whilst the PNED was 99% for loss making SOEs and 96% for profit making SOEs. The corporate governance practices for profit making SOEs resembled those of the listed firms which exhibited smaller board sizes which is explained in the context of Type I agency theory and institutional theory. Type I agency theory suggests smaller board sizes and the institutional theory suggests that firms tends to adopt corporate governance practices that are followed by similar institutions through a process of homogenisation. Furthermore, it is concluded that SOEs had inferior performance in ROTA compared to listed companies on the Lusaka Securities Exchange over the same period.

The study has revealed the corporate governance practices in SOEs in the period 2002-2017. The findings have shown that there were many different Acts of Parliament under which the SOEs and statutory bodies were founded. This fact meant that the governance of these entities could be a challenge insofar as the uniformity of the legal framework for the governance of the entities was concerned. The study has shown that the fact that the Republican President chairs the Board of the IDC would make it difficult for board accountability. In addition to this, board membership which are designated by specific government positions rather than merit based, compromises effectiveness. The study has also shown that failure to produce and publish, for public

scrutiny, audited financial statements on a timely basis leads to lack of transparency and accountability. These challenges indicated poor corporate governance in SOEs. The board size and proportion of non-executive directors were statistically different between SOEs and listed companies implying that corporate governance practices between SOEs and LUSE companies were different.

For SOEs in Zambia, the ROTA was not significantly affected by corporate governance attributes of board size, company age, proportion of non-executive directors and proportion of female board members. However, this was in contrast to the LUSE companies for which it was found that the ROTA was significantly affected by board size, proportion of non-executive directors and proportion of female board members. For LUSE companies, corporate governance mattered and the implication of these finding is that there was need to improve the corporate governance practices in SOEs in order to enhance their financial performance.

7.2 Recommended Improvements To The Governance Framework For Soes In Zambia

The study proposes a number of improvements to the governance framework for SOEs in Zambia which could be incorporated into the legal framework and a corporate governance code for SOEs or implemented by the government as proposed without necessarily developing a corporate governance code. The proposed improvements include:

(i) There should be a complete overhaul of the legal framework within which SOEs are enacted and governed so as to harmonise and to improve the legal and corporate governance frameworks under which the SOEs operate;

(ii) The Republican President should not be the Chairperson of any SOEs for accountability purposes and Ministers should not sit on corporate boards as their role is policy making;

(iii) Board sizes should be reduced in order to reduce board fees and also to increase board effectiveness and efficiency and by so doing make the SOEs more financially sustainable. In this regard, a system for holding boards to be accountable for the financial sustainability of the SOEs be developed by constructing key performance indicators for the board on appointment and the key performance indicators could be used to evaluate board performance before reappointments;

(iv) Make it a requirement for SOEs to issue and publish Annual Reports which should contain audited finacial statements for public scrutiny;

(v) Board members of SOEs should be recruited through a transparent and competitive process;

(vi) Reduce the number of board members representing the Government on any SOE;

(vii) Board membership should not be designated by position but based on individual merit; and

(viii) Board members of SOEs should not use proxies to represent them at board meetings.

7.3 Contribution To Knowledge

This thesis has peculiar elements that demostrate originality. In the statement of the problem it was noted that in the case of SOEs in Zambia, corporate governance practices (such as board size, gender diversity on board, non-executive directors) and firm financial performance practices have not been comprehensively described and evaluated in this part of the world. Furthermore, the relationship between corporate governance practices and firm financial performance is an area that has not been empririically researched in Zambia and this demostrates research having been done on the basis of a population gap. In addition, some of the SOEs in Zambia are listed on the Lusaka Securities Exchange (LUSE) but their corporate governance practices and financial performance have not been described and have not been compared with

those SOEs that are not listed and even with those firms that are not SOEs but are listed. Therefore this study adds to the existing pool of knowledge.

The study has contributed to the body of knowledge in a number of ways:

(i) From a theoretical perspective, originality in this study is evident in that this study has employed a unique design that emloyed an integrative theoretical approach in the determination of corporate governance variables that were investigated.

(ii) From a methodological perspective, evidence of originality in this study has been provided through the synthesis of the knowledge in particular the comparisons of corporate governance practices and firm financial performance between profit making and loss making SOEs and between unlisted SOEs, listed SOEs and listed firms that are privately owned. Corporate governance practices and firm financial performance of SOEs in Zambia is an understudied area as the SOEs have not been empirically investigated to the extent that this study has achieved which is also additional evidence of originality.

(iii) This research has added further empirical knowledge to the existing knowledge regarding the poor financial performance of SOEs in Zambia as was reported by others (Armitage, 2014; Chanda et al., 2015, Auditor General, 2018) thereby bridging the empirical knowledge gap that was identified and in particular to the observed differences in the levels of financial performance between SOEs, listed SOEs and listed private firms, over time and cross sectional, that was not known prior to this study. In addition the findings on the corporate governance practices of loss making SOEs as compared to those that were profit making was a particular contribution of the study;

(iv) The study has made a contribution as regards the differences in the corporate governance practices of board size, proportion of NEDs and proportion of female directors on boards and how these differed between

SOEs that were loss making and those that were profit making in addition to a comparison with those that were listed. Furthermore, the other contribution from the study was that the SOEs had inferior performance in ROTA compared to listed companies on the Lusaka Securities Exchange over the same period and the difference in the ROTA was large.

The study findings on the relationship between corporate governance attributes and firm financial performance in SOEs in Zambia which had not been studied empirically before makes a significant contribution to existing knowledge.

7.4 Limitations Of The Study

The study was limited by the following:

i. Limited availability of annual reports as not all the SOEs had audited financial statement for the period 2002 to 2017;
ii. Sampling and methodological limitations in the use of the questionnaire as opposed to interviews or case study-based approach;
iii. The low response rate to the questionnaire;
iv. The study was based on the study of Zambian SOEs therefore generalisation of the findings to any SOE was limited;
v. The limited number of corporate governance attributes examined as there many other attributes that could be used as proxies for corporate governance; and
vi. The measure of firm financial performance was limited to ROTA, financial gearing, liquidity and operating gearing due to data availability constraints.

7.5 Suggestions For Further Research

It is suggested that further research could be conducted to extend the research in a number of ways. The qualitative part of the research involved a survey questionnaire

sent to members of the Institute of Directors. Future research could extend the study by expanding the survey participants to include policy makers from the government and/or current and former directors of SOEs. Also, instead of conducting a questionnaire survey, the use of interviews or focus group discussions would be a possible area of research. More understanding of the governance of SOEs in Zambia could also be garnered through action research whereby the researcher(s) could be embedded into the board meetings of SOEs to provide insights on the operations of the SOEs and how decisions are made by Boards of Directors.

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APPENDICES

Appendix 1 – Financial Analysis of SOEs

S/N	Company No.	Year	Operating Risk(Operating Costs/Revenue)	Financial Risk(PBIT/Interest costs)	Financial Gearing(Total Liabilities/Total Equity)	Short Term Liquidity(Current Assets/Current Liabilities)
1	1	2011	0.9496	(6.7840)	2.2716	0.2776
2	1	2012	1.2744	(11.3459)	2.1914	0.4230
3	1	2013	0.9080	(5.0350)	1.6320	0.4992
4	1	2014	0.9175	(0.2116)	8.3857	0.3666
5	1	2015	0.7047	(0.0017)	9.1113	0.3648
6	1	2016	0.9261	(3.8865)	15.1914	0.4834
7	2	2014	0.9795		0.9692	
8	2	2015	0.6386		14.7355	
9	2	2016	1.1941		28.6462	
10	3	2014	28.3561		0.0123	70.9829
11	3	2015	0.4297		0.0014	2.4121
12	3	2016	0.3707		0.0027	2.5365
13	4	2015	0.5390		0.5027	
14	4	2016	0.9766		0.4781	
15	4	2017	1.4354		0.9400	
16	5	2014	0.2937			
17	5	2015	0.6353			
18	5	2016	0.9724			
19	6	2013			0.0860	7.7524
20	6	2014			0.0914	9.7040
21	6	2015			0.0769	13.0480
22	6	2016			0.1354	11.4049
23	7	2013	0.3952	(1.1919)	34.9774	0.6641
24	7	2014	0.3080	0.2508	138.3315	0.1950
25	7	2015	0.5002	(0.5156)	(74.5855)	0.2620
26	7	2016	0.4691	(8.1226)	1.0996	0.2661
27	8	2014	1.1012		(2.6267)	0.5075
28	8	2015	1.3353		(1.4805)	0.2460
29	8	2016	0.0218		(2.5454)	0.2775
30	9	2014	0.5136		1.5402	1.5391
31	9	2015	0.5648		1.9216	1.1364
32	9	2016	0.4362		2.0551	1.5286

33	10	2014	1.6251		1.6739	1.0278
34	10	2015	1.3405		0.2962	0.4691
35	10	2016	1.0076		0.3960	0.4387
36	11	2013	0.8902		(6.1365)	0.7380
37	11	2014	1.0813		(3.4578)	0.4043
38	11	2015	1.0813		(3.1965)	0.4096
39	11	2016	0.8555		(3.1010)	0.4487
40	11	2017	0.7967		(4.1653)	0.5205
41	12	2013	0.8584		0.0501	6.5854
42	12	2014	0.9223		0.1064	5.3795
43	12	2015	0.7911		0.1346	6.5058
44	13	2013	1.6344		(1.1359)	0.0733
45	13	2014	1.6935		(1.1156)	0.0666
46	14	2013	0.7199		1.0719	3.9946
47	14	2014	0.1421		1.0712	4.1898
48	14	2015	0.9064		0.6888	4.8299
49	15	2013	0.4316		0.4842	2.7353
50	15	2014	0.3719		0.4841	2.5612
51	15	2015	0.3230		0.4027	2.6058
52	15	2016	0.4152		0.4098	2.1359
53	16	2012	1.1412		0.7697	1.3565
54	16	2013	1.0399		0.8217	1.3224
55	16	2014	1.4310		1.1071	1.3269
56	17	2011	0.3347	22.1866	1.3592	0.3842
57	17	2012	0.6209	16.8359	0.7016	0.4055
58	17	2013	0.3141	7.1013	0.5712	0.5172
59	17	2014	0.1929	11.6454	0.0904	4.9275
60	18	2009	1.4626		(1.5013)	0.0678
61	18	2010	1.6419		2.0622	0.0560
62	18	2011	1.2178		(2.1430)	0.2190
63	18	2012	1.6463		(1.9598)	0.1803
64	18	2013	1.4513		(1.7475)	0.1658
65	18	2014	1.6963		(1.6176)	0.1466
66	18	2015	2.0541		(1.8620)	0.0617
67	18	2016	1.4900		(1.6360)	0.0357
68	19	2010	0.6281		0.8353	0.4952
69	19	2011	1.0022		1.0639	0.4085
70	19	2012	0.8266		1.7777	0.2715
71	20	2013	0.6294	2.6516	0.2738	1.2330
72	20	2014	0.6377	32.9051	0.1448	0.4649
73	20	2015	0.6089	12.1668	0.1697	0.2644

74	21	2006	2.1228		0.3866	0.0524
75	21	2007	0.8124		0.5203	0.0660
76	21	2008	0.2969		0.5925	0.1033
77	21	2011	0.5538		0.6312	0.3202
78	21	2012	0.5752		1.6620	0.2908
79	21	2013	1.7143		3.1115	0.1844
80	21	2014	0.6667		0.3987	0.2254
81	22	2006	0.9139		1.1343	1.0707
82	22	2007	0.8874		1.4892	0.9662
83	22	2008	0.8508		1.5882	0.8035
84	22	2009	0.7152		1.8795	0.9339
85	22	2010	0.7652		1.4436	1.0098
86	23	2006	1.1912		(1.9310)	0.3120
87	23	2007	1.1129		(1.9646)	0.3056
88	23	2008	1.0971		(2.4611)	0.3047
89	23	2009	1.2676		(2.2992)	0.2602
90	23	2010	1.4710		(2.1041)	0.2244
91	23	2011	1.6737		(1.9784)	0.2007
92	23	2012	2.4753		(1.1701)	0.0756
93	23	2013	2.8733		(1.1807)	0.0661
94	23	2014	2.5150		(1.1881)	0.0751
95	23	2015	2.1082		(1.1518)	0.0656
96	23	2016	1.6283		(1.1713)	0.0830
97	24	2006	0.7597		3.7310	0.8085
98	24	2007	0.7034		0.9162	1.7467
99	24	2008	0.9131		0.5281	1.6947
100	25	2006	1.0357		5.0584	0.6079
101	25	2007	0.7879		9.2049	1.3546
102	25	2008	0.8675		0.4200	1.6752
103	25	2009	1.2584		0.4290	1.2332
104	26	2006	1.0039		2.7152	0.0402
105	26	2007	0.5025		5.4181	0.0944
106	26	2008	0.4306		6.5087	0.2199
107	26	2009	0.5045		18.0940	0.2834
108	26	2010	0.4436		5.4181	0.3985
109	26	2011	0.3547		0.6410	0.5643
110	26	2012	0.4713		0.7028	0.5228
111	26	2013	0.4614		0.7283	0.5422
112	26	2014	0.6288		0.9350	0.2740
113	27	2014	0.9401		2.5608	0.9213
114	27	2015	0.8307		3.9130	1.5915

115	27	2016	0.8055		1.7009	1.1707
116	28	2006	1.3910		(2.2743)	0.1580
117	28	2007	0.6219		(2.5931)	0.2242
118	28	2008	1.5062		(2.0616)	0.2196
119	28	2009	0.9985		(2.1076)	0.2529
120	28	2010	0.7244		(22.2782)	1.0592
121	28	2011	0.8289		(20.5254)	1.0422
122	28	2012	0.7275		41.2686	1.1760
123	28	2015	1.1887		0.3033	1.7252
124	28	2016	1.5925		0.5812	1.1949
125	29	2006	1.0488		3.6149	1.0331
126	29	2007	1.2549		(271.4779)	0.5346
127	29	2008	1.2982		(6.0169)	0.3412
128	30	2007	2.4668		(702.5780)	
129	30	2008	2.1903		8.8017	
130	31	2010	0.0798		0.7577	0.9330
131	31	2011	0.0966		0.9442	1.1898
132	31	2012	0.0653		0.9908	1.6524
133	32	2006	0.8841		0.9974	0.2439
134	33	2008	0.7922		0.1308	1.7553
135	33	2009	0.7493		0.1107	2.6625
136	33	2010	0.8594		0.0995	3.1319
137	34	2009	1.2075			
138	34	2010	1.3259			
139	34	2011	1.2104			
140	34	2012	1.2723		(1.2714)	0.2336
141	34	2013	1.3852		(2.7536)	0.2635
142	34	2014	1.1988		(2.5975)	0.2925
143	35	2013	0.9978		1.9533	1.7105
144	35	2014	0.9685		5.0164	0.6032
145	35	2015	0.9036		2.7397	0.1313
146	35	2016	1.6692		(7.5887)	0.0637
147	36	2007	0.5086		0.6642	1.4270
148	36	2008	0.4981		1.0601	1.6233
149	36	2009	0.4149		1.4263	1.6093
150	36	2011	0.4216			
151	36	2012	0.5195			
152	36	2013	0.5198			
153	37	2008	1.2411		(1.4381)	0.2209
154	37	2009	2.4872		(1.2806)	2.2175
155	37	2010	1.5971		(1.2305)	0.1284

156	37	2011	2.3983		2.7608	0.0611
157	37	2012	1.5399		7.7955	0.0712
158	38	2008	1.1912		(8.2176)	0.5321
159	38	2009	0.9283		(6.5105)	0.4838
160	38	2010	0.8763		(5.7830)	0.7864
161	38	2011	0.7926		(5.9492)	1.0951
162	38	2012	0.7586		(7.9728)	2.4885
163	38	2013	0.8444		(7.8078)	1.8611
164	38	2014	0.8300		(8.5677)	1.6908
165	39	2008	0.4321		1.4106	1.8504
166	39	2009	0.8177		1.3976	1.5517
167	39	2010	0.6060		0.6161	2.0619
168	39	2011	0.6512		0.4808	1.8491
169	40	2009	0.8624		0.0166	29.4323
170	40	2010	1.0107		0.1455	2.5490
171	40	2011	1.1164		0.0582	6.7015
172	40	2014	0.4287		0.0359	29.4323
173	40	2015	0.3350		0.0730	1.8070
174	40	2016	0.3212		0.0627	2.0060
175	41	2009	0.8662		(1.9217)	0.7488
176	41	2010	0.6555		(2.9029)	0.1843
177	41	2011	0.7646		(1.7807)	0.1241
178	41	2015	0.6960		(1.9217)	0.2493
179	41	2016	0.4890		(2.3396)	0.2916
180	42	2009	0.8643		1.5227	2.3326
181	42	2010	1.1575		1.9616	1.0502
182	42	2011	1.0906		2.6017	0.4285
183	42	2012	1.0057		0.4575	0.5118
184	42	2013	1.0359		2.5554	1.6703
185	42	2014	1.0432		2.9610	2.6105
186	42	2015	1.0410		3.6921	2.0586
187	43	2010	0.3061		(2.2605)	0.2223
188	43	2011	0.3672		(1.7800)	0.2040
189	43	2012	0.3434		(1.6721)	0.2431
190	44	2011	1.5341		(3.2334)	0.7400
191	44	2012	1.3433		(3.4980)	0.9479
192	44	2013	1.1816		(4.0127)	1.1662
193	45	2010	0.8907		(3.1888)	0.6272
194	45	2011	0.6801		(4.0638)	0.9339
195	45	2012	0.7663		(5.5812)	1.1668
196	45	2013	0.7430		0.4833	0.0878

197	45	2014	0.9321		0.5071	0.8257
198	45	2015	1.4074		0.5355	0.7702
199	46	2009	1.0268		(10.0370)	0.3068
200	46	2010	0.9736		(10.2253)	0.4328
201	46	2011	0.9876		(6.7298)	0.7358
202	46	2012	0.9796		(6.8579)	0.7141
203	47	2010	1.4280		2.8262	0.3379
204	47	2011	0.9549		3.3233	0.2513
205	47	2012	0.7751		2.9828	0.4419
		Average	**1.0889**	**4.0382**	**(4.2240)**	**1.8821**
		Minimum	**0.0218**	**(11.3459)**	**(702.5780)**	**0.0357**
		Maximum	**28.3561**	**32.9051**	**138.3315**	**70.9829**
		Standard Dev	**1.9970**	**11.7402**	**55.2768**	**6.1202**
		Skewness	**12.8587**	**1.0832**	**(10.9477)**	**8.8345**
		Kurtosis	**176.0408**	**0.8577**	**134.8244**	**91.3420**
		Median	**0.8902**	**(0.0017)**	**0.4007**	**0.5384**
		Mode	**1.0813**	**#N/A**	**5.4181**	**29.4323**

Appendix 2 - Appointing Authority for Chairperson

Company No.		Appointing Authority for Chairperson
1.		Appointed from amongst the members themselves
2.		Appointed from amongst the members themselves
3.		Appointed from amongst the members themselves
4.		Appointed from amongst the members themselves
5.		Designated Chairperson – PS Ministry of General Education
6.		Designated Chairperson (Director of Medical Services Ministry of Health
7.		Minister
8.		Minister
9.		Minister
10.		Minister
11.		Minister
12.		Minister
13.		Minister
14.		Minister
15.		Minister
16.		Minister
17.		Minister
18.		Minister
19.		Minister
20.		Minister
21.		Minister
22.		Minister
23.		Minister
24.		Minister
25.		Minister
26.		Minister
27.		Minister
28.		Minister
29.		Minister
30.		Minister
31.		Minister
32.		Minister
33.		Minister
34.		Minister
35.		Minister
36.		Minister
37.		Minister
38.		Minister
39.		President
40.		President

Appendix 3 – Board composition

SOE No.	Source	• Governing Board or Board of Directors Composition
1-10	Auditor General, 2015	• 1 - The Mayor • 1 - Town Clerk or Council Secretary from participating councils, • 1 - Provincial Local Government Officer or member, • 1 - Member from Engineering Institute of Zambia, • 2 - Members from the Private Sector drawn from within the area of operation that is NGOs, Zambia Association Chamber of Commerce, Bankers Association of Zambia, Law Association of Zambia, • 1 - Community member from commercial consumer category, • 1 - Community member from the domestic consumer category, • 2 - Members appointed by the Minister, one of whom shall be the Chairperson of the Board. • The board members are appointed by the Minister under which the SOEs falls.
11.	Auditor General, 2013	• 1 – Chairman, • 8 - other members. • The chairperson and three (3) other members are appointed by the Minister of Finance and the other five (5) members by the class 'B' shareholders • The board members are appointed by the Minister under which the SOEs falls..
12.	Auditor General, 2016	• 1- Permanent Secretary (P.S) or a member of the Ministry of Energy and Water Development and • not more than five (5) persons from the private sector and the Managing Director. • The board members are appointed by the Minister under which the SOEs falls.
13.	Auditor General, 2013	• 6 - members drawn from various sectors of the economy. • The board members are appointed by the Minister under which the SOEs falls.

14.	Auditor General, 2013	• 7 to 8 members.
15.	Auditor General, 2016	• 1 -The Permanent Secretary (P.S) in the Ministry responsible for Local Government administration; • 1- member appointed by the Minister • 2 members nominated by the Local Government Association of Zambia; • 1 - member appointed by the Minister • 2 members nominated by Zambia Local Authorities Workers' Union; • member appointed by the Minister • 2 members nominated by the management of ZESCO Limited; • 1 - member appointed by the Minister • 2 members nominated by the Board of National Provident Fund (NPF); • One member appointed by the Minister • 2 members nominated by the Board of National Housing Authority (NHA); and the Chief Executive of the Local Authorities Superannuation Fund, • 2 additional members • One member appointed by the Minister • 2 members nominated by the Management of the Lusaka Water and Sewerage Company Limited; and • 1- member appointed by the Minister from amongst the members of the public. • The board members are appointed by the Minister under which the SOEs falls.
16.	Auditor General, 2017	• 13 members • The President of the Republic of Zambia as Chairman • The Board members are appointed by the President
17.	Auditor General, 2006	• 1 - Ministry of Commerce, Trade and Industry

		• 1- Ministry of Finance and National Planning • 1- Zambia Industrial and Commercial Show Society Limited (as Ex-officio) • 1 -;Zambia Investment Centre • 1 - Bank of Zambia • 3 - Private Sector. • The board members are appointed by the Minister under which the SOEs falls.
18.	Auditor General, 2013	• 2 – 7 members. • The board members are appointed by the Minister under which the SOEs falls.
19.	Auditor General, 2015	• Members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
20.	Auditor General, 2016	• 15 members from among government and non-governmental organisations. • The board members are appointed by the Minister under which the SOEs falls.
21.	Auditor General, 2016	• 1 – Chairman • The Managing Director • 9 other members. • The board members are appointed by the Minister under which the SOEs falls.
22.	Auditor General, 2017	• The Permanent Secretary (P.S) from the Ministry responsible for Transport • Up to 5 persons from the private sector • The Managing Director. • The board members are appointed by the Minister under which the SOEs falls.
23.	Auditor General, 2015	• The Board chairman • Other members • The board members are appointed by the Minister under which the SOEs falls.

24.	Auditor General, 2017	• 6 to 8 members • The board members are appointed by the Minister under which the SOEs falls.
25.	Auditor General, 2017	• 7 members • The board members are appointed by the Minister under which the SOEs falls.
26.	Auditor General, 2014	• 4 Directors are appointed by subscribers of Class A shares • 3 Directors are appointed by subscribers of Class B shares • Zambia providing the Chairperson. • The board members are appointed by the Ministers under which the SOEs falls.
27.	Auditor General, 2015	• 3 Council of Ministers make up the Council • The Board of Directors has 6 members comprising 2 Permanent Secretaries, 4 members from private sector • The board members are appointed by the Ministers under which the SOEs falls.
28.	Auditor General, 2015	• 11 members (1 - Permanent Secretary (P.S), 1- members from Ministry of Finance, 1 -from the Copperbelt Energy Company, 1 - from DBZ, 1- Bank of Zambia, 1- from the Copperbelt University, 4 from the private sector, and the Managing Director) • The board members are appointed by the Minister under which the SOEs falls.
29.	Auditor General, 2013	• Members from various institutions • Attorney-General • Postmaster – General • The board members are appointed by the Minister under which the SOEs falls.
30.	Auditor General, 2014	• 1 – members from the Ministry of Commerce • 1 - members from Attorney General; • 5 - other members • The board members are appointed by the Minister under which the SOEs falls.

31.	Auditor General, 2012	• 12 part-time • 3 – other members • 1 - One other person representing the disabled. • The board members are appointed by the Minister under which the SOEs falls.
32.	Auditor General, 2016	• 5 full time members • The board members are appointed by the Minister under which the SOEs falls.
33.	Auditor General, 2014	• 7 - non-executive members • The board members are appointed by the Minister under which the SOEs falls.
34.	Auditor General, 2011	• 14 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
35.	Auditor General, 2016	• 11 members from various institutions • The board members are appointed by the Minister under which the SOEs falls. • The board members are appointed by the Minister under which the SOEs falls.
36.	Auditor General, 2014	• 6 members • The board members are appointed by the Minister under which the SOEs falls.
37.	Auditor General, 2015	• 9 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
38.	Auditor General, 2017	• 7 Directors • The board members are appointed by the Minister under which the SOEs falls.
39.	Auditor General, 2016	• The Permanent Secretary (P.S) • Up to 5 private sector members • The Managing Director. • The board members are appointed by the Minister under which the SOEs falls.

40.	Auditor General, 2015	• 10 members • The board members are appointed by the Minister under which the SOEs falls.
41.	Auditor General, 2009	• Experts from various institutions • The board members are appointed by the Minister under which the SOEs falls.
42.	Auditor General, 2017	• 11 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
43.	Auditor General, 2014	• Chairman • The Permanent Secretary (P.S) • 7 to 10 other members • The board members are appointed by the Minister under which the SOEs falls.
44.	Auditor General, 2010	• Up to 9 members representing various institutions • The board members are appointed by the Minister under which the SOEs falls.
45.	Auditor General, 2016	• 8 directors • The board members are appointed by the Minister under which the SOEs falls.
46.	Auditor General, 2008	• The Chairman • Vice-chairman • Up to 5 other members • The board members are appointed by the Minister under which the SOEs falls.
47.	Auditor General, 2013	• A member of the Ministry of Commerce • A member of the Attorney General • Zambia Institute of Chartered Accountants • Zambia Association of Chambers of Commerce and Industry • 3 other persons • The board members are appointed by the Minister under which

		the SOEs falls.
48.	Auditor General, 2016	• 9 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
49.	Auditor General, 2016	• 9 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
50.	Auditor General, 2016	• 13 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
51.	Auditor General, 2017	• 14 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
52.	Auditor General, 2014	• 14 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
53.	Auditor General, 2016	• 14 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
54.	Auditor General, 2016	• 7 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
55.		• 7 members • The board members are appointed by the Minister under which the SOEs falls.
56.	Auditor General, 2015	• 6 members • The board members are appointed by the Minister under which

		the SOEs falls.
57.		• 9 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
58.	Auditor General, 2017	• 2 to 8 members from various backgrounds • The board members are appointed by the Minister under which the SOEs falls.
59.	Auditor General, 2015	• 14 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
60.	Auditor General, 2016	• The Chairperson and 10 other members • The board members are appointed by the Minister under which the SOEs falls.
61.	Auditor General, 2012	• 15 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
62.	Auditor General, 2017	• 9 members • The board members are appointed by the Minister under which the SOEs falls.
63.	Auditor General, 2016	• 7 members from various institutions. • The board members are appointed by the Minister under which the SOEs falls.
64.	Auditor General, 2012	• 2 to 6 members • The board members are appointed by the Minister under which the SOEs falls.
65.	Auditor General, 2016	• 14 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
66.	Auditor General, 2015	• 18 – members • The board members are appointed by the Minister under which the SOEs falls.
67.	Auditor General, 2016	• 2 – 7 members • The board members are appointed by the Minister under which

		the SOEs falls.
68.	Auditor General, 2012	• 16 members from various institutions • The board members are appointed by the Minister under which the SOEs falls.
69.	Auditor General, 2017	• 8 – members from different professions • The board members are appointed by the Minister under which the SOEs falls.
70.	Auditor General, 2011	• 6 members from Ministries • 1 -member each from the Attorney-General, Zambia Association of Chambers of Commerce and Industry, Non-Governmental Organisations, Scientific and industrial research Institution, and • 2 - other members • The board members are appointed by the Minister under which the SOEs falls.
71.	Auditor General, 2017	• Permanent Secretary (P.S) from Ministry of General Education who acts as Chairperson • 4 other members • Permanent Secretary (P.S) from the Ministry of Finance (Deputy Chairperson) • The board members are appointed by the Minister under which the SOEs falls.
72.	Auditor General, 2014	• 6 to 19 members • The board members are appointed by the Minister under which the SOEs falls.
73.	Auditor General, 2006	• Up to 9 members • The board members are appointed by the Minister under which the SOEs falls.
74.	Auditor General, 2013	• 8 members • The board members are appointed by the Minister under which the SOEs falls.
75.	Auditor General, 2017	• The Permanent Secretary (P.S) from Ministry of Commerce and Trade

		• Up to 5 persons from the private sector • The General Manager. • The board members are appointed by the Minister under which the SOEs falls.
76.	Auditor General, 2016	• 9 non-executive members • The board members are appointed by the Minister under which the SOEs falls.
77.	Auditor General, 2017	• 7 to 10 members from the public and private sector. • The board members are appointed by the Minister under which the SOEs falls.
78.	Auditor General, 2006	• The chairman • 12 other members • The board members are appointed by the Minister under which the SOEs falls.
79.	Auditor General, 2009,	• 13 members (The Minister of Finance, Four other Ministers, The Governor of the Bank of Zambia, The Secretary to the Cabinet; The Attorney-General, Permanent Secretaries from Finance, Commerce; Works and supply; and Two other persons from private sector) • The board members are appointed by the Minister under which the SOEs falls.
80.	Auditor General, 2015	• The Secretary to the Treasury • Permanent Secretary (P.S) at the Ministry of Justice • Governor of the Bank of Zambia • Law Association of Zambia • Zambia Association of Chambers of Commerce and Industry • Bankers' Association of Zambia • Zambia Institute of Chartered Accountants • Two members appointed by the Minister responsible for Finance. • The board members are appointed by the Minister under which the SOEs falls.
81-84	Auditor General,	• The Vice Chancellor

	2014	• A Deputy Vice Chancellor • One member of staff of a local authority • Two members of the academic staff • One member from the higher education institution outside the Republic • One member who is associated with other higher education institution within the Republic • One member who is a student • One person who is a member of the non-academic staff • One member of the academic staff • One graduate • Three members of the trade, commerce and the professions • One member of parliament. • The board members are appointed by the Minister under which the SOEs falls.

Appendix 4 Description of the data

```
. describe

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Category        str10   %10s                  Category
Year            int     %10.0g                Year
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NED             byte    %10.0g                NED
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NIND            byte    %10.0g                NIND
PIND            double  %10.0g                PIND
NFEM            byte    %10.0g                NFEM
PFEM            double  %10.0g                PFEM
NCOM            byte    %10.0g                NCOM
CEOD            byte    %10.0g                CEOD
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TA              long    %10.0g                TA
ROA             double  %4.2f                 ROA
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Sorted by:
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Appendix 5. Questionnaire Design

Research objectives No	Reference to Literature review	Corporate Governance Attribute	Statement No.		Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
		Board Size								
1	**2.2.7.1**		1		The following factors affect SOEs Board size:					
				a	*Industry*					
				b	*Complexity of company operations*					
				c	*Company Size*					
				d	*Company Age*					
				e	*Company profitability*					
					Comments					
2	**2.2.7.1**		2		The size of a board of Directors for SOEs affects the financial performance of a company					
					Comments					
2			3		The larger the size of the Board of a SOE the better the financial performance of a company					
					Comments					

2	**2.2.7.2**	**Board membership**									
2	**2.2.7.2.4**		4		There should be a separation between the Chief Executive Officer and the Chairperson of the Board of a SOE						
					Comments						
2	**2.2.7.2**		5		There should be a balance of skills and experience of board members of SOEs						
					Comments						
2	**2.2.7.2.2.**		6		There should be a balance of female and male board members on the Board of a SOE						
					Comments						
2	**2.2.7.2.6**		7		The board of a SOE should have a majority of members who are independent						
					Comments						
2	**2.2.7.2.5**		8		The Board of a SOE should comprise a majority of members who are Non-Executive Directors						
					Comments						
2	**2.2.8**	**Board structure**	9		A board of a SOE should have the following committees:						
				a	*Audit committee*						
				b	*Human Resources and Remuneration Committee*						
				c	*Risk and Governance Committee*						
				d	*Finance and Administration Committee*						
				e	*Investment Committee*						
					Comments						
		Model for CG									
3	**2.2.2**	**Board accountability**									
3	**2.2.2**		10		The shareholders should draw up a shareholder performance contract with the Board of a SOE on appointment						
					Comments						
3	**2.2.2**		11		Dividend or financial Performance targets should be set for each Board of a SOE						
					Comments						
3	**2.2.2**		12		The Board of a SOE should be held accountable for the poor financial performance of the SOEs						
					Comments						
3	**2.2.9**	**Corporate Governance code for SOEs**	13		The Government should develop a corporate governance code for SOEs						
					Comments						
3	**2.2.13**	**Transparency**	14		The Board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny.						
					Comments						
	2.2.13		15		The Board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny within three months of the end of the financial year.						

					Comments						
3	**2.2.9**	**CEO remuneration**	16		The remuneration levels for the CEO and other Executive Management of a SOE should be performance based						
					Comments						
3	**2.2.7.2**	**Board Appointments**	17		Board members of SOEs should be recruited through a transparent and competitive basis.						
					Comments						
3	**2.2.7.2**		18		Board members of SOEs should be appointed/reappointed at the Annual General Meeting for SOEs that are incorporated under the Companies Act.						
					Comments						
3	**2.2.6.3**	**Board membership**	18		The number of Board members representing the Government on any SOE should be restricted to one						
					Comments						
3	**2.2.6.3**		20		Board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry						
					Comments						
3	**2.2.6.3**		21		Board members of SOEs should not use proxies to represent them at Board meetings as government representatives on board frequently use proxies						
					Comments						
3	**2.2.7.2.2**		22		The number of female board members of a SOE should be regulated by stipulated gender quotas.						
					Comments						

Appendix 6 Questionnaire Responses Summary

Question	Total Responses	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total Responses
Q1	17	6%	24%	35%	35%	0%	100%
Q2	17	18%	65%	6%	12%	0%	100%
Q3	17	12%	12%	0%	12%	65%	100%
Q4	17	12%	6%	6%	24%	53%	100%
Q5	17	12%	18%	35%	24%	12%	100%
Q6	17	0%	24%	0%	35%	41%	100%
Q7	17	6%	18%	12%	18%	47%	100%
Q8	17	12%	6%	6%	41%	35%	100%

Q9	17	6%	0%	6%	24%	65%	100%
Q10	17	0%	12%	12%	29%	47%	100%
Q11	17	0%	12%	6%	24%	59%	100%
Q12	17	6%	0%	6%	41%	47%	100%
Q13	17	0%	6%	18%	24%	53%	100%
Q14	17	0%	0%	12%	29%	59%	100%
Q15	17	0%	12%	24%	35%	29%	100%
Q16	17	0%	18%	29%	18%	35%	100%
Q17	17	0%	12%	0%	29%	59%	100%
Q18	17	6%	35%	24%	18%	18%	100%

Source: Author, 2020

Appendix 7– Cronbach's Alpha Test from STATA

```
. alpha Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18

Test scale = mean(unstandardized items)
Reversed items:  Q15 Q17 Q18

Average interitem covariance:     .3073577
Number of items in the scale:           18
Scale reliability coefficient:      0.8489
```

Source: Author, 2021

Appendix 8 - Email sent to participants

Re: Survey on the study of Corporate Governance attributes affecting firm financial performance in State-Owned Enterprises in Zambia: 2002-2017

To: participant

Thu, 21 Jan at 14:36

Dear Sir/Madam

The purpose of writing to you is to invite you to take part in the above survey by completing the attached Google Form. I am undertaking a Doctor of Philosophy in Accounting and Finance at University of Lusaka. Attached hereto is an introduction letter from the University.

The survey data will be used solely for academic purposes and a copy of the final document can be availed to you upon request.

Please note the following:

1. The survey is an online survey through Google Forms

2. Your responses will not be traceable back to you because the setting in the Google Forms is such that the responses will be anonymous

3. Your participation is voluntary and confidentiality of information will be strictly enforced

4. The research objectives are to describe the financial performance and corporate governance practices in SOEs, discover the relationship between corporate governance attributes and firm financial performance and to develop a model for corporate governance in SOEs in Zambia.

Kindly complete the attached Google Form and I thank you in advance for taking part in this survey.

Bryson Mumba

PHD Candidate Number PHDAFIN17210200.

Appendix 9 – Letter of Introduction to Participants

UNIVERSITY
of
LUSAKA

Plot No. 37413, Off Alick Nkhata Mass Media, P. O. Box 36711, Lusaka
Phone: +260 211 233407, 258409, Fax: +260 211 233409, E-mail: ictar@zamnet.zm, unilus@zamnet.zm
Website: www.unilus.ac.zm

All correspondence should be addressed to the Vice Chancellor

16th March, 2020

TO WHOM IT MAY CONCERN

RE: A STUDY OF CORPORATE GOVERNANCE ATTRIBUTES AFFECTING FIRM PERFORMANCE IN STATE OWNED-ENTERPRISES IN ZAMBIA: 2006 – 2016

This letter serves to introduce Bryson Mumba Student Identity Number PHDAFIN17210200 as a bona fide student of the University of Lusaka pursuing a Doctor of Philosophy in Accounting and Finance

Bryson Mumba is required to submit the thesis as part of the requirements for the award of the degree and therefore seeks to collect data from your institution. His research title is stated above. The data will be used solely for Academic purposes and a copy of the final document can be availed to you upon request.

Any assistance given to him will be greatly appreciated.

Sincerely,

Mwamba Chanda (Mr.)

DEPUTY REGISTRAR

Appendix 10. Summary of key findings from Survey

Financial Performance and Corporate Governance Theme	Overall finding
Financial Performance and Board Size relationship	There was no clear majority in the responses as 35% agreed that the size of a board of Directors for State Owned Enterprises (SOEs) affects the financial performance of the SOE, 35% disagreed and 30% were neutral.
	However, when asked about the financial performance being affected positively by the board size, 82% disagreed that the size of the Board positively affects firm financial performance.
Board Accountability	The majority of the respondents, 76%, agreed that the Board of a SOE should be held accountable for the poor financial performance of the SOEs.
Board Performance	The majority of the respondents, 76%, agreed that the shareholders should draw up a shareholder performance contract with the Board of a SOE on appointment.
	The majority of the respondents, 88%, agreed that Performance targets should be set for each Board of a SOE.
	The majority of the respondents, 76%, agreed that the remuneration levels for the CEO and other Executive Management of a SOE should be performance based.
CEO/Chairperson Duality	The majority of the respondents, 76%, agreed that there should be no duality in the position of CEO and Chairperson of the Board.

Board Structure	The majority of the respondents, 76%, agreed that there should be a balance of skills on the board.
Gender Diversity	There was no clear majority in the responses as 35% agreed that there should be a balance of female and male board members, 35% were neutral and 30% disagreed.
	There was no clear majority as 41% disagreed that the number of female board members of a SOE should be regulated by stipulated gender quotas, 36% agreed and 23% were neutral.
Board Independence and Non-Executive Directors	The majority of the respondents, 76%, agreed that the board of a SOE should have a majority of members who are independent.
	The majority of the respondents, 65%, agreed that the Board of a SOE should comprise a majority of members who are Non-Executive Directors.
Board recruitment	The majority of the respondents, 88%, agreed that Board members of SOEs should be recruited through a transparent and competitive process.
Government representatives on the Board	The majority of the respondents, 64%, agreed that the number of Board members representing the Government on any SOE should be restricted to one.
	The majority of the respondents, 53%, agreed that Board membership of SOEs should not be designated by position such as Permanent Secretary of a particular Ministry.
Board meetings and use of Proxies	The majority of the respondents, 88%, agreed that Board members of SOEs should not use proxies to represent them at Board meetings.

Transparency and disclosure	The majority of the respondents, 88%, agreed that the Board of a SOE should issue and publish an Annual Report for the SOE for public scrutiny within three months of the end of the financial year. .
Corporate governance code for SOEs	The majority of the respondents, 82%, agreed that the Government should develop a corporate governance code for SOEs.

Source: Author, 2020

Appendix 11 - Effect of share ownership on firm financial performance

Share ownership Type	Firm financial performance measure	Relationship*	Study(ies)	Country
Ownership structure – general	Dividend payments, Earnings management	+	Setiawan *et al.* (2016),	Indonesia
	Dividend payments, Earnings management	+	Ji *et al.* (2015)	China
	Financial distress	N	Udin *et al.* (2017),	Pakistan
	Financial distress	N	Merendino and Melville (2019)	Italy
State Ownership	ROTA, ROS, ROE	+	Attia *et al.* (2018),	Tunisia,
	ROTA, ROS, ROE	+	Setiawan *et al.* (2016), Utama *et al.* (2017)	Indonesia

	Tobins Q	S,+	Aljifri and Moustafa (2007)	UAE
	Income smoothing	+	Yang *et al.* (2012)	China
	Bad debts provisions	-	Shan and Xu (2012)	China
Foreign Firm Ownership	Dividend payments	S,+	Bokpin (2011)	Ghana
	Liquidity	S, +	Bokpin *et al.* (2011)	Ghana
	Profitability	S, -	Mori and Towo (2017)	Tanzania
	Dividend payments	+	Setiawan *et al.* (2016)	Indonesia
	Tobins Q, Market to Book ratio	+	Kao *et al.* (2019)	Taiwan
	ROTA, EPS	S,+ S,+	Mardnly *et al.* (2018)	Syria
	ROTA, ROS, Tobins Q.	+	Kabir and Thai (2017)	Vietnam
	Financial distress	S, -	Udin *et al.* (2017)	Pakistan
	Bad debts provisions	-	Shan and Xu (2012)	China
Large ownership	Investment	-	Chen *et el.,* (2017)	China

	efficiency			
	Financial distress	-	Li *et al.* (2008)	China
	Long term debt ratio, Total debt ratio	+	Shekh and Wang (2012)	Pakistan
		S, + and co-deterministic	Al Farooque (2010)	Bangladesh
Institutional/Block ownership	Investment efficiency	+	Chen *et el.,* (2012)	China
	ROTA, ROE, ROS	+	Gaur *et al.* (2015)	New Zealand
	ROTA, Tobins Q, ROE	+	Dato *et al.* (2018)	Ghana
Insider ownership	EPS	+	Wijethilake *et al.*, 2015	Sri Lanka
	Debt financing	S, +	Sewpersadh (2019)	South Africa
Family ownership	EPS	-	Setiawan *et al.* (2016)	Indonesia
	Tobins Q, Market to book ratio	+	Kao *et al.* (2019)	Taiwan

* - S = significant, + = positive, - = negative, N – no effect

Source: Author, 2019

Appendix 12 - Effect of board size on firm financial performance

Corporate Governance Attribute	Firm financial performance measure	Relationship*	Study(ies)	Country
Board Size				
Studies in developed countries				
	ROTA, ROE, ROS	+	Gaur *et al.* (2015)	New Zealand
	Bad debts provisions	+	Shan and Xu (2012)	China
	ROTA, Tobins Q, EVA	+	McIntyre *et al.* (2007)	Canada
	Tobins Q	+	Muller-Kahle *et al.* (2014)	USA
	ROTA, Tobins Q	+	Constantatos (2019)	Greece
	Operating efficiency	+	Kim *et al.* (2007)	America
	Tobins Q	S,+	Muller-Kahle *et al.* (2014)	UK
	Dividend payment	S, +	Elmagrhi *et al.* (2017)	UK
	Investment efficiency	S,+	Chen et el (2012)	China
	Tobins Q	S, +	Afrifa and Tauringana (2015)	UK
	Export earnings	S,+	Nas and Kayacioglu (2016)	Turkey

	Tobins Q, ROTA	-	Nyamongo and Temesgen (2013)	UK
	Operational risk	-	Haider and Fang (2016)	China
	Efficiency	U-shaped	Titova (2016)	USA
Studies in developing countries				
	Long term debt ratio, total debt ratio	+	Shekh and Wang (2012)	Pakistan
	ROTA, Tobins Q, EVA	+	Yasser *et al.* (2017)	Pakistan
	Discretionary accruals	+	Shawtari *et al.* (2017)	Malaysia
	Corporate reputation	+	Orozco *et al.* (2018)	Merco and Columbia
	ROTA, ROS, Tobins Q.	S,+	Kabir and Thai (2017)	Vietnam
	EPS	-	Wijethilake *et al.*, 2015	Sri Lanka
	Tobins Q, ROTA	-	Al Saidi and Al Shammari (2013)	Kuwait
	Tobins Q, ROTA	-	Palaniappan (2017)	India
	Tobins Q Market to Book ratio	N	Kao *et al.* (2019)	Taiwan
	Tobins Q	N	Aljifri and Moustafa (2007)	UAE

	ROTA, Tobins Q, ROE	N	Saidat and Seaman (2019)	Jordan
Studies in Sub-Saharan Africa				
	Efficiency	+	Adeabah *et al.* (2019)	Ghana
	ROTA, ROE	S,+	Shettima and Dzolkarnaini (2018)	Nigeria
	Profitability	+	Mori and Towo (2017)	Tanzania
	Dividend payment	S, +	Bokpin *et al.* (2011)	Ghana
	Dividend payment	S,+	Abor and Fador (2013)	Kenya
	liquidity	S,+	Bokpin (2011)	Ghana
	Gearing	S,+	Abor (2007)	Ghana
	ROTA, Tobins Q, ROE	N	Dato et al. (2018)	Ghana

‘* - S = significant, + = positive, - = negative, N – no effect, Source: Author, 2019

Appendix 13 - Summary of Corporate Governance Theories

Theory	Parties	Main Focus	Role of the Board of Directors	Desirable board composition to resolve conflict
Agency	Shareholders-Management (Type I Agency)	• Misaligned interests between shareholders and management • Firm controlled by managers who serve self-interest • Managers not trusted by shareholders	Monitoring and controlling managers	Managerial share ownership Independent board members Non-Executive Directors Smaller Board size Separation of the role of the CEO and Chairman Agency contracts Executive compensation
	Controlling – Non-controlling shareholders (Type II Agency)	• Misaligned interests between controlling shareholders and minority interest • Controlling shareholders serve own self-interest and expropriate resources from the firm and non-controlling shareholders	Monitoring and controlling managers	Managerial share ownership Independent board members Non-Executive Directors Smaller Board size Separation of the role of the CEO and Chairman Agency contracts Executive compensation
	Shareholder-Debt Holders (Type III – Agency)	• Misaligned interests between shareholders and debt holders • Shareholders serve own self-interest and expropriate resources from the firm and debt holders	Monitoring and controlling managers	Managerial share ownership Independent board members Non-Executive Directors Smaller Board size Separation of the role of the CEO and Chairman Agency contracts Executive compensation

Management hegemony	Management - Board	• Management dominate the Board through management control mechanism • Management control mechanisms include ownership diffusion , information asymmetry, profitable firms depending less on shareholders for capital and management choosing board members	Passive Council and managerial tool that provides backing for the decisions made by the executive management	Independent board members Non-Executive Directors Separation of the role of the CEO and Chairman
Stewardship	Shareholders-Management	• Aligned interests between shareholders and management • Managers are trusted and dependable stewards • Serve firm and own interest	Boards serve to empower managers and act as consultants to the CEO rather than as a monitor	Majority of the inside directors on the board. CEO duality (i.e., same person holding the position of chair and the chief executive)
Resource dependency	Shareholders-Management	• Boards of directors provide resources like information, skills, legitimacy and access to external resources	The board's role is act as a partner to management to assist them in effectively setting policies and strategies for the company Board actively involved in the setting of firm's business strategy	Larger board sizes Independent Board members Board members possess industry expertise, and have significant access to strategic resources
Stakeholder	Stakeholders - Management	• The firm exists to serve all stakeholders • Managers serve other interested parties beyond the shareholders	Board has fiduciary duty to conduct the activities of the organization in accordance with the stakeholder expectations Boards play a political role in the negotiation and resolution of the potential	Larger board sizes Diversity on board composition with representatives from stakeholder group representatives Competent board members with industry

			conflicts between the interests of various stakeholder groups.	experiences Independent Board members
Institutional	Institutions – Management & Board	• Role of institutions on Corporate governance and firm structures • Institutional rules such as regulatory rules (i.e., formal structures, such as laws and contracts), normative rules (i.e. social values and norms), and cognitive rules affect corporate governance structures • Corporate governance structures contingent upon the homogenization of institutional practices	Compliance Monitoring Control	Board diversity Independent board members
Signalling	Management-Users	• Managers use corporate governance disclosures to signal superior performance to existing and potential users such as investors • Firms with poor performance will obfuscate the bad information by using complex and difficult narratives	Monitoring Control	Board diversity Independent board members
Legitimacy	Society - Management	• Preserving the entity's legal and social license by practicing and complying with societal and regulatory requirements • Corporate governance disclosures made to meet society expectations • Obfuscation may occur as the corporate governance disclosures may only be symbolic.	Compliance	Diversity on board composition with representatives from stakeholder group representatives Gender diversity Independent board members Large board sizes

Public choice theory and political influence	Politicians – Management and the Board	• Politicians are self-serving individuals • In the context of SOEs, governance and management structures are often exposed to political processes • Boards and CEOs are appointed through political offices.	Boards play a political role	Independent board members Diversity on board composition with representatives from stakeholder group representatives

Source: Author, 2020

Appendix 14- Trends in the financial performance and corporate Governance Attributes.

Av. ROTA																
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LUSE					22%	16%	24%	22%	10%	24%	22%	18%	11%	16%	10%	5%
SOE	-71%	-37%	-26%	-21%	-9%	-6%	-1%	-4%	1%	0%	-5%	-5%	-11%	-2%	-7%	4%
SOE&Listed							-5%	0%	1%	7%	5%	5%	7%	-11%	1%	2%
Av. PNED																
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LUSE					76%	76%	68%	73%	75%	73%	70%	69%	73%	74%	63%	71%
SOE	98%	99%	97%	98%	100%	98%	98%	98%	99%	99%	97%	97%	97%	97%	98%	75%
SOE&Listed							100%	92%	94%	85%	92%	85%	85%	94%	88%	89%
Av. PFEM																
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LUSE					8%	18%	11%	15%	15%	19%	19%	20%	26%	17%	24%	23%
SOE	0%	0%	25%	25%	0%	25%	29%	31%	29%	27%	27%	19%	20%	33%	31%	25%
SOE&Listed							14%	15%	10%	15%	15%	23%	23%	21%	25%	33%
Av. BSIZ																
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LUSE					9.5	11.0	9.9	8.7	9.2	8.3	7.2	7.8	7.4	7.3	7.3	8.2
SOE	11.8	10.7	10.0	10.6	10.0	9.5	9.2	9.1	9.0	9.1	9.5	10.2	9.7	9.6	9.0	6.0
SOE&Listed							7.0	6.5	6.7	6.5	6.5	6.5	6.5	7.5	8.0	9.0

Source: Author, 2020

Appendix 15: Lietrature Review Summary

Research Paper No.	Grouping	Author(s)	Research methodology	Country	Data Analysis Method	Main Finding/Conclusion
1.	Africa/Sub-Saharan Africa	Bokpin, G.A (2011)	Quantitative	Ghana	Panel Data	· board size has a statistically positive effect on dividend payment · Firm age had significant effect on dividend payment
2.	Africa/Sub-Saharan Africa	Egbunike, C.F. and Odum, A.N. (2018)	Quantitative	Nigeria	Panel Data	Board size and board composition positively and significantly affected performance Proportion of non-executive directors negatived and significantly affected

						performance CEO duality had a positive and statistically significant effect on performance.
3.	Africa/Sub-Saharan Africa	Ogbechie, C., Koufopoulos, D.N. and Argyropoulou, M. (2007)	A structured questionnaire	Nigeria	Regression	Board involvement in strategy was noted related to board size
4.	Africa/Sub-Saharan Africa	Kyereboah-Coleman, A. and Biekpe, N. (2007)	Quantitative	Ghana	Multiple Regression	Industry and firm characteristics affect Board size
5.	Africa/Sub-Saharan Africa	Darko, J., Aribi, Z.A. and Uzonwanne, J.C. (2016)	Quantitative	Ghana	Panel Data	Gender and ownership concentration positively affected firm performance, board size had no effect
6.	Africa/Sub-Saharan Africa	Dato, M.H., Mersland, R. and Mori, N. (2018)	Quantitative	Ethiopia	Panel Data	Board structure moderated the effect of board size on performance

7.	Africa/Sub-Saharan Africa	Adeabah, D., Gyeke-Dako, A. and Andoh, C. (2019)	Quantitative	Ghana	Panel Data	Gender diversity and board size affected bank efficiency postively
8.	Africa/Sub-Saharan Africa	Nyamongo, E.M. and Temesgen, K (2013)	Quantitative	Kenya	Panel Data Analysis	Large boards had a negative effect on performance
9.	Africa/Sub-Saharan Africa	Bokpin, G.A., Isshaq, Z. and Aboagye-Otcher e, F. (2011)	Quantitative	Ghana	Panel Data Analysis	There was a sigificant and positive effect by board size, firm size, financial leverage, profitability and corporate liquidity
10.	Africa/Sub-Saharan Africa	Abor, J. and Fiador, V. (2013)	Quantitative	Ghana Nigeria	Regressio n	National culture significantly affected corporate governance
11.	Africa/Sub-Saharan Africa	Abor, J. (2007)	Quantitative	Ghana	Multiple Regressio n	Capital structure was sigificantly affetced by board size, CEO duality, board

						composition
12.	Africa/Sub-Saharan Africa	Shahwan, T.M. (2015)	Quantitative	Egypt	Regression	There was no association between corporate governance and firm performance
13.	Africa/Sub-Saharan Africa	Okeahalam, C.C. (2004)	Literature review	Africa	Literature Review	There was an urgent need to develop corporate governance in Africa
14.	Africa/Sub-Saharan Africa	Shettima, U. and Dzolkarnaini, N. (2018)	Quantitative	Nigeria	Panel Data Analysis	There was a positive and significant relationship between firm performance and board size, gender diversity had a negative but not significant effect
15.	Africa/Sub-Saharan Africa	Mbo, M. and Adjasi, C. (2017)	Mixed	Botswana	Case Analysis	Theoretically, agency and resource-based theories explained good

						firm performance
16.	Africa/Sub-Saharan Africa	Mori, N. and Towo, G. (2017)	Quantitative	Tanzania	Panel Data	Large boards with high gender diversity were associated with high profitability.
17.	Africa/Sub-Saharan Africa	Sewpersadh, N.S. (2019)	Quantitative	South Africa	Panel Data	Board size was negatively related to leverage
18.	Africa/Sub-Saharan Africa	Abdelsalam, O., El-Masry, M. and Elsegini, S. (2008)	Quantitative	Egypt	Panel Data	Institutional ownership positively affected firm performance
19.	Developed Countries	Boyle, G. and Ji, X (2013)	Mixed(Quantitative & Qualitative)	New Zealand	Descriptive	Gender, NEDs increased over review period, board size fell
20.	Developed Countries	Bozec, R. and Breton, G. (2003)	Quantitative	Canada	Regression	financial performance of SOEs improved significantly when firms are corporatized main difference in financial performance is caused by the

						objectives of the firm
21.	Developed Countries	Yan, C., He, H., Li, J., Cheng, S. and Zhang, Y. (2019)	Quantitative	China	Regression	Inverted U-shaped relationship between management ownership and firm performance. Large shareholders have a positive effects of management gover Board size had positive effects of management governance
22.	Developed Countries	Reverte, C. (2009)	Quantitative	Spain	Regression	Strongly governed firms have a lower cost of equity capital
23.	Developed Countries	Chan, R.S.Y., Lau, C.K.S. and Ng, A.W.(2011)	Quantitative	Hong Kong	Regression	Independent audit committee members did not

						affect firm value
24.	Developed Countries	Chen, N, Sung,H. AND Yang, J. (2017)	Quantitative	China	Regression	Ownership concentration negatively impacted investment efficiency
25.	Developed Countries	Gaio, C. and Pinto, I. (2018)	Quantitative	European	Regression	Non-state owned firms were more conservative than state-owned firms in discretionary accruals
26.	Developed Countries	Crow, P.R and Lockhart, J.C. (2016)	Case analysis	New Zealand	Iterative Analysis	Provided empirical insight on board involvement in strategic management.
27.	Developed Countries	Demirbas, D. and Yukhanaev, A. (2011)	Quantitative	Russian Listed companies	Descriptive Analysis	Type of Ownership of firms effected positively dividend payout.
28.	Developed	Vieira, E.S.	Quantitative	Portugal	Panel	Gender diversity

	Countries	(2018)			Data	postively affected performance of family owned firms.
29.	Developed Countries	Elsayed, N. and Elbardan, H. (2018)	Quantitative	UK	Panel Data	Executive compensation had a positive effect on performance
30.	Developed Countries	Laghari, F. and Chengang, Y. (2019)	Quantitative	China	Panel Data	Firm value is positively affected by aggressive working capital policies
31.	Developed Countries	Gaur, S.S., Bathula, H. and Singh, D. (2015)	Quantitative	New Zealand	Panel Data Analysis	Firm financial performance was positively affected by executive directors, board size and CEO duality
32.	Developed Countries	Boyle, G. and Ji, X (2013)	Qualitative	New Zealand	Descriptive And Trend Analysis	Gender, NEDs increased over review period, board size fell
33.	Developed Countries	Li, J., Lam, K. and Moy, J.W.	Quantitative	China	Panel Data	Firms owned less by state-

		(2005)			Analysis	ownership pursued unrelated diversifications.
34.	Developed Countries	Jiang, H. and Zhang, H. (2018)	Quantitative	China	Multivariate Analysis	Restriction of compensation negatively affected firm performance more so in central government controlled entities
35.	Developed Countries	Li, J. and Harrison, J.R. (2008)	Quantitative	Australia, Japan, USA, Canada, Western Europe	Regression	Capital structure was sigificantly affetced by board size, CEO duality, board composition
36.	Developed Countries	Kakabadse, N.K., Yang, H. and Sanders, R. (2010)	Qualitative	China	Descriptive	NED presence on boards was weak in Chinese firms
37.	Developed Countries	Koufopoulos, D.N., Lagoudis, I.N., Theotokas, I.N. and Syriopoulos, T.C. (2010)	Quantitative	Greece	Summary Statistics	CEOs affected the board

38.	Developed Countries	O'Connor, N.G., Deng, F.J. and Tan, J. (2011)	Quantitative	China	Structural Equation Modeling	firm performance was significantly and negatively affected by political constraints.
39.	Developed Countries	Nizaeva, M. and Uyar, A. (2017)	Qualitative	Eurasian Economic Union (EAEU) members (i.e. Russia, Belarus,	Literature Review	Corporate governance codes did converge internationally
40.	Developed Countries	Yang, C., Tan, B.L. and Ding, X. (2012)	Quantitative	China	Panel Data	State owned firms recorded higher income smoothing
41.	Developed Countries	Xiao, Z., He, R., Lin, Z. and Elkins, H. (2013)	Quantitative	China	Panel Data	CEO remuneration was more dependent on firm accounting performance than on firm value
42.	Developed Countries	Cuevas-Rodriguez, G., Guerrero-Villegas, J. and Valle-Cabrera,	Case study	Spain	Longitudinal Multiple Case Study	Board independence variables did not change much when a firm was

		R. (2016)				privatized.
43.	Developed Countries	Shan, Y.G. and Xu, L. (2012)	Quantitative	China	Panel Data Analysis	board size had a positive effect on level of bad debt provisions
44.	Developed Countries	Chen, Y., Zhai, R., Wang, C. and Zhong, C. (2015)	Quantitative	China	Panel Data Method	Foreign ownership affected firm performance
45.	Developed Countries	He, X., Wang, Z., Mei, L. and Lian, Y. (2010)	Quantitative	China	Panel Data	Firm founder turnover significantly and negatively affected performance
46.	Developed Countries	Hu, Y., Li, S., Lin, T.W. and Xie, S. (2011)	Quantitative	China	Panel Data	Financial performance of borrowers was negatively affected by the loan interest spread
47.	Developed Countries	Su, Z., Li, Y. and Li, L. (2010)	Quantitative	China	Panel Data	There was no relationship between ownership concentration and performance in SOEs

48.	Developed Countries	Wang, Q., Anderson,H.D. and Chi, J. (2017)	Quantitative	China	Panel Data	There was no significant effect of board independence on firm performance
49.	Developed Countries	Sial, M.S., Chunmei, Z., Khan, T. and Nguyen, V.K. (2018)	Quantitative	China	Panel Data	CSR had positively and significantly affected firm performance
50.	Developed Countries	Tang, Z., Liu, I.Y., Lu, Y. and Yang, D. (2012)	Quantitative	China	Regressio n	Full listing aligned interest of controlling shareholders and of the company
51.	Developed Countries	Van der Walt, N., Ingley, C., Shergill, G.S.. And Townsend, A. (2006)	Quantitative	New Zealand	Regressio n	Board diversity increased profitability
52.	Developed Countries	Wasowska, A. and Postula, I. (2018)	Mixed methods	Poland	Legal Analysis	Actors in corporate governance differed in their perception of governance in SOEs

53.	Developed Countries	Titova, Y. (2016)	Quantitative	USA	Regression	It was found that there was an inverted U-shape relation between board size and performance indicating a trade off between costs and benefits of larger boards.
54.	Developed Countries	Subramaniam, N., McManus, L. and Zhang, J. (2009)	Quantitative	Australia	Regression	Remuneration committees tended to exist in firms with independent chairpersons
55.	Developed Countries	Seung Hyun Kim, Jae Min Cha, Ronald F. Cichy, Mi Ran Kim, Julie L. Tkach, (2017)	Quantitative	America	Regression	Board size affected firm performance positively
56.	Developed Countries	Cretu, 2018	Quantitative	Italy	Ordinary Least Squares	Corporate Governance index had a positive relationship on performance
57.	Developed	Merendino &	Quantitative	Italy	Dynamic	Board size

	Countries	Melville, 2019			Generalized Method Of Moments	positively affected firm performance for lower levels of board size
58.	Developed Countries	Afrifa, G.A . and Tauringana, V. (2015)	Quantitative	UK	Panel Data Analysis	Board size significantly affected firm performance for SMEs
59.	Developed Countries	Guo, L., Smallman, C. and Radford, J. (2013)	Critique	China	A Literature Review	CG factors that affect firm performance in other countries have no such effect in China
60.	Developed Countries	Haider, J.and Fang, H. (2016)	Quantitative	China	Fixed	Board size negatively affected future firm risk
61.	Developed Countries	Zheng, H. and Zhang, Y. (2016)	Quantitative	China	Regression	Firm size affected CSR
62.	Developed Countries	Hanousek, J. and Kočenda, E. (2003)	Qualitative	Czech Republic	Discussion	Improved corporate governance affected firm performance
63.	Developed Countries	Ji, Z., Ahmed, K. and Lu, W. (2015)	Quantitative	China	Regression	CG had a positive effect on performance

64.	Developed Countries	Li, H., Wang, Z. and Deng, X. (2008)	Quantitative	China	Binary Logistic Analysis	State ownership was negatively related to probability of financial distress
65.	Developed Countries	McIntyre, M.L., Murphy, S.A. and Mitchell, P (2007)	Quantitative	Canada	Cross Sectional Regressio n	Appropriate board size affected firm performance positively
66.	Developed Countries	McMillan, D.G. and Evans, P. (2015)	Quantitative	China	Regressio n	There was either no or a negative relationship between returns and risk
67.	Developed Countries	Peng, M.W., Mutlu, C.C., Sauerwald, S., Au, K.Y. and Wang, D.Y.L. (2015)	Mixed	China	Panel data	Strategic networks among directors improve firm performance
68.	Developed Countries	Elmagrhi, M.H., Ntim, C.G., Crossley, R.M., Malagila, J.K., Fosu, S. and Vu, T. V. (2017)	Quantitative	UK	OLS	Board size and gender diversity affected firm performance
69.	Developed Countries	Usman, M., Zhang, J., Wang, F., Sun, J. and Makki, M.A.M. (2018)	Quantitative	China	Pooled Ordinary Least Square Regressio	CEO compensation is affected by gender-diverse

					n	compensation committees
70.	Developed Countries	Usman, M., Farooq, M.U., Zhang, J., Makki, M.A.M.M. and Khan, M.K. (2019)	Quantitative	China	Ordinary Least Squares	Gender diversity reduces managerial opportunist behaviour
71.	Developed Countries	Muller-Kahle et al (2014)	Quantitative	UK	Ordinary Least Squares	Board size positively affected performance in USA firms
72.	Developed Countries	Nas, T.I and Kalaycioglu, O. (2016)	Quantitative	Turkey	Regressio n	Board size affected export performance
73.	Developed Countries	Nerantzidis, M. and Tsamis, A. (2017)	Mixed	Greece	Literature Review Analysis	Large listed firms were more likely to disclose CG practices
74.	Developed Countries	Constantatos, A. (2019)	Quantitative	Greece	Panel Data Analysis	There was a positive relationship between board size and performance
75.	Developed Countries	Neville, M. (2011)	Mixed	Danish	Literature Review	Good governance was associated with board size and board composition

76.	Developed Countries	Noronha, C., Guan, J. and Fan, J. (2018)	Quantitative	China	Regressio n	Higher corporate governance quality affected CSR
77.	Developed Countries	Oba, B., Tigrel, E. and Sener, P. (2014)	Mixed	Turkey	Panel Data	There was compliance with corporate governance codes by listed firms
78.	Developing Countries	Wijethilake, C., Ekanayake, A. and Perera, S. (2015)	Quantitative	Sri Lanka	Regressio n	Board size showed a negative effect on financial performance. The use of multiple theories is better in understanding the relationships between corporate governance and firm performance
79.	Developing Countries	Dalwai, T.A.R , Basiruddin, R and Rasid, S.Z.A. (2015)	Qualitative	A critical Literature review on Corporat e Governan	Review	Found that there was need to study corporate governance in different cultural

				ce in Gulf Countries		contexts
80.	Developing Countries	Dawar, V. (2014)	Quantitative	India	Panel Regressio n	Leverage negatively affected perofrmance
81.	Developing Countries	Setiawan, D., Bandi, B., Phua, L.K. and Trinugroho, I. (2016)	Quantitative	Indonesia	Panel Data	Family firms had a lower level of independent board members
82.	Developing Countries	Kabir, R. and Thai, H.M. (2017)	Quantitative	Vietnam	Regressio n	CSR positively affected firm performance
83.	Developing Countries	Kao, M., Hodgkinson, L. and Jaafar, A. (2019)	Quantitative	Taiwan	Panel Data	Higher independent directors on boards led to smaller boards
84.	Developing Countries	Khongmalai, O., Tang, J.C.S. and Siengthai, S. (2010)	Mixed	Thailand	Descriptiv e	State-owned enterprises corporate governance factors were multi-faceted in SOEs in Thiland
85.	Developing Countries	Khongmalai, O. and Distanont, A. (2017)	Quantitative	Thailand	Structural Equation Modelling (SEM)	Firm performance was negatively affetcted by the

						board of directors
86.	Developing Countries	Oliveira, M.C., Ceglia, D. and Filho, F.A. (2016)	Qualitative	BRICS countries	Comparative Analysis	Brazil reported a higher median of corporate governance diisclosures among the BRICs countries
87.	Developing Countries	Utama, C.A., Utama, S. and Amarullah, F. (2017)	Quantitative	Indonesia	Two-Stages Least Squares	Corporate governance positively influenced cash flow
88.	Developing Countries	Wahyudin, A. and Solikhah, B. (2017)	Quantitative	Indonesia	Panel Data Analysis	Corporate governance practices affected performance
89.	Developing Countries	Nguyen, T.X.T. (2018)	Quantitative	Vietnam	Panel Data Analysis	Increased CEO share ownership led to reduced diversification
90.	Developing Countries	Qurashi, M.H. (2018)	Qualitative	Pakistan, India	Content Analysis	There were differences in convergence of national corporate governance codes with the

						UN code
91.	Developing Countries	Uzma, S.H. (2016)	Qualitative	India	Review	Relationship between Corporate governance and CSR was affected by many factors
92.	Developing Countries	Nguyen, T.T.M., Evans, E. and Lu, M. (2019)	Qualitative	Vietnam	Descriptive	Independent directors felt their main role was advisory rather than controlling role
93.	Developing Countries	Udin, S., Khan, M.A. and Javid, A.Y. (2017)	Quantitative	Pakistan	The Dynamic Generalized Method Of Moments (GMM)	There was insignificant effect of ownership structure on performance
94.	Developing Countries	Thompson, R.M., Alleyne, P. and Charles-Soverall, W. (2019)	Mixed methods	Barbados	Regression	There was lack of accountability and transparency in SOEs and political interference affected performance of

						SOEs
95.	Developing Countries	Yasser, Q.R., Al Mamun, A. and Rodrigs, M. (2017)	Quantitative	Pakistan	Panel Data Analysis	There was a positive relationship effect of board size on performance
96.	Developing Countries	Sheikh, N.A. and Wang, Z. (2012)	Quantitative	Pakistan	Panel Data	Board size, ownership concentration and NEDs positively affected long term debt ratios
97.	Developing Countries	Shawtari, F.A., Mohamad, M.H.S., Rashid, H.M.A. and Ayedh, A.M. (2017)	Quantitative	Malaysia	Ordinary Least Squares	Performance was affected by board size
98.	Developing Countries	Thrikawala, S., Locke, S. and Reddy, K. (2016)	Quantitative	Pakistan	Ordinary Least Squares	Board structure did affect performance
99.	Developing Countries	Sarim, 2018	Quantitative	India	Ordinary Least Squares	Gender diversity negatively affected performance
100.	Developing Countries	Gollakota, K. and Gupta, V.	Qualitative	India	Historical Analysis	Corporate governance was

		(2006)				affected by market and situational forces
101.	Developing Countries	Hanafi, M.M., Setiyono, B. and Sanjaya, I.P.U. (2018)	Quantitative	Jakarta Stock	Regressio n	Cash flow rights had a positive effect on firm performance
102.	Developing Countries	Hassoun, A.B. and Aloui, C. (2017)	Quantitative	MENA countries	Regressio n	CEO duality and foreign ownership reinforce each other to improve firm performance
103.	Developing Countries	Al-Saidi, M. and Al-Shammari, B. (2013)	Quantitative	Kuwait	Ordinary Least Squares	Board size negatively affected performance
104.	Developing Countries	Attia, M.B.R., Lassoued, N. and Chouikha, M. (2018)	Quantitative	Tunisia	Panel Data	“Specifically, state ownership affects positively firm profitability when it is relatively small and negatively when state ownership dominate”

105.	Developing Countries	Aljifri, K. and Moustafa, M. (2007)	Quantitative	UAE	Cross-Sectional Regression Analysis	Board size had no effect on performance
106.	Developing Countries	Al Farooque, Q., van Zijl, T., Dunstan, K. and Karim, A.W. (2010)	Quantitative	Dhaka	Panel Data	Ownership concentration and performance affected each other simultaneously.
107.	Developing Countries	Orozco, L.A., Vargas, J. and Galindo-Dorado, R. (2018)	Quantitative	Merco	Correlations And Cluster Analysis	“Large boards are associated with high performance on corporate reputation”,
108.	Developing Countries	Bhatt, P.R. (2016)	Quantitative	India	Multiple Regression Model.	There was a significant difference in corporate governance practices between firms
109.	Developing Countries	Palaniappan G., (2017)	Quantitative	India	Multiple Regression Model.	There was a significant negative effect of board size on performance

110.	Developing Countries	Saidat, Z., Silva, M. and Seaman, C. (2019)	Quantitative	Jordan	Panel Data	Board size negatively affected performance
111.	Developing country	Anh , N. T. and Thao, T.T.P. (2019)	Quantitative	Vietnam	Regressio n	Recorded the existence of a non-linear relationship between leverage and firm performance.
112.	World wide	Daiser, P., Ysa, T. and Schmitt, D. (2017)	Quantitative	Internatio nal	Systemati c Review	Found that there was need to study corporate governance in different cultural contexts
113.	World wide	Gakhar, D.V. and Phukon, A. (2018)	Systematic and structured review	Internatio nal	Literature Review Analysis	There was significant improvement in the firm performance of SOEs after privatisation
114.	World wide	Redding, K.S., Xie, E. and Tang, Q. (2018)	Qualitative	Internatio nal	Literature Review	SOEs from Europe and Asia greatly invested into developed

						markets
115.	World wide	Phi, 2019	Quantitative	World wide	Univariate Tests	Board size had a positive effect whilst gender diversity had negative effect
116.	World wide	Perelman & Pestieau, 2019	Qualitative	Work wide	Descriptive	Need more and better studies of the performance of SOEs
117.	World wide	Grossi, G., Papenfuß, U. and Tremblay, M. (2015)	Editorial review	International	Review	Good corporate governance practices led to better performance of SOEs
118.	World wide	Hemphill, T.A. and Laurence, G.J. (2014)	Critical Analysis	International	Critical Analysis	Reduced board size was value-adding
119.	World wide	Li, W., Xu, Y., Niu, J. and Qiu, A. (2012)	Qualitative	International	Cross-Sectional Regression Analysis	CG was in transition in China from administrative to economic governance

Appendix 16 : Descriptive Statistics of Observed Panel Data

ALL FIRMS

Key = BSIZ = Board Size, NED = Number of Non-Executive Directors, NFEM = number of Female board members, PFEM = Proportion of Female Board members, ROTA = Return on Total Assets, Firm Size = log of Total Assets

	BSIZ	NED	PNED	NFEM		PFEM	ROTA	Firm Size (Log of Total Assets)
Mean	8.90	7.88	0.87	1.60	0.21	0.00		4.46
Mode	7.00	7.00	1.00	2.00	0.29	-0.06		3.14
Min	3.00	0.00	0.00	0.00	0.00	-1.68		1.63
Max	19.00	19.00	1.00	5.00	0.56	1.35		9.07
Std. Dev	3.03	3.35	0.18	0.98	0.12	0.27		1.33
Kurtosis	1.27	1.19	4.55	1.01	-0.02	11.97		-0.16
Skewness	1.08	0.86	-1.86	0.56	0.23	-1.32		0.14
Count	345	344	345	169	170	345		345

LISTED & NOT SOEs

	BSIZ	NED	PNED	NFEM	PFEM	ROTA	Firm Size (Log of Total Assets)
Mean	8.07	5.71	0.70	1.59	0.20	0.14	3.55
Mode	7.00	6.00	0.67	2.00	-	#N/A	3.14
Min	4.00	0.00	0.00	0.00	0.00	-0.17	1.63
Max	16.00	11.00	1.00	5.00	0.56	1.35	9.07
Std. Dev	2.69	2.32	0.19	1.06	0.13	0.21	1.48
Kurtosis	0.12	-0.06	3.36	0.75	-0.10	16.07	3.03
Skewness	0.91	0.33	-1.42	0.63	0.42	3.40	1.70
Count	127	126	127	125	126	127	127

UNLISTED SOEs.

	BSIZ	NED	PNED	NFEM	PFEM	ROTA	Firm Size (Log of Total Assets)
Mean	9.61	9.41	0.98	1.92	0.26	-0.08	5.11
Mode	10.00	10.00	1.00	2.00	0.29	-0.06	4.39
Min	3.00	3.00	0.67	1.00	0.13	-1.68	3.29
Max							7.05

	19.00	19.00	1.00	3.00	0.38	0.88	
Std. Dev	3.15	3.20	0.06	0.48	0.06	0.28	0.81
Kurtosis	1.23	1.02	8.25	1.81	0.70	9.92	-0.50
Skewness	1.04	0.97	-2.75	-0.24	-0.93	-2.49	-0.11
Count	200	200	200	32	32	200	200

LISTED SOEs

	BSIZ	NED	PNED	NFEM	PFEM	ROTA	Firm Size (Log of Total Assets)
Mean	6.89	6.17	0.89	1.22	0.17	0.02	3.75
Mode	7.00	7.00	0.83	1.00	0.17		
Min	6.00	5.00	0.83	0.00	0.00	-0.25	3.40
Max	9.00	8.00	1.00	3.00	0.33	0.11	4.01
Std. Dev	0.83	0.99	0.07	0.73	0.09	0.08	0.20
Kurtosis	1.04	-1.32	-1.08	1.04	0.32	8.74	-1.05
Skewness	0.91	0.05	0.90	0.63	-0.21	-2.66	-0.54
Count	18	18	18	18	18	18	18

ALL SOEs

	BSIZ	NED	PNED	NFEM	PFEM	ROTA	Firm Size (Log of TA)
Mean	9.39	9.14	0.97	1.64	0.23	-0.08	5.00
Mode	10.00	7.00	1.00	2.00	0.29	-0.06	4.39
Min	3.00	3.00	0.67	0.00	0.00	-1.68	3.29
Max	19.00	19.00	1.00	3.00	0.38	0.88	7.05
Std. Dev	3.12	3.21	0.06	0.69	0.09	0.27	0.87
Kurtosis	1.41	1.10	4.21	0.13	0.22	10.90	-0.78
Skewness	1.13	1.03	-2.09	-0.29	-0.73	-2.61	-0.03
Count	218	218	218	50	50	218	218

Descriptive Statistics - Financial Performance of SOEs

	Operating Risk(Op Costs/Revenue)	Financial Risk(PBIT/Interest costs)	Financial Gearing(Total Liabilities/Total Equity)	Short Term Liquidity(Current Assets/Current Liabilities)	ROTA
Mean	1.09	-5.35	-3.33	1.92	-0.08
Mode	1.08	#N/A	-1.92	29.43	-0.06
Min	0.02	-208.09	-702.58	0.04	-1.68
Max	28.36	111.39	180.11	70.98	0.88
Std. Dev	2.00	58.11	56.82	6.18	0.27
Kurtosis	176.04	7.72	121.67	89.45	10.90
Skewness	12.86	-2.10	-9.95	8.74	-2.61
Count	201	22	196	184	218

Appendix 17- Preliminary Statistical Analysis.

ROTA

From a panel of 345 data for ROTA for all observed panel data for firms in the sample, the minimum ROTA was -1.68 and the maximum was 1.35. The measures of central tendency for ROTA were a mean of 0.00, a median of 0.02 and a mode of mode of -0.06. As the measures of central tendency are different the distribution of BSIZ is skewed with a skewness of -1.32. The data had a standard deviation of 0.27 and a positive Kurtosis of 11.97. Figure 5.7 shows a graphical representation of the data for ROTA. The distribution is not normal and non-parametric statistical tests were considered appropriate.

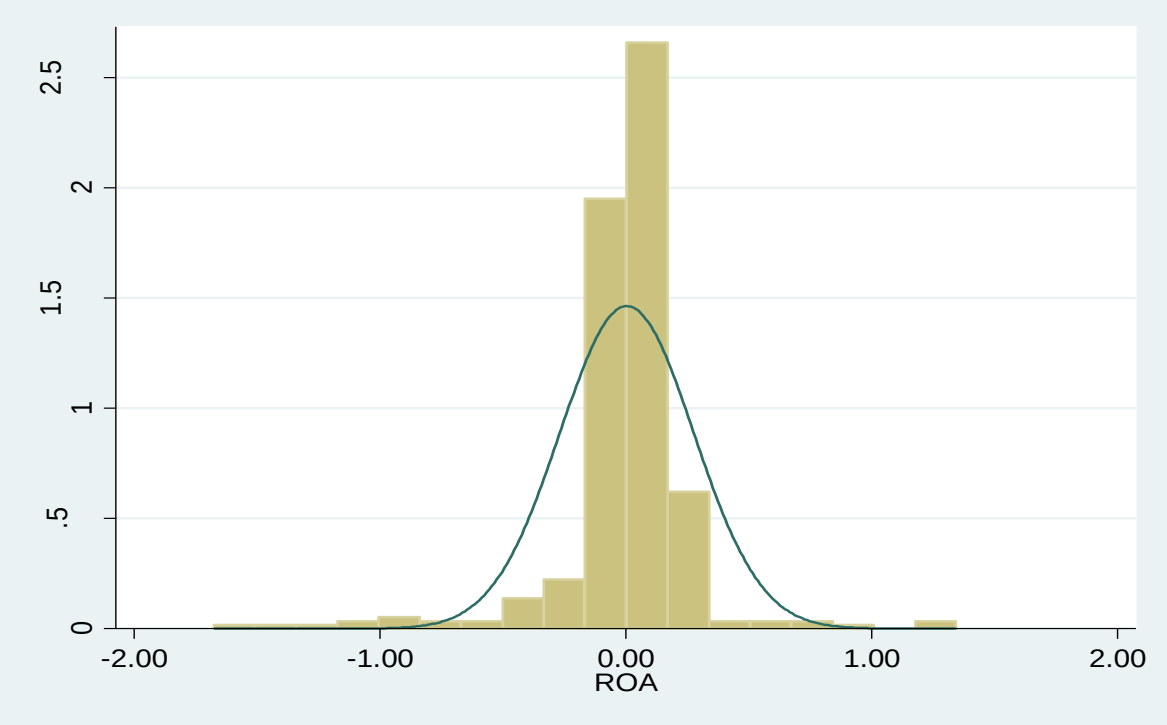

Figure 5. 8: ROTA Distribution for all observed panel data

Source: Author, 2020

Board Size

From a panel of 345 data, the minimum BSIZ was 3 and the maximum was 19. The measures of central tendency for BSIZ were a mean of 8.90, a median of 8.00 and a mode of 7.00. As the measures of central tendency are different the distribution of BSIZ is skewed with a skewness of 1.08. The data had a standard deviation of 3.03 and a positive Kurtosis of 1.27. Figure 5.8 shows a graphical representation of the data for BSIZ. The distribution is not normal The distribution is not normal and non-parametric statistical tests were considered appropriate.

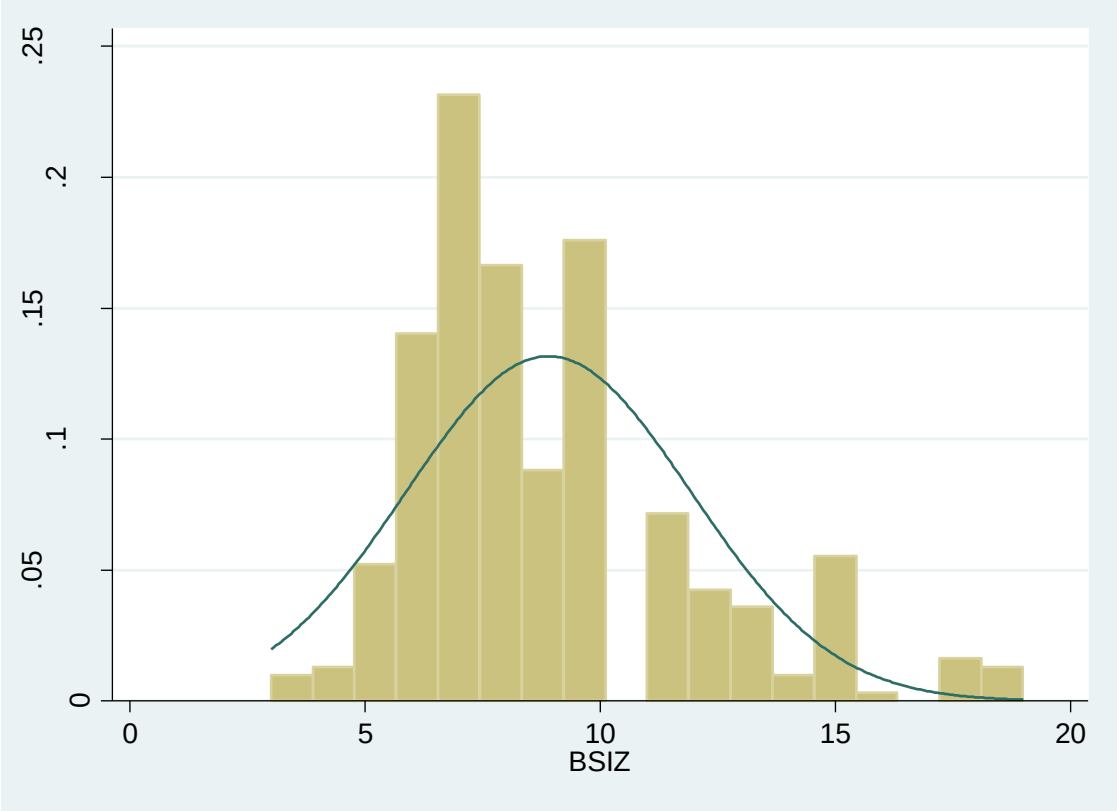

Figure 5. 9: BSIZ Distribution for all observed panel data

Source: Author, 2020

PNED

From a panel of 345 data, the minimum PNED was 0.00 and the maximum was 1.00. The measures of central tendency for PNED were a mean of 0.87, a median of 1.00 and a mode of mode of 1.00. As the measures of central tendency are different the

distribution of PNED is skewed with a skewness of -1.86. The data had a standard deviation of 0.18 and a positive Kurtosis of 4.55. Figure 5.9 shows a graphical representation of the data for PNED. The distribution is near normal and non-parametric statistical tests were considered appropriate. The observed panel data skewness is because most SOEs have all members as NEDs except for the Chief Executive Director who is an executive.

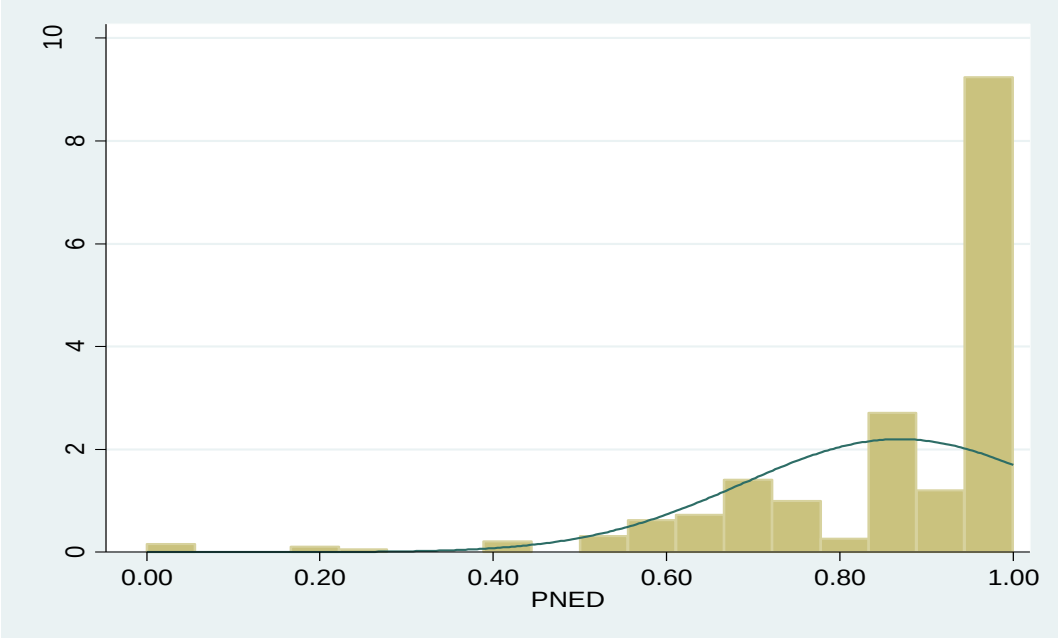

Figure 5. 10: PNED Distribution for all observed panel data

Source: Author, 2020

PFEM

From a panel of 171 data, which is not 345 because there gaps in the panel data, the minimum PFEM was 0.00 and the maximum was 0.56. The measures of central tendency for PFEM were a mean of 0.20, a median of 0.20 and a mode of mode of 0.29. As the measures of central tendency are different the distribution of PFEM is skewed with a skewness of 0.23. The distribution is near normal. The data had a standard deviation of 0.12 and a Kurtosis of -0.04. Figure 5.10 shows a graphical representation of the data for PFEM. The distribution is not normal.

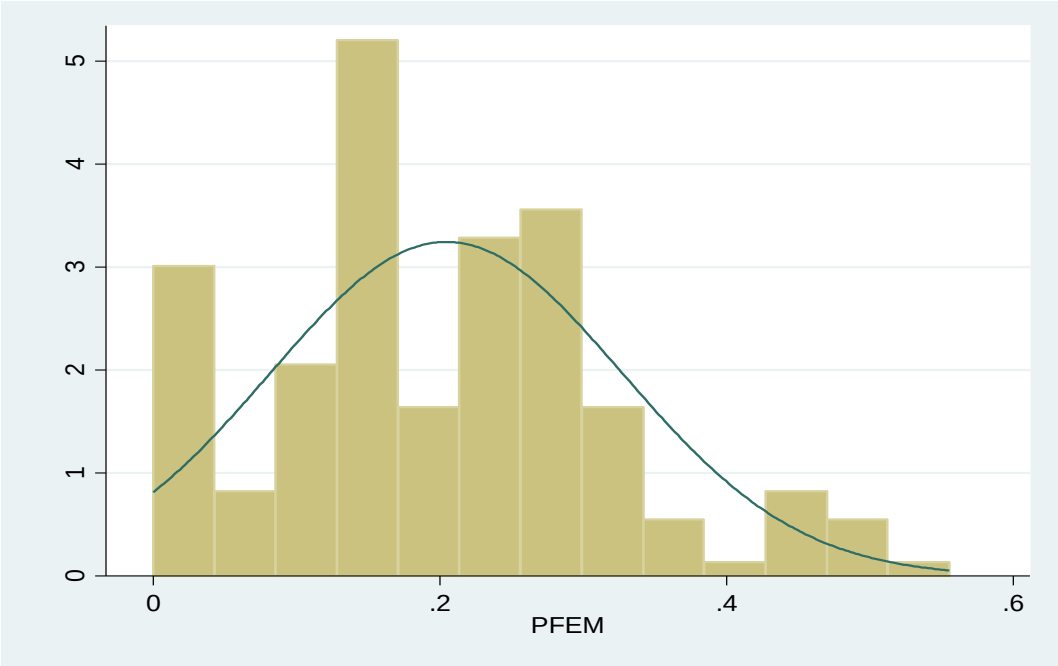

Figure 5. 11: PFEM Distribution for all observed panel data

Source: Author, 2020

5.2.3.2: Type of Panel Data

A panel may be fixed or rotating, short or long and balanced or unbalanced.

SOEs

The number of companies was 62 and the longitudinal data was for years ten years (2002 to 2017). As the cross-sectional data is larger than the time series periods, the panel data is a short panel as opposed to a long panel that has few entities but many time periods.

LUSEs

The number of companies was 25 and the longitudinal data was for ten years (2002 to 2017).

As the cross-sectional data is larger than the time series periods, the panel data is a short panel as opposed to a long panel that has many time periods but few entities.

Balanced versus Unbalanced Panel Data

The panel data was unbalanced as not all entities had measurements in all time periods. Using the ***tsset*** command on Company No. and Year variables, the data was found to be unbalanced and with gaps as not all panels had data.

Fixed versus Rotating Panel Data

The panel was considered rotating panel as some companies were not observed for some periods for both SOEs and LUSE data.

Test for Stationarity

Stationarity tests allowed confirming whether a series was stationary or not. If the statistical properties of a panel data time series do not vary with time, it is said to be stationary. It was therefore necessary to identify whether a series was not stationary so as to study the source of the non-stationarity. A non-stationary series can, for instance, be stationary in difference (also called integrated of order 1): Y_t is not stationary, but the Y_t - Y_{t-1} difference is stationary. A series can also be stationary in trend.

As the panel data was unbalanced, the Philip Peron (PP) tests and the Fisher-type tests utilising Augmented Dickey Fuller (ADF) were utilised to test for stationarity of the panel data.

Hypotheses:

H_0: All panels contain unit roots i.e., all panels are non-stationary

H_1: At least one panel is stationary

On one hand, the decision is to reject the null hypothesis and conclude that at least one panel in the series is stationary if the p-value is less than 5%. On the other hand, the decision is not to reject the null hypothesis and conclude that all panels are non-stationary if the p value is equal to or more than 5%. Table 5.14 contains the Unit root tests results.

Variable	Test Statistic		Fisher using Augmented Dickey- Fuller Tests (p values)
ROTA	Inverse chi-squared	P	X(p=0.0000)
	Inverse normal	Z	X(p=0.0001)
	Inverse logit t	L	X(p=0.0000)
	Modified inv. chi-squared	Pm	X(p=0.0000)
Board Size(BSIZ)	Inverse chi-squared	P	√ (p=1.0000)
	Inverse normal	Z	√ (p=0.4681)
	Inverse logit t	L	√ (p=0.4043)
	Modified inv. chi-squared	Pm	√ (p=1.000)
Proportion NEDs	Inverse chi-squared	P	√ (p=0.9999)
	Inverse normal	Z	X(p=0.0427)
	Inverse logit t	L	X(p=0.0117)
	Modified inv. chi-squared	Pm	X(p=0.9994)
Proportion FEM	Inverse chi-squared	P	√ (p=0.0550)
	Inverse normal	Z	X(p=0.0166)
	Inverse logit t	L	√ (p=0.0051)
	Modified inv. chi-squared	Pm	√ (p=0.0446)

Table 5. 37: Unit Test results

Key: √ = Do not reject the null hypothesis and conclude that all panels are non-stationary as the p-value is at least 5%. X = Reject the null hypothesis and conclude that at least one panel in the series is stationary as the p-value is less than 5%.

Source: Author, 2020

As can be seen from Table 5.15, the results are mixed as some panels are stationary and others are non-stationary.

Estimation of the regression model

The test of unit roots in the variables was followed by estimation of the regression model based on the order of integration of the variables. The regression model was estimated using the Generalised Least Squares estimation technique (GLS).

Determination of order of integration

The order of integration was found by differencing the given variable at different lags and see when it became stationary using the Fisher-type tests utilising Augmented Dickey Fuller (ADF) and Philip Peron (PP) tests the Fisher.

Hypotheses:

H_0: All panels contain unit roots i.e., all panels are non-stationary

H_1: At least one panel is stationary

Table 5.14 contains the determinants of the order of integration.

Key to table 5.14:

√ = Do not reject the null hypothesis and conclude that all panels are non-stationary as the p value is at least 5%.

X = Reject the null hypothesis and conclude that at least one panel in the series is stationary as the p value is less than 5%.

Variable	Test Statistic	**Fisher using Augmented Dickey- Fuller**
ROTA	Inverse chi-squared P	X at I(0)
	Inverse normal Z	X at I(0)
	Inverse logit t L*	X at I(0)
	Modified inv. chi-squared Pm	X at I(0)
Board Size(BSIZ)	Inverse chi-squared P	X at I(0)
	Inverse normal Z	X at I(0)

	Inverse logit t L*	X at I(0)
	Modified inv. chi-squared Pm	X at I(0)
Proportion NEDs	Inverse chi-squared P	X at I(0)
	Inverse normal Z	X at I(0)
	Inverse logit t L*	X at I(0)
	Modified inv. chi-squared Pm	X at I(0)
Proportion FEM	Inverse chi-squared P	X at I(0)
	Inverse normal Z	X at I(0)
	Inverse logit t L*	X at I(0)
	Modified inv. chi-squared Pm	X at I(0)

Table 5. 38: Determination of order of integration

Source: Author, 2020

X at I (0) – stationary at order of integration 0

It was found that the panel data was stationery and the order of integration was I (0) under the Fisher-type tests utilising Augmented Dickey Fuller (ADF). The Fisher-type tests using Augmented Phillips-Perron test found mixed results.

5.2.3.3 Estimation of the regression model

The test of unit roots in the variables was followed by estimation of the regression model based on the order of integration of the variables. As the variables were found to be integrated of order zero (i.e., I (0)) under the Fisher-type tests utilising Augmented Dickey Fuller (ADF), then the selected regression estimation involved the pooled Ordinary Least Square (OLS), fixed and random effects models.

The Hausman test for model misspecification(in consideration of fixed and random effects model)

In order to decide which effect (random effect or fixed effect) was more applicable and significant in the panel data, the Hausman specification test comparing fixed and random effect models was undertaken to prevent model misspecification.

Hypotheses:

H_0: Individual effects are uncorrelated with any regressor in the model and therefore the Random Effects Model is appropriate.

H_1: At least one individual effect is correlated with a regressor in the model and therefore the Fixed Effects Model is appropriate.

In STATA the Hausman procedure to test for Random and Fixed effects was undertaken as follows:

1. xtreg ROTA BSIZ PNED PIND PFEM CEOD, fe
2. estimate store fe
3. xtreg ROTA BSIZ PNED PIND PFEM CEOD, re
4. estimate store re
5. hausman fe re

The statistical results on both the SOE panel data and the LUSE companies were as per Tables 5.15, 5.17, 5.18 and 5.19.

SOES

```
. xtreg ROA PNED PIND PFEM CEOD, fe
note: PIND omitted because of collinearity
note: CEOD omitted because of collinearity

Fixed-effects (within) regression               Number of obs      =        17
Group variable: Company_No                      Number of groups   =         2

R-sq:  within  = 0.5436                         Obs per group: min =         8
       between = 1.0000                                        avg =       8.5
       overall = 0.4781                                        max =         9

                                                F(2,13)            =      7.74
corr(u_i, Xb)  = -0.6824                        Prob > F           =    0.0061
```

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
PNED	-1.125361	.2970186	-3.79	0.002	-1.767031	-.4836915
PIND	0	(omitted)				
PFEM	-.389138	.191137	-2.04	0.063	-.8020643	.0237883
CEOD	0	(omitted)				
_cons	1.098014	.2776395	3.95	0.002	.4982107	1.697818
sigma_u	.0468401					
sigma_e	.05912878					
rho	.38557378	(fraction of variance due to u_i)				

```
F test that all u_i=0:     F(1, 13) =     2.68                 Prob > F = 0.1257
```

Table 5. 39: Fixed effects

Source: Author, 2020

As the p-value is less than 0.05, we reject the null hypothesis for fixed effects for SOE panel data. This result was used to generate and store the Fixed effects of the panel data in order to conduct the Hausman test below.

```
. xtreg ROA PNED PIND PFEM CEOD, re
note: PIND omitted because of collinearity
note: CEOD omitted because of collinearity

Random-effects GLS regression                   Number of obs      =        17
Group variable: Company_No                      Number of groups   =         2

R-sq:  within  = 0.5335                         Obs per group: min =         8
       between = 1.0000                                        avg =       8.5
       overall = 0.4835                                        max =         9

                                                Wald chi2(2)       =     13.10
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0014
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
PNED	-.7838795	.2237	-3.50	0.000	-1.222323	-.3454357
PIND	0	(omitted)				
PFEM	-.345816	.2003215	-1.73	0.084	-.7384388	.0468068
CEOD	0	(omitted)				
_cons	.7844884	.2126645	3.69	0.000	.3676737	1.201303
sigma_u	0					
sigma_e	.05912878					
rho	0	(fraction of variance due to u_i)				

Table 5. 40: Random Effects

Source: Author, 2020

This result was used to generate and store the Random effects of the panel data in order to conduct the Hausman test below.

```
. hausman fe re

                 ——— Coefficients ———
                |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                |       fe           re          Difference          S.E.
----------------+----------------------------------------------------------------
           BSIZ |      .03799     .0279934        .0099966                .
           PNED |   -1.410817    -.9291203       -.4816962        .1834814
           PFEM |   -.5935356      -.48817       -.1053656                .
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        6.71
                Prob>chi2 =      0.0818
                (V_b-V_B is not positive definite)
```

Table 5. 41: Hausman Test for SOEs

Source: Author, 2020

The variables PIND and CEOD were omitted due to collinearity.

As the p value of 0.0818 was greater than 0.05, we accept the Null hypothesis that the Individual effects are uncorrelated with any regressor in the model and therefore the Random Effects Model is appropriate. Table 5.18 contains the results of the tests.

```
. hausman fe re

                 ——— Coefficients ———
                |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                |       fe           re          Difference          S.E.
----------------+----------------------------------------------------------------
           BSIZ |   -.0100108    -.0138648         .003854        .0055721
           PNED |     .022976     .0103542        .0126218        .0719985
           PIND |   -.0635787    -.0375436       -.0260351        .0447631
           PFEM |    -.279023    -.2928009         .013778         .071487
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        0.70
                Prob>chi2 =      0.9509
```

Table 5. 42: Hausman Test for LUSE

Source: Author, 2020

As the p value of 0.9509 was greater than 0.05, we accept the Null hypothesis that the Individual effects are uncorrelated with any regressor in the model and therefore the Random Effects Model is appropriate. The Random Effects Model allows the generalisation of inferences beyond the sample used in the model. GLS regression model used was as follows:

$$\mathrm{ROTA}_{it} = \beta_0 + \beta_1(\mathrm{BSIZ})_{it} + \beta_2(\mathrm{PNED})_{it} + \beta_3(\mathrm{PIND})_{it} + \beta_4(\mathrm{PFEM})_{it} + \beta_5(\mathrm{CEOD})_{it} + \beta_6(\mathrm{AGE})_{it} + \mathrm{ut} + \varepsilon_t$$

Where u_t is the between-entity error term and εt is the within-entity error term.

5.2.3.4 Testing for multi-collinearity

Multi-collinearity amongst the independent variables was tested using the variance inflation factors (VIF) command in STATA. It was found that among the independent variables, CEOD and PIND were eliminated due to multi-collinearity. The remaining independent variables that did not suffer from multi-collinearity were BSIZ, PNED and PFEM. As shown in Table 5.20 the mean VIF was 6.55 which is less than 10. We conclude that data does not contain multi-collinearity and there was no need to conduct a principal component analysis.

vif, uncentered

Variable	VIF	1/VIF
PNED	8.77	0.114047
BSIZ	7.30	0.136919
PFEM	3.59	0.278909
Mean VIF	6.55	

Table 5. 43: VIF Test for multi-collinearity

Source: Author, 2020

Test for Normality

Prior to conducting t-tests of comparison of variances, the normality of the data was assessed using numerical methods by use of the Skewness/Kurtosis tests. Graphical methods were reported above. Table 5.25 contains the results

Skewness/Kurtosis test using sktest test

```
. sktest BSIZ ROA PNED PFEM
```

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
BSIZ	345	0.0000	0.0009	46.02	0.0000
ROA	345	0.0000	0.0000	.	0.0000
PNED	345	0.0000	0.0000	.	0.0000
PFEM	171	0.2087	0.9679	1.60	0.4487

Table 5. 44: Skewness/Kurtosis test using sktest test

Source: Author, 2020

As the Pr (Skewness) and Pr (Kurtosis) values for ROTA, BSIZ and PNED variables are less than 0.05, then the null hypothesis is rejected as we have enough evidence that the data tested are not normally distributed. However, in the case of the PFEM variable, we do not have enough evidence to reject the null hypothesis that the data is from a normally distributed population as the p value is greater than 0.05.

Appendix 19 - Descritpive Analysis of loss making and profit making SOEs

ALL unlisted SOEs	**BSIZ**	**PNED**	**PFEM**	**ROA**
Mean	9.61	0.98	0.26	-0.08
Mode	10.00	1.00	0.29	-0.16
Min	3.00	0.67	0.13	-1.68
Max	19.00	1.00	0.38	0.88
Std Dev	3.15	0.06	0.06	0.28
Kurtosis	1.23	8.25	0.70	9.92
Skewness	1.04	-2.75	-0.93	-2.49
Count	200	200	26	200
Loss Making unlisted SOEs				
	BSIZ	**PNED**	**PFEM**	**ROA**
Mean	9.76	0.99	0.29	-0.21
Mode	10.00	1.00	0.25	-0.16
Min	3.00	0.83	0.25	-1.68
Max	19.00	1.00	0.33	-0.01
Std Dev	3.45	0.04	0.04	0.31
Kurtosis	1.19	6.34	-3.02	6.59
Skewness	1.00	-2.69	0.14	-2.53
Count	111	111	5	111
Profit Making unlisted SOES	**BSIZ**	**PNED**	**PFEM**	**ROA**
Mean	9.43	0.96	0.26	0.07
Mode	7.00	1.00	0.29	#N/A

Min	6.00	0.67	0.13	-0.00
Max	18.00	1.00	0.38	0.88
Std Dev	2.73	0.07	0.07	0.12
Kurtosis	0.46	4.52	0.30	25.84
Skewness	0.99	-2.18	-0.83	4.45
Count	89	89	21	89
ALL listed SOEs	**BSIZ**	**PNED**	**PFEM**	**ROA**
Mean	6.89	0.89	0.17	0.02
Mode	7.00	0.83	0.17	#N/A
Min	6.00	0.83	0.00	-0.25
Max	9.00	1.00	0.33	0.11
Std Dev	0.83	0.07	0.09	0.08
Kurtosis	1.04	-1.08	0.32	8.74
Skewness	0.91	0.90	-0.21	-2.66
Count	18	18	18	18