An analysis of the impact of the size and type of government intervention on economic growth in South Africa

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DEDICATION

This dissertation is dedicated to my loving parents, Gary and Mariane Cooper, your continuous support is much appreciated.

DECLARATION

I declare that

AN ANALYSIS OF THE IMPACT OF THE SIZE AND TYPE OF GOVERNMENT INTERVENTION ON ECONOMIC GROWTH IN SOUTH AFRICA

Is my own work and that all resources that have been quoted or used have been fully acknowledged and indicated by means of complete references, and that this dissertation has in no manner either in its entirety or in part, been submitted for degree purposes at another university.

Tasmyn Jade Cooper

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ABSTRACT

Government plays a crucial role in facilitating and enhancing economic growth and development within a country. The South African government, although faced with many unique socio-economic and macro-economic challenges, makes decisions based on selected economic objectives deemed important. Increasing levels of unemployment, inequality and subdued economic activity are among the challenges identified as most important in much of national economic policy, and remain key issues which the government continues to focus on. The interventionist role of government can be carried out in a variety of ways, including the way government spends collected revenue, the economic policies adopted as well as regulatory framework enforced by the government. However, despite the recognition of the above mentioned challenges the South African government continues to battle against these important issues concerning the overall health of the economy.

The study had the primary objective of analysing the impact of the size and type of the South African government on economic growth. This involved categorising types of government spending according to the national budget's over the period of the study, spending was broken down into three broad categories, namely economic development spending, social welfare spending and spending that went towards servicing the country's debt. Moreover, the study included indexes such as the Government Effectiveness Index and the Corruption Control Index as variables in order to better understand the current state of affairs within the country, and the possible relationship they may have with economic growth. Furthermore, two main types of economic interventionism were reviewed and discussed, namely the developmental state and the welfare state approach. Contrasting the two mentioned methods of intervention, are key in understanding the behaviour of government and actions taken by government.

In order to investigate the aforementioned variables, the study employed both a descriptive and an econometric analysis on the South African government spending patterns and interventionist action. Throughout the descriptive section, trends and graphs were used to analyse variables including government debt, government size, corruption, social welfare spending, economic development spending, government effectiveness and economic growth in South Africa. The econometric analysis ascertains the long-run and short-run relationship between the independent variables (mentioned above) and the dependent variable being economic growth. The study made use of a quantitative research methodology and the sample consisted of 21 annual observations collected for the period 1998 to 2018. The models employed under the econometric section of the study include the correlation matrix, ARDL bounds test for co-integration and the Toda-Yamamoto Granger non-causality test.

The correlation matrix found that total government spending, social welfare spending, economic development spending and debt-service spending to have a positive relationship with economic growth, and all of the above variables were statistically significant at the one percent significance

level. However, the Corruption Control Index and the Government Effectiveness Index were found to have a negative relationship with economic growth and were statistically significant at the one percent significance level.

Long-run relationships were found, using the ARDL bounds test, between the independent variables total government spending, social welfare spending and economic development spending and the dependent variable economic growth. All were statistically significant at the five percent level of significance.

The short-run Toda-Yamamoto Granger non-casualty found a unidirectional causal relationship between social welfare spending and economic growth at ten percent. This means that social welfare spending causes economic growth but not the other way around. There is also a bilateral causal relationship between the size of government and government debt-service costs at the one percent level of significance. This means that the size of government Granger causes debt-service costs, and debt-service costs Granger cause the size of government. There is also evidence that economic growth has a bilateral causal relationship with economic development spending at the five percent level of significance.

This study contributed to the literature by theoretically and empirically reviewing the role of the South African government in achieving improved economic growth and economic development. This study is one of the few to make use of the ARDL estimation method with regards to disaggregated expenditure and economic growth in South Africa.

Keywords: ARDL, economic policy, government intervention, government spending, social welfare, South Africa.

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LIST OF ABBREVIATIONS

ADF: Augmented Dickey-Fuller

ARDL: Autoregressive Distributed Lag

ARMA: Autoregressive Moving Averages

ASGISA: Accelerated and Shared Growth Initiative for South Africa

COSATU: Congress of South African Trade Unions

CUSUM: Cumulative sum of recursive residuals

CUSUMQ: Cumulative sum of squared residuals

CPI: Corruption Perceptions Index

CWSA: Corruption Watch South Africa

DF: Dickey-Fuller

DTI: Department of Trade and Industry

DOF: Department of Finance

ECM: Error Correction Model

ECT: Error Correction Term

FIFA: International Federation of Association Football

GDP: Gross Domestic Product

GEAR: Growth, Employment and Redistribution

GEI: Government Effectiveness Index

GMM: Generalised Method of Moments

GNI: Gross National Income

HDI: Human Development Index

HSRC: Human Science Research Council

IMF: International Monetary Fund

IPAP: Industrial Policy Action Plan

IIF: International Institute of Finance

MITI: Ministry of International Trade and Industry

NDP: National Development Plan

NGP: New Growth Path

NPC: National Planning Commission

OECD: Organisation for Economic Co-Operation and Development

OLS: Ordinary Least Squares

PP: Philips-Perron

RDP: Reconstruction and Development Programme

SARB: South African Reserve Bank

SARS: South African Revenue Service

SII: Social Investment Index

STATSSA: Statistics South Africa

TFP: Total Factor Productivity

T-Y: Toda-Yamamoto

UNDP: United Nations Development Programme

QLFS: Quarterly Labour Force Survey

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Since the most recent global economic shock, many economies have experienced new socio-economic and macro-economic challenges unique to modern economies (Baccaro & Pontusson, 2016:181). These challenges include, among other things, high rates of unemployment, high levels of inequality, high public debt, subdued economic activity, and an increasing reliance on government for social support (Butler, 2017:52). This led to the need for increased government intervention through direct economic policy as a means to stabilise economic conditions. Increased levels of intervention are strongly advocated for, especially in developing countries (Deeming & Smyth, 2015:300). However, in some cases, economies have shown little reaction to the global financial crisis and were able to recover relatively quickly, in others, the shock caused an increase of complex challenges and have displayed slow rates of recovery ever since (Refera, Dhaliwal & Kaur, 2016:4).

In light of this, a significant amount of interest has been directed towards economic policy in East Asian countries over the last few decades. Countries such as South Korea, Taiwan, Japan, and Singapore, have succeeded in achieving rapid and sustained economic growth between the early 1960s and 1990s, primarily as a result of strong and concise economic policy (Burger, 2014:160). These governments ensured post-crisis objectives were met through several key elements, including a persistent focus on economic growth, a capable bureaucracy, state-led industrial policy, and export-led growth, to name a few (Evans, 1989:571; Pekkanen, 2004:367; Burger, 2014:170).

This phenomenon has generated much interest in the interventionist role States play in achieving prosperous economic conditions. This specific type of intervention and success became known as the ‘developmental state’ (Johnson, 1982; Woo-Cummings, 1999), a model which has been studied and, in some cases, applied in countries aspiring to achieve improved growth and development. The use of this particular developmental model has generated success in some cases and failure in others.

China, in particular, has been a focal point in these discussions. Before the 19th century, China was a dominant power in the global economy. However, in the 19th and early 20th century, the country has been characterised by civil unrest, famine, and military defeats (Maroufkhani, 2016:2). Additionally, in the late 1950s, the country experienced prolonged growth in comparison to other East Asian countries such as Japan and Taiwan. This led to the beginning of the developmental state through market reforms in the country, moving from a centrally planned to a market-based economy starting in 1978 (Maroufkhani, 2016:5). Selected sectors were reformed such as agriculture, civil service, and state-owned enterprises, to name a few. This change led to rapid

economic growth and social development, with an average growth rate of around 10 percent. Therefore, China is an example of a country where the developmental state was a success, and growth and development were achieved according to planned economic objectives.

In contrast, India failed to achieve the envisaged growth and development, through the developmental model due to many factors and issues. Since 1947, the country planned to achieve economic growth and development through rapid industrialisation (Sinha, 2003:465). According to Singh and Srinivasan (2006), social welfare spending, corruption, and affirmative action are a few reasons as to why the country has had slow development and economic growth. India has had an average growth rate of around 6.5 percent since 1947, which pales in comparison to developmental states, the country also has a high level of public debt which was estimated at 68.91 percent of GDP in 2018 (International Monetary Fund, 2018).

While plagued by its own unique set of challenges and complex socio-political past, South Africa's economic performance has been sluggish over the last two decades, only averaging around 2.77 percent growth annually (StatsSA, 2018a:1), bringing to question whether or not current economic policy and government intervention has been effective. The National Development Plan (NDP) is the chief economic policy put forward as a strategy to improve economic growth, reduce inequality, and increase employment. The NDP states the aspiration to move the economy away from high consumption expenditure and towards more investment expenditure, as a means to achieve economic prosperity (National Planning Commission, 2012:39). However, the current composition of government expenditure contrasts with this aspiration, as spending on economic development has been declining in order to sustain the growing social dependence on the state (National Treasury, 2018). Therefore, the government has not restructured expenditure as intended and as a consequence, has failed to achieve much-desired growth and investment which has been notably subdued.

Nevertheless, government intervention remains an essential pillar necessary to ensure the economy grows, through regulation of the market, infrastructure investment, human capital investment, and general directional guidance (Pigou, 2017:361). More particularly, it is necessary for social development through achieving inequality reduction, poverty reduction, and ensuring essential services are delivered to all. Government effectiveness is paramount in the developmental process, as the rate with which objectives are met is a direct result of government action or inaction. Institutional structures demand a high level of integration and coordination in order to be effective, with several factors.

The effectiveness with which government carries out these tasks may vary due to various factors such as rising debt costs, increasing budget deficits, the size of government, corruption, and the coordination between different levels of government (Shah, 2017:83).

1.2 PROBLEM STATEMENT

In preceding years, the South African government, in its endeavours to provide an inclusive and capable economy, has created a great deal of confusion concerning set economic objectives and actual interventionist behaviour (Turok, 2014:503). It has been stated in the NDP that the government strives to become a “capable and developmental state,” with a particular intention of spending more on investment and less on consumption (National Planning Commission, 2011). Both of the aspirations above have not yet been achieved, possibly owing to a growing social welfare burden, misalignment of goals amongst government sectors, and declining investment interest (Seekings, 2015).

In this light, current government intervention has proven ineffective as economic growth is stagnating, debt levels are rising, and government spending is increasing at an unsustainable rate (Coetzee, 2019:27). This all has brought to question the ability of the state to improve performance and whether with an improved sense of direction and a more cohesive state could contribute to a better standard of living for most in South Africa. Additionally, effective government is needed in order to maximise the productivity of state spending and improved policy alignment (Transparency International, 2019).

Despite this underlying potential, the reality is that there have been yearly increases in debt as well as a growing budget deficit in the country, which is indicative of an ineffective government. According to Haines (2018), this is true due to wasteful spending, corruption, and maladministration within the different spheres of the current government structure. Increasing debt in South Africa may result in less available funds to spend in the long-run and consequently reduce the social stability of the country and economic development (Monteiro & Mkokeli, 2018). Developing countries have only reached a rapid rate of economic growth through the effective and pointed intervention by government (Robson, 2018).

On the background of these challenges and together with varying results increasingly expressed around development in the world, it has raised several questions on the state’s role in development. Contemporary economic discourse provides limited insight into the true nature of current state intervention towards a more inclusive and growth driven South Africa (Holdt, 2010:8). Henceforth, this study seeks to add to the limited body of knowledge on the subject matter. In doing so, it can most likely provide a platform to analyse the possibility of a complete and functional developmental state in South Africa, or rather the optimal composition of a state for growth facilitation and development. Additionally, it can lay a foundation on which future improvements and suggestions can be made to ensure policy and growth effectiveness through defining the role of the state concisely.

1.3 THEORETICAL PERSPECTIVES

This study holds a functionalist perspective, therefore, “each aspect of society depends on each other, and each contributes to the overall stability and functioning of that society” (Crossman, 2019). Thus, each part of the economy is assumed to impact the stability of society as a whole.

The type of state, whether developmental or welfare, falls within the theoretical framework of Keynesian economics, as it advocates for government intervention and spending to achieve economic objectives (Pigou, 2017). It has been argued that the developmental state was formed through making use of Keynesian principles as this growth model is based on high levels of intervention (Peet & Hartwick, 2015). This phenomenon, that government spending enhances growth, is known as the Keynesian multiplier.

There are various existing theories concerning the role of numerous factors and how they influence or determine economic growth. The two mainstream theories of economic growth, on which this study will be based, are the neoclassical growth model by Solow (1956) and the theory of endogenous growth by Romer (1986) and Lucas (1988). Solow’s growth model was used to determine long-run economic growth regarding capital accumulation, population growth, and productivity/technological progress (Solow, 1956); this was one of the most extensive contributions to neoclassical economic growth theory. Romer and Lucas’s model states knowledge is endogenous to economic growth and technological change, and it is implied that there is a relationship between human capital and technology (Amavilah, 2014). Barro’s (2003) determinants of economic growth will also be consulted.

1.4 OBJECTIVES OF THE STUDY

1.4.1 Primary objective

The primary objective of the study is to analyse the impact that South Africa’s size of government and government intervention has on economic growth in the South African economy.

1.4.2 Theoretical objectives

In order to achieve the primary objective of the study, the following theoretical objectives are pursued:

- To provide definitions, concepts, and approaches concerning the variables and key themes of the study;
- To discuss theories and linkages relating to economic growth, government intervention, government size, government debt, and government spending;

- To review empirical findings concerning the relationship between the composition of spending, size of government, and government effectiveness with economic growth internationally and in South Africa.

1.4.3 Empirical objectives

The following empirical objectives are formulated:

- To provide a status quo analysis of all the variables used in the study, as well as the trends present, through descriptive analysis, in social and economic development spending within the period considered for the study;
- To determine the long-run and short-run relationships between corruption perception, government effectiveness, social welfare spending, economic development spending, government debt and government size with economic growth;
- To determine if causality exists between the variables, and if so, the direction of causality;
- To compare economic development spending and social welfare spending, as a measure to classify the type of State intervention that exists concisely;
- To provide recommendations on how South Africa can better enhance economic growth and development by suggesting the optimal type and composition of government for South Africa.

1.5 RESEARCH DESIGN AND METHODOLOGY

1.5.1 Study design and context

The study will be comprised of a literature review and an empirical study. It is based on the underpinnings of quantitative research, using secondary data, and possesses a functionalist paradigmatic foundation, in order to remain objective (Weigend, 2018).

1.5.2 Literature review

The literature review and theoretical background will be synthesised by making use of journal articles, thesis works, books, and relevant sources. These sources will be used to explain the necessity of quality government intervention for enhanced economic growth. Furthermore, this will allow for more clear identification and comprehension of the role of the State in order to improve economic growth and development.

1.5.3 Empirical study

The empirical part of the study will make use of secondary data through a time series analysis. The data used in the study will be collected for the period 1998 to 2018, as the available National Budget information before 1988 contains different spending categories to that in the specified period. Data

collected for this study is based on 21 annual observations and is conducted in the context of South Africa to analyse trends in government spending and the size of government and how it impacts economic growth. The raw data will be transformed by a natural logarithm in order to convert all the variables to the same scale of measurement and reduce data variation. Table 1.1 provides a summary of the variables used in the study, including their abbreviations and sources from where they were drawn.

Table 1.1: Variable summary

Variable	Abbreviation	Source of data
Gross domestic product per capita	LGDP	South African Reserve Bank (2018)
Social welfare spending	LSWE	National Treasury (2018)
Economic development spending	LEDS	National Treasury (2018)
Government Effectiveness Index	LGOVE	World Bank (2018)
Corruption Control Index	LCORR	Transparency International (2018)
Size of government	LGOVS	National Treasury (2018)
Government debt-service costs	LGOVD	National Treasury (2018)

1.5.3.1 Econometric methods of analysis

In order to achieve the empirical objectives of this study, an econometric analysis will be conducted using Eviews 9 software. The autoregressive distributed lag (ARDL) model and ECM (Error Correction Model) will be used to analyse both the long-run and short-run effects through a bounds test of the variables on economic growth (Pesaran, Shin & Smith, 2001:289). The analysis will include the Augmented Dickey-Fuller (ADF) test (Dickey & Fuller, 1981:1068), which will be used to test whether the variables are stationary at levels I(0) or first difference I(1). Furthermore, the model section criteria graph will be used to determine the best-suited model for the variables for the ARDL model. Lastly, various diagnostic and stability tests will be conducted for serial correlation, heteroskedasticity, and normality. The CUSUM and CUSUM of Squares test will be used to ensure the robustness and reliability of the model and whether it was dynamically stable over the period under consideration.

1.5.3.2 Model

The general function of the study is given in equation 1.1. below.

LGDP = *f* (LSWE, LEDS, LGOVD, LGEI, LCPI, LSOG) ..... (1.1)

Where LGDP represents the logarithm of GDP per capita, LSWE represents the logarithm of social welfare spending as a percentage total of government spending, LEDS represents the logarithm of economic development spending as a percentage of total government spending, LGOVE represents the logarithm of the Government Effectiveness Index, LCORR represents the logarithm of the Corruption Control Index, LGOVD represents the logarithm of government debt-service costs, and LGOVS represents the logarithm of the size of government.

1.6 ETHICAL CONSIDERATIONS

The data used in the study is obtained from secondary sources and are in the public domain; therefore, certain ethical consideration is not necessary. All necessary ethical guidelines, as stipulated by North-West University, will be adhered to throughout the study.

1.7 CHAPTER CLASSIFICATION

The study will comprise of the following chapters:

Chapter 1: Introduction and background to the study

This chapter introduced the study background surrounding the topic. It provides an outline of the study comprising of the problem statement, the various objectives, the significance, and scope of the study.

Chapter 2: Literature review

This chapter evaluates and reviews the existing theory and literature specific to this study, providing a detailed and theoretical overview of the developmental and welfare state as well as the existing relationships and interactions between economic growth, government spending, corruption perception, government effectiveness, and government debt in South Africa.

Chapter 3: Trend analysis and case studies

This chapter will conduct a trend analysis based on the mentioned variables within the period of study in light of the set objectives. South Africa's spending priorities and policies will be presented. This chapter aims to provide a status quo in the country as well as past trends. Furthermore, the chapter will link government spending to the National Development Plan (NDP), and other growth-focused policies that existed previously in the country. Various case studies concerning the developmental state growth model will be presented as a means to compare and contrast these cases with that of South Africa.

Chapter 4: Research design and methodology

This chapter will explain in the sample period, the data being used, the source of the data, and the various models used in achieving the empirical objectives of the study. The chapter also elaborates on the design and philosophical paradigm of the study.

Chapter 5: Results and findings

This chapter will present the findings and results of the study and provide a discussion on the empirical analysis of the study following fundamental theories and relevant recent literature.

Chapter 6: Conclusions and recommendations

Lastly, this chapter comprises a summary of the study, and it will conclude on major findings and provide relevant recommendations, observations, ideas, and proposals for future research.

CHAPTER 2

REVIEW OF THEORY AND EMPIRICAL LITERATURE

2.1 INTRODUCTION

Government intervention is a crucial pillar for economic development, therefore how the government intervenes and prioritises spending in a country can have both short and long term impacts (Weimer & Vining, 2017:1). Intervention and spending can induce long-lasting positive effects on an economy; however, it can also have long-lasting adverse effects. Scholars as far back as Adam Smith (1776) and John Maynard Keynes (1936) have theorised the importance and role of government in the prosperity of an economy. The government may take on many roles, however, one of governments chief roles throughout history has been to ensure economic fairness by taking actions to reduce poverty and inequality, usually through ensuring equal opportunities and providing social welfare to those in need (Razavi, 2016:26). The government can carry out such tasks through regulation, taxation, and subsidisation (Pigou, 2017:34). More recently, interest has been paid not only to the role of the government but factors that may affect the government in fulfilling its role successfully. Factors such as corruption, the size of government, and the effectiveness with which government carries out tasks can be quantified as a means to better understand this phenomenon.

This chapter presents a review of literature as a means to provide definitions, theories, and approaches; as well as an assessment of empirical studies on government intervention and economic growth in developed nations, developing nations, sub-Saharan Africa, and more specifically, South Africa. Herein, major modern interventionist theory and practice will be conceptualised, and key characteristics and perspectives identified. In doing so, the chapter aims to assess literature on the type of government and intervention theory in order to better understand intervention and spending within the country. The quantification of the extent to which intervention and spending impact economic growth in South Africa, remains crucial as the country aims for sustainable, inclusive growth.

2.2 GOVERNMENT INTERVENTION AND ECONOMIC GROWTH

2.2.1 Definitions and concepts

The relationship between government and economic growth has long been the subject of debate both at theoretical and empirical levels. Government is defined as the group of people that govern the community by creating and implementing public policy, as well as exercising political and executive power through various institutions and laws (Sidney, 2017:105). Thus, the government is responsible for creating public policy for the entire society and is often referred to as the ‘steering mechanism’ (Vedung, 2017:19). Before assessing the relationship between government and

economic growth, it is essential to outline the function and general objectives of government. The government's chief function is to provide a stable environment conducive for economic growth through the implementation of various economic policies and regulations (Stiglitz,1997:14). Acocella (2009:101) defines economic policy as all actions taken by the government to influence economic outcomes. Economic policy varies from country to country, as each has a unique political and socio-economic climate to contend with (Anderson, 2014:23). For example, South Africa suffers from high unemployment, poverty, and inequality and therefore has policies specific to these issues to rectify them. Whereas, a developed nation, such as the United States, draws more focus to mounting debt levels considered to be a high risk for future economic conditions (Campbell, 2009:1). Even though economists and policy-makers can agree upon pressing issues that call for intervention, strong disagreements exist concerning how these issues are dealt with (Gadinabokao & Daw, 2013:237).

Various types of policy may be implemented as an instrument to achieve economic goals, such as monetary, fiscal, labour regulation, international trade regulation, and exchange rate policy; all of which have the purpose of improving economic growth and development (Mellet, 2012:15). Fiscal policy is especially important as it outlines the annual budget and tax composition to corroborate proposed economic policy. It is used to compensate for gaps in the economy, such as unemployment and inequality and therefore, can stimulate economic growth through focused spending (Patrick, 1996:176). Focused spending refers to an increase in spending on specific areas thought to best suit the country's developmental goals such as education, capital investment, and research and development. However, an increase in spending in order to meet policy objectives, usually leads to higher taxation or an increase in external debt as a result of borrowing.

The way in which government finances spending was first addressed by David Ricardo (1817) in his book *Principles of Political Economy and Taxation,* where he argued that the method of financing government expenditure should make no difference. This was based on the notion that whether the government increased taxes or borrowing it would ultimately result in a tax increase. Therefore, tax finance is considered to be equivalent to debt finance (Black, Calitz & Steenekamp, 2015:397). This concept is known as 'Ricardian equivalence' and set the earliest basis of government debt and borrowing literature. However, the modern angle, held by many, suggests that high external debt may have detrimental economic impacts, as it might lead to reduced investment and economic growth due to increased investor uncertainty and compounded interest rates (Oks & Wijnbergen, 1995:158; Serven, 1997).

Following the global financial crisis of 2008/2009, new challenges were realised by many countries due to economic recession, bringing to question the validity of common views held on the role of government in both developed and developing countries. Before the crisis, the prevailing thought among policy experts was that lower levels of debt and smaller budget deficits were best for quality economic outcomes (Black, Calitz & Steenekamp, 2015:5). However, this view was challenged once

government institutions required supplementary funding for the sake of economic stability and increased gross domestic product (GDP). According to Chappatta (2018), global debt (post-financial crisis) rose to an estimated $250 trillion from around $170 trillion in 2008. Resulting in an increased debt-to-GDP ratio which is used to measure the state of an economy's wellbeing, it is calculated as the government's total debt as a percentage of the country's GDP; emerging markets have shown the highest increase in the debt-to-GDP averaging around 110 percent (OECD, 2019).

Nevertheless, there is a need for increased spending, as the government has the responsibility of fulfilling its role as an interventionist, in order to uphold fundamental human rights and provide necessary infrastructure for economic growth. Stiglitz (2004:13) outlines six crucial roles of government to achieve rapid economic growth as promoting education, promoting technology, supporting the financial sector, investing in infrastructure, preventing environmental degradation and creating and maintaining a social safety net. Although Stiglitz outlines essential areas for intervention, each country's budgetary constraints and compositions vary, owing to diverse macroeconomic objectives and socio-economic challenges (Blöchliger & Charbit, 2008:1). Consequently, spending is prioritised differently among regions and the productivity of spending can be linked to government effectiveness. Government effectiveness is paramount, as it determines the quality of service delivery, civil service, policy implementation and overall credibility of economic policy (World Bank, 2019). In order for the government to be considered effective, it needs to have the ability to absorb resources effectively and utilising them according to societal needs and act in the best interest of the country in general (Kim, Wu & Lin, 2018:205). Measuring whether or not a country has good governance poses a significant challenge, as a multitude of indicators may be used such as institutional capacity, quality of bureaucracy, law and order, corruption, and political underpinnings (Agnafors, 2013:441).

North (1991:97) asserts that institutions play a significant role in the effectiveness of government as they determine economic conditions in the form of regulations and laws, created to provide a structure where economic, social, and political interaction takes place. Institutional capacity can, therefore, play a role in determining factors such as corruption, industrial policy, property rights, and tariffs. Countries with stronger institutions achieve higher economic growth by creating an environment that facilitates private sector growth, reduces poverty, delivers valuable services, and earns the confidence of their citizens (World Bank, 2018). The institutional capacity of a country is considered a significant determinant of government effectiveness and consequently, economic growth and development. This is true as Haas and Jones (2017) link strong institutions to increased economic development through rapid urbanisation and increased investor confidence. Therefore, institutions underpin development in any economy, and a lack of institutional capacity and failure to uphold property rights and other regulations, will not generate sustained growth and development at the desired pace (Harriss-White, 2017:1729).

Developing nations may be defined using many variables; however, they are usually characterised by low per capita income, high population growth rates, high levels of unemployment, and high reliance on the primary sector and exports of primary commodities (Kumar, Kumar & Vivekadhish, 2016:1). According to Kenny (2017), developing nations have weaker institutions by comparison to developed nations; this has been linked to corruption and weak governance within developing nations. North (1991) describes the need for institutions to continually evolve and adapt to change in order to facilitate development; therefore, it can be inferred that lack of innovation and adaptability in government may have negative consequences. However, numerous factors may contribute to a less effective government such as political pressure, financial mismanagement, high levels of corruption, misinformation, and the misalignment of policy amongst spheres of government (Khoza & Adam, 2007:209). Several developing countries lack government cohesion, as the national, provincial, and local government tends to function independently of one another, causing vast differences in policy implementation and resulting outcomes (Turok, 2014:498).

Autonomy is another vital concept relating to economic success, and if a government/bureaucracy is autonomous, it can separate itself from special interest groups. This independence ensures that the state makes decisions based on the best interests of society alone, and not as a means to benefit selected groups (Evans, 1971:681). In many developing countries, government lacks autonomy, leading to poor decision-making as the State succumbs to forces such as political pressure and clan-based thinking. Clan-based thinking refers to an instance where those employed to hold positions within an institution, are chosen solely on their affiliation to the employer; this affiliation could be based on family, tribe, or political attachment (Lewis, 2002:573). According to Mwambazi (2015), majority of sub-Saharan Africa are guilty of clan-based thinking, subsequently hindering economic growth and development. Mashimbye (2018) attributes soaring unemployment rates and slow growth in developing countries to the prominence of nepotism and bribery, this type of corruption reduces available funding for key sectors such as healthcare and education resulting in less job creation and fewer economic opportunities.

Conventionally, economic growth means achieving a larger economy, by producing more goods and services on the one side of the national account (GDP), and a more considerable total income on the other side known as Gross National Income (GNI). Growth is achieved by increasing the productivity of a country by making use of available human and physical resources in the most efficient manner possible (Asiedu, 2002:109). Growth accounts for several elements such as savings that finance investment, human capital investment, technology advancement, and policy application (Mellet, 2012:16). However, economic growth can occur without touching problems such as inequality or poverty, when a large sum of the increase in income goes to relatively few people. Therefore, an increase in a regions capacity to produce more goods and services does not necessarily lead to an improvement in living standards for all. This is true as growth is not always considered inclusive, and does not by default contribute to poverty reduction and job provision, as

these socio-economic challenges are not targeted directly (Peet & Hartwick, 2015:164). Henceforth, it is worthwhile to note that economic growth does not necessarily lead to economic development.

2.3 THEORIES OF GOVERNMENT INTERVENTION

Two early schools of thought exist regarding the impact of the public sector (government) on economic growth. The first school of thought argues that the growth of government and its involvement in the economy is disruptive to the private sector and the natural distribution of resources (Altunc & Aydin, 2013:67). Therefore, it is argued that an increase in government size leads to a decline in productivity and therefore, a decline in economic growth. By contrast, the second school of thought argues for a government that plays a major role in the economy in order to distribute physical and human capital, as a precondition for economic growth and development. Contemporary economic theory, however, is multifaceted as governments' role in the economy is discussed and analysed using a variety of theoretical underpinnings and assumptions.

2.3.1 Classical theory of government intervention

Adam Smith (1776) in his famous 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations,* is recognised as one of the first to question and discuss the role of government and institutions in an economy. Much of Smith's (1776) argument relates to the fact that a market which is free to behave with minimal interference, is the most useful method of achieving economic growth and prosperity, this became the basis of classical economics (Landau, 1986:34). Arrow and Debreu (1954) support Smith's theory as they demonstrated that an entirely free-market economy could maximise the welfare of its participants. However, they found that this was only possible under rigid conditions.

Smith (1776) asserts that government should play a limited role in the economy and only provide essential services such as education, infrastructure, and justice; as a means to encourage a free market and benefit the whole society. Therefore, intervention should benefit all of society and not only a small portion, as Smith (1776) argues it would be unjust for the expense/burden to be carried by all, whilst revenue spent is confined to a small portion of society. However, in modern society, the government performs functions beyond those identified by Smith, with the increased need for wealth redistribution as a means to stabilise economic growth and socioeconomic conditions (Namini, 2015:1).

Smith's concept of the *invisible hand* refers to how an economic system naturally organises itself, through the assumption that each human being acts out of self-interest (Witt, 1997:491). Therefore, the driving force behind all economic productivity was thought to stem from this principle of self-interest, where individuals are free to act resulting in a stable and ordered market (Kishtainy *et al.,* 2012:56). The *invisible hand* set was the basis of *laissez-faire* economic policy. *Laissez-faire,* translating to 'let do' in French, which advocates for a system where government refrains from

directing the market through regulations such as tariffs and subsidies (Robbins, 1978). It is theorised that the *laissez-faire* approach will ensure the highest level of economic prosperity. However, in modern economics market failures/imperfections persist, leading to an increased need for government intervention as a measure to direct markets towards a sustainable path (Stiglitz, 2004:5).

Smith also expressed strong disagreement with monopoly and mercantilism as he believed they would lead to a less efficient allocation of resources and the economy's ability to generate wealth. This means that profit-seeking individuals and firms would not develop and operate efficiently, ultimately leading to them becoming a state monopoly (Namini, 2015:3). Essentially, the states' sole purpose, in this theory, is to provide a framework that protects and promotes peace through economic and social order as a means to enable individuals in pursuing their objectives.

2.3.2 Keynesian theory of government intervention

John Maynard Keynes in his 1936 writing *The General Theory of Employment, Interest, and Prices*, set out his approach to macroeconomics and the vital role of the state in the economy. The Keynesian theory distinguishes itself from Classical theory as it argues the need for fiscal policy to achieve economic growth (Markwell, 2006:25). This theory was developed in the time of the Great Depression, where he attempted to better understand the nature and causes of economic challenges, one of them being unemployment. Keynes (1936) claimed governments should increase spending so that overall demand for products would rise. Therefore, encouraging firms to hire more workers, and as prices increase, real wages would fall, returning the economy to full employment. Therefore, disagreeing with classical theory, in arguing markets will not self-adjust and as a result, intensify economic flaws.

According to the Keynesian theory, it does not matter how the government spends more in the economy, as long as there is a demand injection the economy would improve. This concept became known as the 'Keynesian multiplier,' where government spending boosts the economy by more than what is spent. Therefore, the thought was that each dollar spent would result in growth exceeding one dollar. Marx supported this theory, from a moral standpoint, as he asserts government has an obligation to tend to the needs of the working class and protect the poor against capitalist exploitation (Goodwin, 2007:18). However, some economists disagreed with the principle, as it would lead to increased taxation or debt to finance this increased spending.

Following World War II in 1745, a Keynesian consensus ensued among policy-makers, leading to increased government intervention, through increased government spending, taxation, and borrowing (Hirst, Thompson & Bromley, 2015). As governments committed to improving the welfare of their citizens, the prevailing view was that the best way to fulfil these commitments was through increased government spending and regulation. Two essential devices exist in Keynesian

economics to stimulate the economy, namely fiscal policy and monetary policy; both of which can be used to regulate the market and maximise social wellbeing. However, new classical economists have argued against Keynesian policies of increased government spending as a measure to stimulate demand, on the belief that consumers will anticipate increased spending during a recession and would not respond irrationally to the increased money in the system (Nordhaus & Tobin, 1973; Barro, 1974; Posner, 2009).

Additionally, Keynes outlined the importance of the composition of government spending for economic growth and policy; however, the composition was not broken down in detail by category. He distinguished two broad types of spending as either investment/capital spending or current/consumption spending (Smithin, 1989:209). Investment spending is characterised by any spending on industry or infrastructure development, whereas consumption spending is characterised by funds spent on providing goods and services to the community to fulfil needs such as healthcare, education, and social grants. Keynes advocated for government policy that favoured investment spending over consumption spending. Therefore, the modern Keynesian perspective is one that holds the view that government can stabilise the economy through increased investment spending and countercyclical fiscal policy. Countercyclical fiscal policy refers to a type of strategy used by the government where one of two actions can be taken as a response either to economic boom or recession. In the event of a recession, government would take measures to generate demand by adjusting spending and taxation policies. In the event of an economic upswing, inflation and debt are at risk of increasing substantially; therefore, government would increase taxes and lower their expenditure as a means to stabilise economic conditions (Jose, 2017).

This type of government policy aims to have a budget including both capital and current spending and to have a surplus in the capital budget which would be used for public investment and financed through high taxes (Kregel, 1993:431). The financing of investment through tax is commonly referred to as ‘socialisation of investment’ (Smithin, 1989:211), where the government would take control of the majority of investment and aim to create an environment that would encourage private investment. Therefore, in the long-run investment would increase productivity and enable capital accumulation (public savings). A number of economists do not agree with the financing of government spending through taxation, as it has been argued that the state can print more money instead (Barro & Gordon, 1983; Wray, 1998; O’connor, 2017). Another concern with the policy of increased public investment, is that it may lead to a larger budget deficit, which, to some, is considered unfavourable (Moudud & Botchway, 2008:23).

2.3.3 Modern perspectives on the purpose of government intervention

In modern economics, government intervention is perceived as a necessary measure to ensure growth, development, and increased levels of employment (Fine, 2018). The main point of the discussion focuses on the amount and type of government intervention needed to ensure a

prosperous economy, rather than whether intervention should take place or not. According to Hill and Varone (2014:7), the long-run actions of government are usually guided by the policies adopted which contain specific goals and strategies to achieve desired outcomes. Therefore, the state intervenes in order to improve welfare conditions, stimulate economic growth, close informational gaps, and correct market failure all to improve society as a whole. However, the state is not entirely effective in achieving economic objectives due to the complex nature of various socioeconomic challenges and the struggle for balanced intervention (Stiglitz, 2004:3).

Main perspectives on the role of government relate to two broad political views, namely the liberal perspective or the Marxist perspective. The liberal view strongly leans towards a free market, as the actions of government are seen as inadequate. Liberals argue that government over-regulate the economy, which results in inequity and many other adverse consequences (Cohn, 2016). However, modern liberals (social democrats) do support the intervention of government when it comes to the provision of social welfare and the promotion of equality. Whereas, Marxists argue the increase in social welfare interferes with the natural balance of the economy in the long-run leading to a higher degree of socialism (Schumpeter, 2017). Nonetheless, governments tend to follow a more liberal approach in order to ensure socioeconomic issues are dealt with directly and fundamental human rights are fulfilled.

In order to determine the type of intervention within a country, the fiscal policy is an excellent place to start. A country's fiscal policy is a good indication of the level and type of economic intervention as it concerns the government's budget. The policy is used to break down total spending into categories, where specific areas are highlighted as a priority, usually resulting in increased spending (Weimer & Vining, 2017). In developing countries, there tends to be a stronger focus on fulfilling basic human rights through the provision of quality healthcare, education and social safety nets (Hopkins, 2017:97). Whereas, developed countries focus spending more on technology, infrastructure, and investment. The International Monetary Fund (IMF, 2019) propose governments increase total spending in order to stimulate the economy and achieve higher levels of development. Therefore, majority of modern economies follow Keynesian principles of increased spending for increased growth, and it is viewed as a necessary measure to combat economic downturns and encourage sustainable growth.

A common way governments intervene is in the market as a way of correcting market failures (Stiglitz, 1998:199). The four basic types of market failure include: the inefficiency of public goods allocation, the existence of monopolies, the inequitable distribution of income, and negative externalities (Atkinson & Stiglitz, 2015:214). A market is said to fail when it no longer adjusts by itself in order to generate positive externalities, and government might step in to correct the negative externality. The government does so by implementing regulatory policy, taxation, subsidisation and creating new laws that govern specific industries and markets. When government intervenes in the

market it is usually to produce the best outcome for society. However, this is not always the case; government may fail in correcting a market and instead exacerbate the market failure, resulting in society becoming worse off. The most common example of market failure is the exploitation of scarce resources and pollution, considered to be negative externalities as they do not generate the most efficient outcome for society. According to Stiglitz (2001:197), less developed countries have a higher incidence of market failure than developed countries and have shown their efforts are less effective in correcting these failures.

A market producing negative externalities may be taxed by the government, so that the behaviour responsible for the externality may be curbed (Okun, 2015). For instance, a firm which produces a product in a defective manner causing the environment or society harm, taxes may be imposed to reduce this type of negative behaviour. For example, the South African government enforced a levy on plastic shopping bags in 2004 to reduce consumption, however the taxes collected from this was not used towards improved plastic recycling, but instead was used as part of general revenue and did little to reduce plastic bag consumption (Hasson, Leiman & Visser, 2007:73). This is an example of government failure where policy decision fails to change the behaviour of consumers, and the outcomes remain the same.

Although contemporary economics holds the view that intervention is necessary for improved economic performance, this view is not held by all. In some cases, it has been found that more substantial government control tasked with development as a priority, has only led to increased rent-seeking behaviour and bureaucracies with an appetite for corruption (Moudud & Botchway, 2008:6). Thus, bringing to question what the optimal size of government should be for optimal development and growth, where some hold the view that a smaller government which promotes the private sector is the best option for equitable wealth distribution and improved development. Nevertheless, governments continue to intervene in order to promote sustainable development and achieve economic goals such as poverty reduction, income equality, and higher levels of employment. Table 2.1 provides a summary of the above discussed economic theories relating to government intervention.

Table 2.1: Summary of the main theories of government intervention

Theory	The main contributor(s)	Primary ideas
Classical theory	Smith (1776)	The government should play a small and limited role in society, and should only provide essential services that fulfil basic human needs (such as education and infrastructure) and promote peace through social order. Authorities should limit the tax burden on society and provide goods and services for the entire society, and not only a small portion.

Theory	The main contributor(s)	Primary ideas
		The economy will self-adjust based on the principle of *laissez-faire.*
Keynesian theory	Keynes (1936)	Fiscal policy is essential for preferred economic conditions. The government should increase spending as it will boost the economy by more than what is spent; this is referred to as the 'Keynesian multiplier.' Advocates for government policy that focuses more on investment spending and less on consumption spending. Outlines the need for government intervention as a means to ensure increased productivity and capital accumulation.
Modern theory and perspectives	Stiglitz (1989;1993; 1997; 2001; 2004) Schumpeter (2017)	Modern theory strongly notes the importance of government intervention for improved economic performance. Intervention is viewed as more complex than the amount of total spending by the government and takes on various forms such as the correction of negative externalities as a means to generate more productive and beneficial outcomes for society. In order to achieve set economic objectives, the government creates and implements various strategies and frameworks following the set objectives. This includes the creation and implementation of new laws and policies, subsidization of infant/struggling industries, taxation of sectors producing negative externalities and practices that increase social welfare of citizens. Thus, modern theory strongly advocates for government intervention.

Source: Compiled by author

2.4 ECONOMIC GROWTH THEORIES

Economic growth is the focal point of economic research, as it has the capability of improving overall conditions within a country as well as the lives of individuals (Porter & Kramer, 2019:323). When an economy is growing, it has the ability to reduce poverty, inequality, unemployment, and generate investment. Smith (1776) was one of the first to pose the question of what makes an economy successful, and described economic growth as an endogenous process, therefore having an internal origin. From this perspective, Smith (1776) postulated the occurrence through a simple supply-side model, which may be written as follows:

$$Y = f(L, K, T) \quad (2.1)$$

Where Y indicates total output, L indicates labour, K indicates capital, and T indicates land. Therefore, Smith (1904:69) stated that total output/growth relates to capital, labour, and land as well as increased productivity, investment, and population. He also stated that growth is self-boosting due to increasing returns to scale, and the growth rate depends on the decisions and behaviour of agents. Smith's main argument, however, relates to specialisation and the division of labour, as this was thought to be the precondition for improved economic growth. Later, Ricardo (1817) improved upon Smith's model by adding diminishing returns to land, as he argued land could not be created as growth increases. The other factors considered in Smith's model may increase, such as labor and capital whereas land is finite and limited in supply. Additionally, Ricardo underscored two other factors that would impact growth, namely increased wage demands as profits rise and the increased rent charged to landowners. According to Ricardo, this would reduce profits and, in turn, reduce economic growth. The above theories were of the earliest contributions to economic growth theory and laid the foundation for further research. However, more recent theories such as neoclassical growth theory, endogenous growth theory, and determinants of growth will be discussed in depth; as the economic analysis of the study is based on these theoretical underpinnings.

2.4.1 Neoclassical economic growth theory

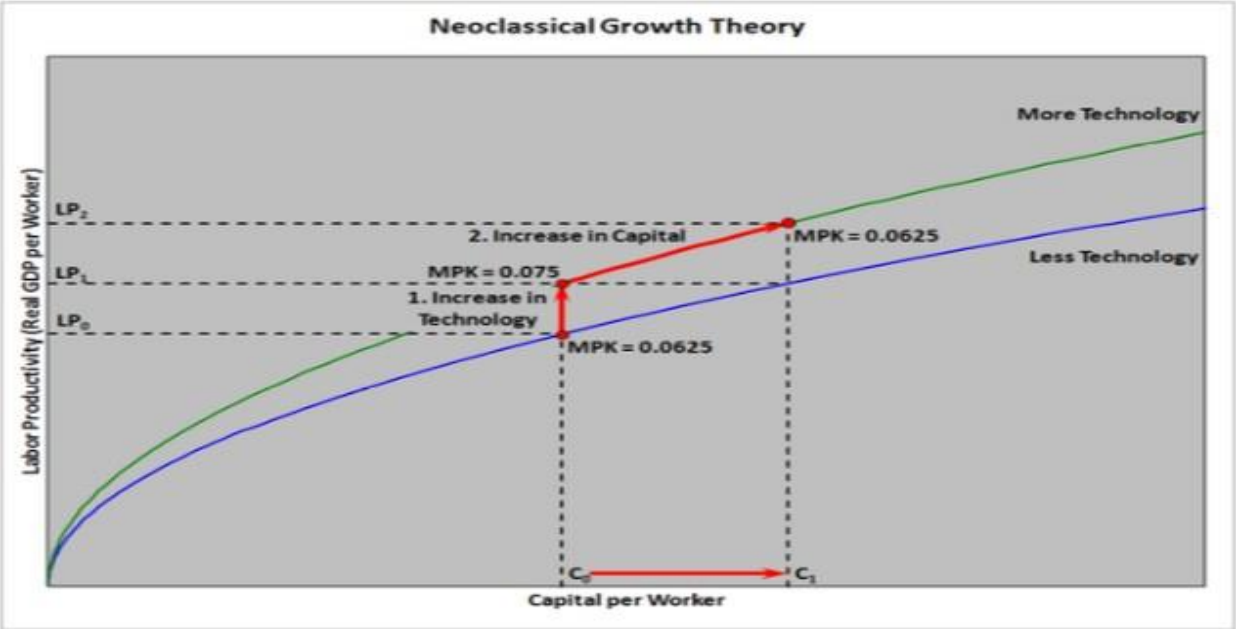
In the 1950s, American economist Robert Solow formulated an economic model of growth that predicted an equalisation of living standards across the world (Kishtainy *et al.,* 2012:224). Linked to both Solow (1956) and Swan (1956), the Solow model (as it became known) was based on the assumption that capital has diminishing returns, as each increase in investment would generate less and less output. This is known as the 'steady state,' and will only move out of equilibrium once technological improvements are made allowing more efficient production with fewer resources. The model also stipulates that countries that are not as advanced as others will experience higher growth rates with the same amount of capital as advanced economies. Therefore, converging closer to the living standards of the advanced economies through higher growth. However, DeLong (1988) found very little evidence to substantiate the prediction of convergence in the Solow model.

Figure 2.1 below demonstrates how an increase in technology can generate increased long-term growth. Solow (1956) assumed that this growth occurred exogenously and is therefore reliant on external factors. As an economy has scarce resources, technology is seen as the only resource that is infinite in its contribution to economic growth. In addition to technology, labour and capital are also assumed to be necessary for economic growth. Therefore, the exogenous model for long-run growth can be written as follows:

$$Y = f(K, AL) \quad (2.2)$$

Where Y represents output/GDP, K represents a country's share of capital, L describes the amount of labour, and A represents the level of technology. Due to the relationship between technology and labour, often the function is written in the above form.

Figure 2.1: Neoclassical growth theory



Source: Stein (1969:154)

The neoclassical theory has a strong focus on the level of capital and technology and the resulting impact on growth in both developed and developing countries. Although capital and technology are fundamental for growth, additional factors are considered, especially when taking developing nations into account. Developing nations do not have the same infrastructure and financial resources as developed nations, making the positive effects of capital and technology accumulation less apparent.

2.4.2 Endogenous economic growth theory

The neoclassical growth theory strongly influenced economic thinking for almost three decades, as it seemed to give a proper explanation of economic occurrences during the 1950s up until the early 1980s. However, in the 1980s, researchers begun to question the validity of the theory as the model omits factors that explain long-run growth and modifications were made (Bergh & Henrekson, 2011:3). Neoclassical growth theory linked long-term growth to technology; however, it did little to explain the determinants of technological progress. The solution to this problem in neoclassical growth theory was to improve the function to allow for self-sustaining endogenous growth. The endogenous growth theory, therefore, studies the determinants of technological progress (Truu & Contagion, 1996:198).

Endogenous growth theory was first introduced by Romer (1986) and Lucas (1988), and as the name suggests, puts forward the suggestion that growth is primarily the result of internal factors such as

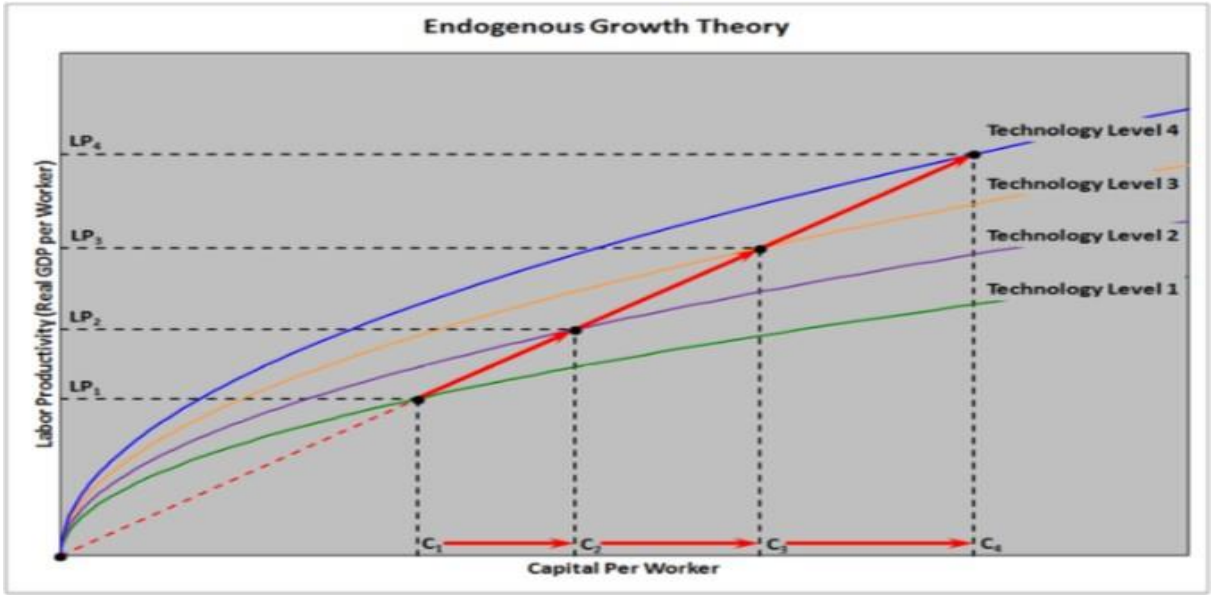
innovation. The theory claims that investment in human capital, knowledge, and innovation make a significant contribution to economic growth, and technological progress cannot be made without an intentional investment in technology (Grossman & Helpman, 1991; Stokey, 1995). The production function may be written as follows:

$$Y = AK \ldots\ldots (2.3)$$

Where A represents technological progress, and K represents both human and physical capital.

Figure 2.2 demonstrates the endogenous growth theory and how the model relies on constant returns to scale; therefore, an increase in input will result in an increased output (Dornbusch, Fischer & Startz, 1998:82). Therefore, the long-run growth rate will be determined by the growth rate of total factor productivity (TFP). In order for TFP to increase, innovation would need to increase.

Figure 2.2: Endogenous growth theory



Source: Dornbusch *et al.* (1998)

Figure 2.2 demonstrates that for each increased level of technology, there will be an increase in labour productivity and therefore an increase in economic growth, this is true when there is an increase of investment in human resources. In the long-run, investment in human capital through increased subsidisation and incentives would lead to spill-over effects within the economy resulting in higher economic growth. Therefore, the theory holds that increased economic growth may be determined by the amount of investment in human capital, leading to increased knowledge and innovation.

2.4.3 Determinants of economic growth

Numerous studies exist which have analysed a variety of fundamental factors that impact economic performance (Easterly & Wetzel, 1989; Barro, 1990; Sala-i-Martin, 1997). Each study has made use of varying methodological frameworks as well as unique explanatory variables as a means to improve the understanding of how different factors impact economic growth and performance.

Human capital accumulation has been the central point for most endogenous growth theories as a determinant of economic growth. Human capital translates to the level of skill, knowledge, and innovation held by an individual or population. Therefore, an increase in human capital investment through subsidised education and skills development will lead to improved growth conditions. Economists such as Barro (1990) have provided empirical evidence supporting the notion that an educated population is a significant determinant for growth. By contrast, Benhabib and Spiegel (1994:166) found no significant relationship between human capital and growth and only found found a significant relationship when human capital is regressed as part of total factor productivity.

Investment as a determinant of growth exists both in neoclassical and endogenous growth theory and is considered essential for growth and development. A vast amount of empirical studies examines this relationship, and there is a strong consensus that investment is critical for increased productivity (Galenson & Leibenstein, 1995; Levine, 1997; Van den Berg, 2016). Researchers distinguish between domestic and foreign direct investment, although domestic investment contributes largely to growth, foreign direct investment increases total domestic investment by more than one to one (Borensztein, De Gregorio & Lee, 1995:7). Developing countries open to trade and reform have realised higher investment rates than those with higher restrictions and, as a result, have shown improved growth and productivity (Kariuki, 2015:346).

Geography is considered integral for growth; the effects of geography on growth in the long-run is multifaceted. This is true as it has an impact on the mobility of factors of production, the production of food, health, and the growth of a population (Bloch & Tang, 2004:248). For example, countries with a tropical climate are more inclined to suffer from climate-related diseases such as malaria and climate-related agricultural issues such as drought. Additionally, countries that do not have a coastal border have limited access to ports and incur higher transport costs, making trade more difficult and costly. The increased costs of trade may contribute to lower levels of economic growth and less export-led growth.

A country's openness to trade contributes significantly to long-run growth, as proved by numerous empirical studies (Barro & Sala-i-Martin, 1995; Edwards, 1998; Frankel & Romer, 1999). Trade can improve per capita income as well as boosting efficiency due to increasing economies of scale and allowing for technology transfer. Export-led growth was prominent in the East Asian growth model, where trade was encouraged and subsidised, leading to improved living standards and staggering

growth rates (Bloch & Tang, 2004:250). Although trade is regarded as necessary for growth, economists such as Rodrik (2002) regard quality institutions as a more significant determinant for growth. Institutions exist to enforce private property rights, manage conflict, provide social insurance, steer macroeconomic policy towards stability, and regulate markets (Rodrik, 2002). All other determinants of growth, such as physical capital, human capital, and investment, are directly influenced by institutions, therefore having a strong influence on growth and development. It has been argued that if quality institutions did not exist, economic performance would be weaker due to a less stable environment for sustained growth (Stiglingh, 2015:18).

Innovation and research development contributes significantly to economic growth, as it improves productivity and efficiency. This is true as it leads to improved technology resulting in more efficient and innovative and advanced production processes. Theories of endogenous growth link innovation and research development to growth, and the relationship has been proved empirically by many studies (Furman, Porter & Stern, 2002:903). It is worthwhile to mention that a variety of factors exist which are also considered to be economic determinants, having discussed the key determinants of economic growth. Table 2.2 below provides a summary of the economic growth theories as discussed above.

Table 2.2: Summary of economic growth theories

Theory	The main contributor(s)	Primary ideas
Classical theory	Smith (1776) Ricardo (1817)	Economic growth is an endogenous process. Output can be determined using total labour, capital, and land. Economic growth is self-reinforcing. Increasing returns to scale and diminishing returns to scale were vaguely introduced.
Neoclassical growth theory	Solow (1956) Swan (1956)	Emphasized capital has diminishing returns, as each increase in investment would generate less total output in the long-run. Linked technological innovation and increased capital investment to improved productive efficiency (increase economic output)

Theory	The main contributor(s)	Primary ideas
Endogenous growth theory	Romer (1986) Lucas(1988)	Theorises economic growth is the product of internal factors such as innovation and technology. Technological progress and the total productivity of all factors of production (particularly human capital) determine economic growth.
Determinants of growth	Barro (1996)	Brought forward empirical evidence to examine the impact of various factors on economic growth in isolation. Factors including: capital accumulation, investment, openness to trade, research development, and geography.

Source: Own compilation

This section of the study reviewed pertinent theories of economic growth as well as various significant factors that determine economic growth. The next section will discuss different types of economic/government intervention used to direct economic growth and development in modern economics.

2.5 ECONOMIC INTERVENTIONISM

Universally government is seen as a necessary institution, even in minimal intervention regimes, where the responsibility lies with the government to provide goods and services. Different approaches are needed to fulfil these and various other obligations, as each state operates and serves a unique set of political and socioeconomic circumstances. This underscores the importance that some form of government/economic interventionism is needed to foster a healthy economy and promote fundamental human rights. However, there is a strong need for balanced intervention as the social welfare of citizens and the economic development in a country are, or should be, of equal importance (Hwedi, 2013:21).

Another key point of interest is concerned with the political climate in a country, as this has a secure link to the actions and policies followed through by government (Chang, 2010:5). According to Rodrik (1991), political instability leads to policy uncertainty and in turn, generates increased opportunity for corruption. The existence of corruption, low democracy, and political uncertainty signals an inefficient government resulting in reduced economic performance and growth stagnation (Rose-Ackerman & Palifka, 2016).

Heywood (2007:99) distinguishes between five interventionist roles that a democratic state can play, namely: minimal, developmental, social welfare, collectivised, and totalitarian. Although there are a variety of roles, the state may assume, the research will be narrowed down to developmental and social welfare as these occur most commonly in modern democratic economies (Heywood, 2007). Each type of intervention has unique characteristics for success and differing priorities for economic growth and development. This is true, as policy-makers and government institutions are challenged with finding strategies that simultaneously reduce inequality and promote economic growth (Kvist, 2015:2).

2.5.1 Developmental state approach

The term developmental state refers to an approach taken by a select group of country's, who through strong leading government institutions, managed to achieve record-high sustained economic growth. This type of government intervention has been recognised for its success leading to several developing countries implementing the same principles with the aspiration of becoming a developmental state. South Africa, as stated in the National Development Plan (NDP, 2012), is one of these countries. Woo-Cummings (1999) identified the main component of a developmental state as the states ability to link state guidance and private ownership. Developmental states may suffer from structural corruption and inefficiency; nevertheless, the state continues to play an important role in garnering national competitiveness in global markets (Woo-Cummings, 1999). More recently, Mkandawire (2001:291) defines a developmental state as 'a state whose ideological underpinnings are developmental and seriously attempts to deploy its administrative and political resources to the task of economic development.'

The inception of the 'developmental state' or 'hard state' was in Japan, following World War II, where the country began its economic redevelopment process and achieved unprecedented success. Johnson (1982) is recognised as the first to have conceptualised the developmental state, and brought increased attention to the subject after observing Japan's economic conditions. Johnson attributed Japan's economic success to four main factors being: an elite bureaucracy, a pilot agency, a political system where bureaucracy rules and market conforming intervention (1982:317). The driving force behind Japan's redevelopment was to reach the same levels of growth and competitiveness as European countries, essentially 'catching up' to developed countries.

The Japanese state began by setting social and economic goals for the private sector, therefore moving towards a 'plan-oriented' market economy through strong industrial policy (Leftwich, 1995:404). A major factor in Japan's developmental process was the establishment of state-owned 'model factories' in a variety of sectors, including textiles, mining, and steel. In these selected industries, the government introduced modern technologies where operations were carefully controlled and subsidised (Peet & Hartwick, 2015:75). For example, the Tomioka Silk Mill which was established in 1872 as silk, was one of Japan's biggest exports at the time. The state ensured the

newest available technology was implemented to ultimately spread the technology throughout the country (Ito, 1998:19).

Along with the establishment of these model factories, the state took measures to protect infant industries. This was done by subsidising raw materials used in these industries and discouraging imports of competing products by enforcing tariffs and various regulations. The state also focused on improving infrastructures such as railroads and communications to create an environment conducive for economic growth and development (Ito, 1998:20). Japan's Ministry of International Trade and Industry (MITI) along with the Ministry of Finance became the 'pilot agency,' responsible for the route of development through economic policy, the most important being their industrial policy (Ito, 1998:22). Chibber (2003) refers to the pilot agency as a 'nodal agency,' which is an agency led by state to coordinate activities of ministries in order to ensure national policies are coherent. Therefore, this approach acknowledges the need for partnership between government and business, and cooperation between the two ensures economic activity moves towards higher levels of growth and wealth creation (Meyer & Van Der Elst, 2014:6).

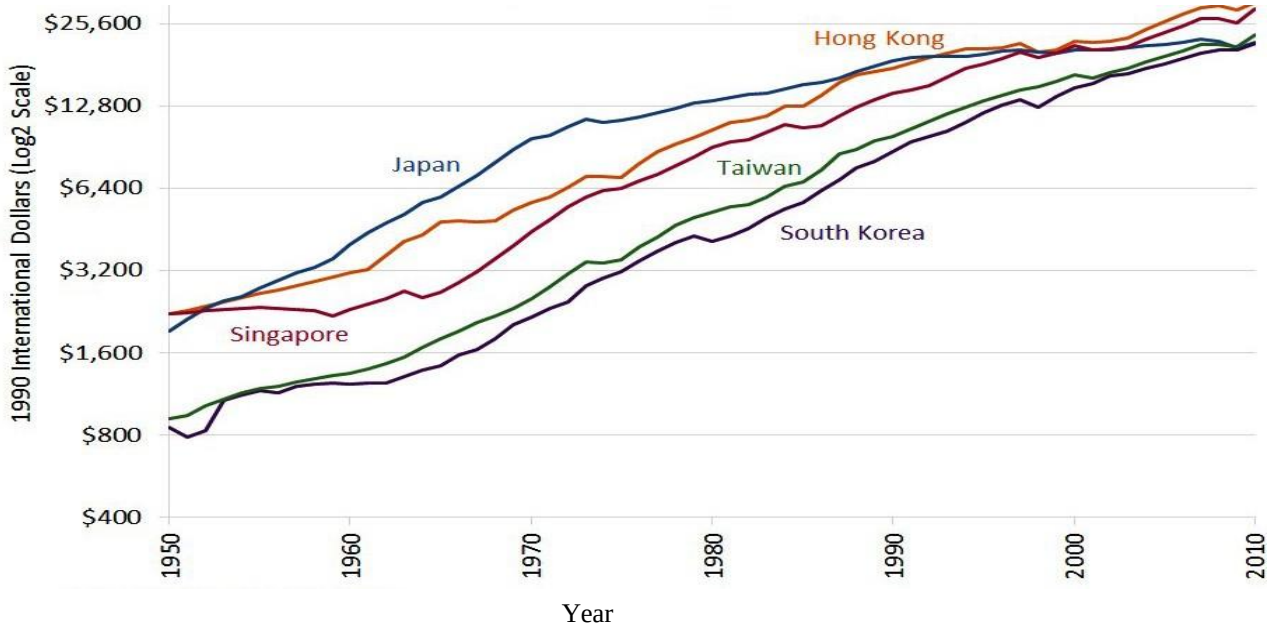
The developmental state approach is primarily linked to East Asia, as a group of countries experienced rapid economic growth and development for a sustained period during the 1960's up until the mid-1990s. Countries that experienced this growth, and later became known as the 'Asian Tigers', were Hong Kong, Singapore, Taiwan, and South Korea. The conventional argument behind the success of the Asian Tigers is linked not only to the industrialisation process but the way in which governments diligently followed principles of the market (Bharadwaj, 2018:33). The approach acknowledges that the market cannot act apart from the state and the politics within the state (Mathebula, 2016:48).

East Asian governments typically gave firms in selected sectors, preferential treatment, and incentives to encourage better performance. Incentives such as increased lines of credit and access to foreign exchange encouraged firms to meet the performance criteria as set by the government (Kishtainy *et al.,* 2012:286). According to Hobday (1995:1171), the government further facilitated exports by building large amenities equipped to handle container ships and other export-related activities. Thus, the Asian Tigers strategically invested in crucial sectors necessary for export-led growth; with very little focus on redistribution of wealth through cash transfers. Investment in key sectors would contribute to improved levels of employment and living standards by fostering skills development and technological innovation.

Figure 2.3 below presents the economic growth rates of Japan, Hong Kong, Taiwan, South Korea, and Singapore over the period 1960 up until 2010. Over the period, economic growth has almost tripled for each country, providing further insight into the success generated through focused intervention and public-private cooperation. These countries have been characterised as having high-quality bureaucracy and autonomy; as well as the ability to allocate resources strategically

(Krieckhaus, 2002:1712). The strategic allocation of resources, particularly financial resources, is essential in the developmental approach as it boosts public savings. Public savings are then used to finance even higher levels of investment and economic growth, usually through human capital formation and industrial policy (Krieckhaus, 2002:1712).

Figure 2.3: Economic Growth: Japan and Asian tigers



Source: Madison Project Data Base (2019)

The economic growth, as illustrated above, is particularly significant, according to Wade (2018:523) as Taiwan, Hong Kong, Singapore, and South Korea all begun with high poverty rates and relatively few natural resources. Wade (2018:523) further states that no other country had achieved sustained growth rates of above 6 percent for over 15 years before Taiwan managed to sustain a growth rate higher than 6 percent for 32 years. Over the period 1965 to 2005, the average income of these East Asian countries more than doubled, indicating that not only was the country showing positive economic growth but also signs of economic development (Wade, 2018:523).

Much of the literature focuses on the strong institutional capacity showcased by the Asian Tigers (Johnson, 1982; Leftwich, 1995; Chang, 2010). This refers to the flat levels of government, ensuring cooperation between central and local government. Increased cooperation allowed the objectives set by central government to be carried out and enforced by local government effectively (Chang, 2010:1). The ability of government authorities to communicate effectively and make quick decisions played an important part in achieving economic success. Decision-making was left to a small and dominant bureaucracy. This concentration of power allows for focused and streamlined intervention

towards a common goal (Burger, 2014:178). Authorities also worked closely with the private sector in order to steer the sector positively, particularly through investment in the form of subsidies and incentives. Wade (2018:527) identifies incentives such as tax rebates for producing particular export products as well as reducing and even discounting import tariffs on particular products deemed necessary to produce export quality products.

Although the developmental intervention approach led to higher rates of economic growth in East Asian countries, one of its biggest criticisms concerns the link between government and selected industries. The strong link between state and selected industries is thought to breed 'crony capitalism,' where partnerships form based on a mutually beneficial relationship (Malik, 2014:1). This relationship ensures protection for selected industries along with an increase in resource allocation, where industries not considered to be as favourable may break down as a result of inefficient resources and lack of government protection (Malik, 2014:1). Therefore, the approach does not consider all industry and runs the risk of hampering those not considered to be essential for growth and development.

2.5.2 Welfare state intervention approach

The welfare state approach is also known as the social-democratic or social investment approach, where the government takes on the role of promoting welfare in areas such as equity, social justice, and fairness for all (Deeming & Smyth, 2015:299). In comparison to the developmental approach, social welfare is a top priority. Almost every modern economy has an element of welfare within their government structure, as fundamental human rights and poverty reduction have become a top priority. One of the earliest contributions to welfare economics was made by Adolph Wagner (1890) who theorised this type of state forms from free-market capitalism as the demand for social services from citizens rises. This is assumed to be a result of growth in general income levels across a country. Musgrave (1959) further developed Wagner's thesis by identifying three key determinants of increased government spending as social activities of government, administrative and protective action, and welfare functions. Rawls (1971) supported the need for welfare as it maximises the well-being of the least well-off person in society, and addresses the issue of distributive justice. Rawls' work made a substantial contribution to the field of economics as he linked justice to 'fairness,' he emphasised the need for equal rights and the sharing of public goods which set the basis for further economic research on the need for equality. According to Rawls (1971), the welfare of an individual may be measured by their access to primary goods necessary to survive, such as water, food, and housing.

A welfare state is based on the principle that a pure market economy will not benefit all in society, leading to imbalances and discrepancies, whereas the developmental approach advocates for a strong market economy. According to Rosen (2004:253), without the intervention of the government to provide certain goods and services, the gap between rich and poor will widen, leading to higher

levels of inequality. The government has a high share in the provision of these individual consumption goods when this approach is taken and is concerned with democratic decision-making. Decision-making involves aspects such as employment, education, housing, social security, and economic prosperity (Greve, 2007:44). Social investment, therefore, allows those considered to be disadvantaged, improved opportunities in employment and skills development (Jenson, 2012:62). In comparison, the developmental approach essentially creates winners and losers and breeds higher levels of capitalism.

Deeming and Smyth (2015:297) differentiate between two strategies of social investment, the first being the Nordic 'heavy' strategy and the second, the Liberal 'light' strategy. The Nordic welfare state model is considered the most extreme and successful example of a welfare state. Nordic countries are characterised by generous welfare systems and fair distribution of wealth, achieved through high levels of redistributionist taxation (Titmuss, 2018). The state provides free healthcare, primary and higher education, housing, and other services to the entire population, which has contributed significantly to socio-economic and macro-economic performance. Proving that high levels of social protection and human capital investment will lead to reduced inequality and enrich future generations of human capital, is particularly evident when considering the high standard of living and sustained growth rates experienced in these countries (Kvist, 2015:141). Nordic countries include Norway, Sweden, Finland, Denmark, and Iceland; all of which enjoy competitive and robust manufacturing industries and small populations relative to Europe (Kananen, 2016). The Global Competitiveness Index conducted by the World Economic Forum (WEF) (2018) ranks all of the Nordic countries in its top 12 with Finland, Sweden, and Denmark taking second, third, and fourth place respectively. The index considers twelve pillars for assessment including infrastructure, institutions, higher education, health, labour market efficiency, market size, innovation, business sophistication, financial market development, technological readiness, good market efficiency, and macroeconomic environment (WEF, 2018).

The Liberal welfare state, according to Esping-Andersen (2013), consists of social transfers that are modest in comparison to those made in the Nordic model. Welfare is provided to all considered to be low-income earners, the approach has a stronger focus on the working class and unemployed. Such welfare regimes are present in Germany, Britain, Canada, and Japan; where all citizens do not receive the same provision from the state, rather only those in need according to fundamental human rights such as housing and food (Spicker, 2013:193).

Esping-Anderson (2013) identifies another type of welfare state as the social-democratic welfare approach. In this approach, the state strives to promote equity and social justice through redistribution of resources. In a country such as South Africa, where historical inequities exist, the state intervenes as a measure to correct these injustices and ensure the economy functions in the fairest manner possible in order to improve the wellbeing of society. Although the main objective in

taking this approach is to promote social justice, the approach regards the free market system as necessary for the generation of wealth (Heywood, 2007:93).

According to Lindert (2004), a country in which social transfers are greater than or equal to 20 percent of Gross Domestic Product (GDP), is considered to be a transfer welfare state. Social transfers include compensation for the unemployed, for pensioners, and sometimes towards early retirement. Although these transfers contribute to the reduction of inequality and improved standards of living, it does not add to the competitiveness and productivity of a nation (Burger, 2014:163). As such, the need for generous welfare may contribute to increased fiscal pressure and increased taxation, especially in nations such as South Africa who suffer from high unemployment.

The Organisation for Economic Collaboration and Development (OECD) (2019) advocates for increased Social Impact Investment (SII) where the main aim of government investment spending should be to improve the socio-economic conditions of the country. According to the OECD (2019), this type of investment spending should "provide new and innovative ways to more efficiently and effectively allocate public and private capital to address social and economic challenges at the global, national, and local levels." Therefore, welfare spending should be done in such a way that promotes improved economic conditions and not just as a measure to reduce social imbalances without increasing productivity and overall competitiveness.

2.6 AN EMPIRICAL REVIEW ON THE RELATIONSHIP BETWEEN GOVERNMENT INTERVENTION AND ECONOMIC GROWTH

In the previous sections of the current chapter, the theoretical background concerning government spending/intervention and economic growth was presented. The collection of this material is necessary for providing the study with a foundation with which to assess relating empirical studies. As discussed above, the government takes part in the economy, with macroeconomic objectives in mind, in order to promote economic efficiency, correct market failure, and reduce negative externalities (Stiglitz, 1993:54). However, government may fail to adequately address these issues, bringing to question the much-debated topic of whether or not government supports economic growth efficiently.

In most empirical investigations, intervention is based on government spending as a means to determine the size of the public sector and the relationship it has with economic growth. Empirical studies on this relationship tend to take on one of two forms. First, where total government spending is examined for its effect on growth, and second, where specific types of government spending are examined for their effect on growth. Generally, government spending may be broken up into two groups being developmental spending and social welfare spending, or consumption versus investment spending. Government spending may be further categorised into types of spending such as spending on education, healthcare, infrastructure, and other costs such as debt. This section

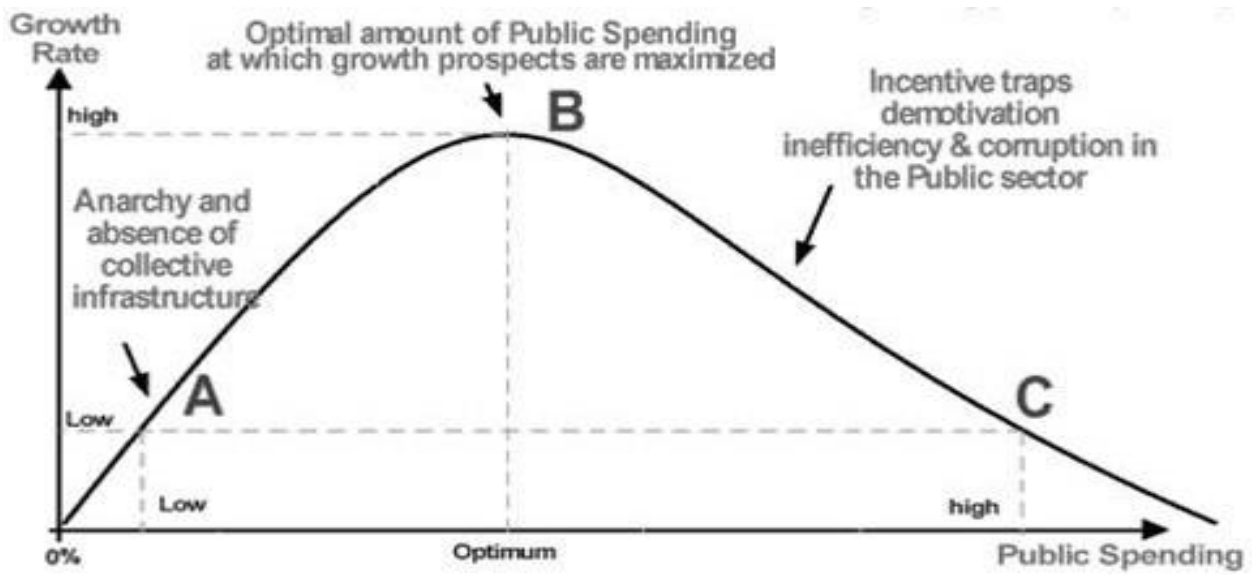
reviews such studies and their respective findings based on the factors mentioned above as determinants of economic growth.

2.6.1 The relationship between total government expenditure and economic growth

In theory, two different schools of thought exist, both attempt to define the causal relationship between government spending and economic growth (Tang, 2009). The first school of thought is based on the Adolph Wagner's (1890) contribution which is commonly known as Wagner's law; the law states that in the long-run government activities tend to grow relative to economic activity. The law presumes government spending to be an endogenous variable that grows at a faster pace than income growth. The general view is that government spending plays no part in generating economic growth; thus, economic growth will cause government spending and not conversely. By contrast, Keynes' (1936) theory presumes government spending to be an exogenous variable; therefore if government spending increased, it would generate economic growth. Thus, suggesting a causal relationship exists which flows in the direction from government spending to economic growth. The Keynesian school of thought is widely supported, as fiscal policy is increasingly used as an instrument to stimulate economic growth in both developed and developing countries (Ban, 2015:167). Subsequently, the debate between these two theories continues in the empirical literature, as studies continue to test whether government expenditure causes economic growth or economic growth causes government expenditure.

Another noteworthy concept in the literature refers to the optimal size of government for optimal economic growth, best explained by making use of the Armey Curve (Armey, 1995). Figure 2.4 demonstrates the Armey curve, showing the proposed 'inverted U' shape relationship between the amount of public spending and the rate of economic growth. The curve indicates that the size of government spending has a positive impact on economic growth to a certain point (point A to point B on the graph) and thereafter has adverse effects on growth. Thus, suggesting there is an optimal amount of public spending that is most conducive for growth, and a non-linear relationship exists between the two. Forte and Magazzino (2011:297) further explain that if the level of public spending is too low, it will not allow the state to guarantee a market economy that functions optimally with a positive growth rate. Alternatively, if the level of public spending is too high within a country, it would discourage investment and productivity due to the high fiscal burden it causes, resulting in a lower economic growth rate (Forte & Magazzino, 2011:297).

Figure 2.4: The Armey Curve



Source: Nouira and Kouni (2018)

Point 'B' on the graph indicates the amount of government spending that would generate the most positive effects on economic growth. This point on the graph signifies a threshold level of spending as a percentage of economic growth; therefore if public spending exceeds this threshold, there will be diminishing returns in growth effects. The Armey Curve merely reflects that a positive correlation exists between government expenditure and growth to a point thereafter the correlation will become negative (Pevcin, 2004:101). It, therefore, suggests there is an optimal size of government, in terms of spending, to generate the optimal level of economic growth.

2.6.1.1 Cross-country and panel data studies

Many economists are concerned with the size of government and the effect it has on economic growth, the general proxy used to determine the size of government is based on the total amount of government expenditure and sometimes the total tax revenue (Kormendi, 1983; Easterly & Rebelo, 1993; Pritchett, 1997). The empirical results on this topic are heterogenous, as many found the expansion of government size to amplify economic performance creating an environment conducive for investment (Rubinson, 1997; Grossmann, 2003; Mokyr, 2016). Whereas, many others found the opposite to be true, as an increase in government size correlates with an increase in tax burdens, and if resources are misallocated, it will lead to a decline in economic performance (Landau, 1983; Engen & Skinner, 1992; Kim, Wu & Lin:2018:205).

When considering total government expenditure and its relationship with economic growth, a multitude of studies exist making use of varying methodological frameworks; however, the results do not lead to a firm conclusion. Landau (1983) conducted a study on 48 countries over the period 1961 to 1976 and found that government spending is not always productive and an increase in

government expenditure leads to a reduction of the growth in real GDP if spent in an 'unproductive' manner. A significant negative relationship was found by Barro (1989) between the share of government consumption on real GDP per capita, and that government investment has insignificant positive effects on growth whereas Tanzi and Davoodi (1998) found that government spending, especially public investment spending, has a significant positive impact on economic growth.

Ram (1986) making use of both time series and cross-sectional data for both developed and developing countries over the period 1950 to 1980, found the growth of government expenditure to have a positive effect on real GDP. In stark contrast, Barro and Sala-i-Martin (1992) presented a model that showed the significance of government spending on economic growth. The result was that an increase in government spending had a negative impact on economic growth. Thus, indicating growth in the size of government negatively impacts the economy, especially when increased spending is not necessarily productive.

A panel data study by Fölster and Henrekson (2001), measured government size by total tax revenue and total government spending for 22 developed OECD countries over the period 1970 to 1995. The results found a significant negative effect of both government spending and tax revenue on growth. However, Agell, Ohlsson, and Thoursie (2006) disagree with the studies robustness as the inclusion of only OECD countries leads to simultaneity, making causal interpretation less accurate. Further analysis by Colombier (2009) on 21 OECD countries over the period 1970 to 2001, found conflicting results indicating that an increase in government spending and taxation has a small positive effect on growth. Therefore, stating that government size does not have a significant detrimental effect on growth.

Afonso and Furceri (2010) rebut Colombier's (2009) results, after conducting a panel study on 28 OECD and European Union (EU) countries over the period 1970 to 2004. They determined that both the share and volatility of government revenue and spending have detrimental effects on growth. In addition, Altunc and Aydin (2013:66) conducted a study on three EU countries over the period 1995 to 2011 using the ARDL technique and found that the governments share in public spending exceeds the optimal level as proposed by Friedman (1997), resulting in it having a detrimental effect on economic growth.

Many empirical studies test the validity of Wagner's law, usually through time-series analysis. Studies on developed countries usually suggest Wagner's law holds as government spending increases only once economic growth takes place (Peacock & Scott, 2000; Narayan, Nielsen & Smyth, 2008). However, according to Wu, Tang, and Lin (2010:804), the law is less likely to hold for developing countries as government spending increases disproportionately to the increases in economic growth.

2.6.1.2 Studies on sub-Saharan Africa

Having conducted a study on three sub-Saharan African countries namely Kenya, Ghana, and South Africa, Ansari, Gordon, and Akuamoah (1997) found empirical results that do not support a causal relationship that runs from government spending to economic growth and development. Thus, government spending does not increase in proportion to economic growth disproving Wagner's hypothesis in this instance.

Using the Generalised Method of Moments (GMM) and annual data over the period 1982 to 2000, Ndambiri *et al.* (2012) examined various determinants of economic growth for 19 sub-Saharan African countries. Their results suggest government spending is significantly inversely related to economic growth. Thus, signifying that growth in government spending, in sub-Saharan countries, would lead to a decline in economic growth and vice versa. Empirical evidence by M'Amanja (2005) examined the impact of infrastructure investment on economic growth in Kenya over the period 1964 to 2002. The results found a significant positive relationship between infrastructure investment and growth. Thus, stating that consumption spending does not have positive growth effects in Kenya for the same period.

2.6.1.3 Studies on South Africa

Empirical results concerning South Africa generally support a positive linear relationship between government spending and growth (Bose, Hague & Osborn, 2007:550; Mo, 2007:519); however, empirical support for significant positive effects is not universal and a negative relationship has been found (Bittencourt, Van Eyden & Seleteng, 2014). The reason for these contradictory results could be linked to the myriad of methodological frameworks with differences in model specification, samples selected, and the measurement of government spending (Wu, Tang & Lin, 2010:806).

After conducting an empirical study on South Africa for the period, 1957 to 1990, Ansari, Gordon and Akuamoah(1997) found government expenditure did not lead to an increase in economic growth. Therefore, it was found that the simple Keynesian principle of increased government spending for increased growth does not necessarily apply to South Africa. Furthermore, government spending by itself was not found to have a significant positive impact on the growth and development of the country. Ziramba (2008:596) conducted a similar study on South Africa over the period 1960 to 2006 and found a long-run relationship exists between government spending and economic growth. However, the variables were found to have bidirectional causality leading to the authors' rejection of Wagner's law in the South Africa context.

A more recent study conducted by Gadinabokao and Daw (2013) examined the relationship between economic growth and total government expenditure in South Africa over the period 1980 up until 2011. Making use of Ordinary Least Squares (OLS) techniques and the Error Correction Model (ECM) they found a causal relationship between the variables mentioned above and further

confirmed a significant long-run positive relationship exists between the variables. The results of the study also show that net capital formation granger causes economic growth. By contrast, a study by Chirwa and Odhiambo (2016) made use of the Autoregressive Distributed Lag (ARDL) model, to study long-run drivers of economic growth in South Africa, and found that total government spending is significantly related to economic growth making it a critical macroeconomic determinant. However, the study found that both in the short-run and long-run, total government expenditure negatively impacts economic growth.

The studies above used total government expenditure as a determinant of economic growth; however, the results, save one, fail to categorise expenditure as either consumption or investment. A positive relationship has been found by many between productive/investment expenditure and economic growth (Cooray, 2009; Batuo, 2015; Opoku, Ibrahim & Sare, 2019). However, a negative relationship has also been found between unproductive/consumption expenditure and economic growth (Ahmed & Miller, 2000; Dunne & Tian, 2015; Phiri, 2019).

Therefore, the most useful and conclusive empirical finding is that a positive relationship exists between public investment and economic growth, and a negative correlation exists between economic growth and the share of the governments' consumption in GDP. Government expenditure, in its totality, has a significant effect on whether economic outcomes such as sustained economic growth are achieved rapidly or not. Empirical results for government spending and economic growth in South Africa have been somewhat inconclusive, and this could be attributed to differences in the measurement of government size/spending, varying methodological frameworks, as well as a variation in theoretical underpinnings.

2.6.2 The relationship between various types of government expenditure and economic growth

A substantial amount of literature suggests the relationship between economic growth and specific components of government spending (disaggregated expenditure), particularly in developing countries such as South Africa, is complex. Therefore, there is a need to differentiate between components of government spending in order to find conclusive and reliable results. Numerous empirical studies examine the causal relationship between disaggregated government spending and economic growth, often reaching different conclusions. The key areas of spending with which researchers are concerned with include military, healthcare, education, debt-service, social welfare grants and economic development usually linked to investment in infrastructure and industry. Other variables such as corruption, debt, and income levels are also included as determinants of growth in a multitude of studies.

Landau (1983) conducted a study based on data from developing countries over the period 1960 to 1980, where the relationship between the growth rate of real GDP and the share of government expenditure in GDP was examined. A negative relationship was found between government consumption spending and economic growth, whereas other types of government expenditure had little effect on the growth of economic output. This finding led to the idea that not all government spending is productive, as various components of expenditure were found to have different impacts on growth. Therefore, Landau (1983) found an increase in government consumption spending, which includes any funds spent on supplying goods and services for the direct satisfaction of an individual or community, has a negative impact on growth.

After examining the impact of government spending on education, welfare and defence over the period 1975 to 1985, Baum and Lin (1993) found growth in spending on education and defence has a positive impact on growth both in developed and developing countries whereas growth in spending on welfare showed an insignificant negative impact on economic growth. Results concerning education have further been proven in a cross country study conducted by Trabelsi (2018), who also found a positive effect on growth; however, the country in concern would need to be performing above a certain intensity for this to be true. Good governance was also proven to be a significant determining factor for spending on education to be productive. Numerous authors have investigated the relationship between economic growth and the level of corruption within a country, all reaching similar results, a negative correlation was found between an increased level of corruption and economic growth within a country (Davoodi, 2000; Wei & Wu, 2002; Escaleras & Register, 2016; Baum & Gupta, 2017).

Using a Generalised Method of Moments (GMM) for a group of European countries over the period 1980 to 2000, Romero-Avila and Strauch (2008) found social transfers and government consumption spending to have a significant adverse effect on growth whereas public investment spending was found to have a significant positive impact. Yasin (2011) conducted a panel data study on 26 sub-Saharan African countries, over the period 1987 to 1997. The results showed that government spending on capital formation, trade-openness, and private investment have a positive relationship with economic growth.

Devarajan, Swaroop, and Zou (1996) found excessive spending on education and defence as not having a positive impact on growth in South Africa. Additionally, results revealed spending on public transport, communication, and health care to have a positive impact on economic output. A recent study by Malangeni and Phiri (2018) found education spending to have an insignificant relationship with economic growth in South Africa, and the study made use of the ARDL model and data over the period 1994 to 2014. The pair suggest this is the case not due to the quantity of spending on education, but the resulting quality of education in the country. A study by Albala-Bertrand and Mamatzakis (2001) examined the impacts of infrastructure investment on economic growth in South

Africa, and they found this type of investment spending to have positive impacts on growth in the long run, therefore emphasising the need for 'productive' government spending in the country.

Lee and Chang (2006) found evidence of a long-run cointegrating relationship between social welfare spending and economic growth, using an OLS model and panel analysis of twelve Asian countries. Conversely, Clemente, Marcello and Montañes (2012) found no evidence of a long-run relationship between social expenditure and economic growth using a panel analysis on twenty developing countries.

2.7 SYNOPSIS

This chapter explored the literature, concepts, and theories of economic growth and government intervention relative to economic policy undertaken by the state. Thus far, the literature suggests the necessity of increased government intervention for increased and sustained economic growth. A further deduction made by the literature, suggests a balanced approach towards intervention is necessary to ensure both developmental and welfare effects are generated equally within an economy.

The effects of the independent variables chosen in this study, namely consolidated government expenditure, disaggregated government expenditure, government debt, and the size of government on the dependent variable economic growth have been analysed through consulting various empirical studies. Empirical studies concerning both developed and developing countries have been considered. However, there is no consensus regarding the long- and short-run effects of these independent variables on the dependent variable for South Africa. In addition, the question of an optimal size of government for enhanced economic growth was confronted, and theoretical framework presented through the Armey Curve indicates that there is a threshold on the size of government for optimal economic growth.

Before establishing the methodological framework and empirical estimations of this study, the study will first review trends in economic growth, government spending, and economic policy within developed economies, developing economies, and the South African economy in order to gain a better understating of the interrelationship between the chosen economic variables in the next chapter.

CHAPTER 3

TREND ANALYSIS AND CASE STUDIES

3.1 INTRODUCTION

The theoretical literature outlined in the previous chapter indicated that various factors contribute to the type of government, size of government, and the amount of government intervention in a country. This chapter presents a historical and trend analysis of selected macro-economic variables in South Africa by making use of tables, figures, and graphical presentations. Additionally, the chapter provides an assessment of past and current economic policy and government spending in the country. Case studies relevant to the study will be discussed specifically relating to different types of government intervention and the resulting economic implications. In doing so, the chapter reviews pertinent trends and economic policies to the fulfilment of the study objectives.

The sections in this chapter are divided as follows: Section 3.2 provides a brief discussion and overview of the South African economy, while section 3.3 discusses and presents macroeconomic variable trends, including economic growth, government debt, and government effectiveness. The components of government expenditure, structure of government expenditure, and trends in government spending are discussed and analysed in section 3.4. Section 3.5 provides policy analysis of various economic growth and development policies implemented in democratic South Africa. Lastly, section 3.6 comprises of various case studies relevant to the study, including both developed and developing countries.

3.2 A BRIEF OVERVIEW OF SOUTH AFRICA'S ECONOMIC CLIMATE

South Africa is a developing country located on the southernmost tip of Africa and has a population of around 58.06 million people (StatsSA, 2019). The country's abundant natural resources, including coal, aluminium, gold, and diamonds, among other mineral resources, have drawn many investors and settlers over time. Due to the event of Apartheid, economic growth in the country has gone through a series of changes, mostly due to sanctions and other forms of economic isolation imposed on the country (Iwegbunam, 2017:10). Subsequently, the country was able to transform post-Apartheid and transition towards democracy starting in 1994, enabling the economy to recover and re-enter the global economy. During the period between 1994 and 2007, significant progress was made concerning improved healthcare, social conditions, and lower unemployment rates (Butler, 2017:178). The country also experienced relatively positive growth in the period improving the overall macro-economic health of the country (Butler, 2017:179).

Although the economy has moved towards a democracy and set objectives on economic growth and inclusivity, the country has been plagued by a multitude of macroeconomic and socioeconomic challenges. Socio-economic issues include high levels of poverty, a relatively high unemployment rate as well as a high level of inequality. Macro-economic issues include slowing investment, a relatively low savings rate, and subdued economic growth (Ibrahim & Alagidede, 2017:67). The challenges mentioned above have contributed to weakening economic activity and the overall negative economic outlook. In order to rectify such issues and achieve improved socioeconomic conditions, fiscal redistribution and social assistance have been employed. At the centre of national economic policy in South Africa, job creation is envisaged as the key economic driver for increased inclusivity and social equity (World Bank, 2015:11). However, over the years the issue has worsened, leaving a large number of South Africans jobless and in poverty.

As of the first quarter of 2019, the country's unemployment rate (according to the narrow definition) increased by 0.5 percent, further adding to the already high unemployment rate, leaving it at a staggering 27.6 percent (Quarterly Labour Force Survey, 2019). As of the second quarter of 2019, South Africa's unemployment rate increased by 1.4 percent, leaving it at an even higher 29.0 percent. According to Khumalo (2019:1), the unemployment rate in South Africa is at its highest since 2003; however, as speculated by StatsSA (2019), the increase is due to an influx of working-age job seekers into the economy and not as a result of job cuts. Although job creation is at the centre of South Africa's national economic policy, the country continues to battle against the ever-increasing unemployment rate.

Alongside the country's struggle to create new and sustainable employment, South Africa has experienced unfavourable economic growth for a sustained period. According to the National Treasury (2019:11), the country has had a decade of economic weakness, with a consistent downward revision of forecasted GDP growth. A reduction in overall growth in investment and international trade has been linked to mediocre economic growth rates (National Treasury, 2019:11). However, allegations of maladministration and widespread corruption in both the public and private sectors have been pinned as a leading cause for slow and sometimes negative economic growth in the country (Maasdorp, 2016:75).

State-owned enterprises play a large and significant role in the South African economy, with the government owning shares in around 700 enterprises across many different industries (Kanyane & Sausi, 2015:29). State-owned enterprise Eskom, the country's power utility, has put significant strain on the general fiscus in recent years due to the weakening financial position the monopoly finds itself. National Treasury (2019:11) has put forth plans to reconfigure Eskom and instil infrastructural reforms as a means to better support investment and faster economic growth in the long run. Due to the condition of the enterprise, particularly with regards to mounting debt levels, National Treasury has set aside some R59 billion in funding over the next two years to stabilise the industry in the short

term, and a further promised R230 billion over the next decade (Donnelley, 2019:1). However, the utility is speculated to be around R450 billion in debt, generating widespread concern for the overall health of the economy (Merten, 2019:1).

More recently, investor confidence has been at an all-time low following credit downgrades and the weakening financial condition of various state-owned enterprises. On the 26th of July 2019, Fitch ratings agency downgraded South Africa's economic outlook from stable to negative. The agency directly linked the downgrade to concerns regarding the government's growing financial support of Eskom together with low economic growth (Mahlaka, 2019:1). The downgrade was further justified by concerns relating to South Africa's debt-to-GDP, where government predicted and budgeted for 60 percent by the year 2021, whereas the credit agency expects this will rise to around 68 percent by 2021 (Mahlaka, 2019:1).

Despite the country's weakening macroeconomic condition, government has continued with its fiscal redistribution and social assistance plan, with the primary goal being to reduce inequality in the country. This includes resource allocation towards education, health, and other social development in the form of old-age and child-support grants (National Treasury, 2019). Although this type of spending assists in reducing high levels of inequality, it can be noted that equity comes with the cost of inefficiency in some cases.

3.3 TREND ANALYSIS OF SOUTH AFRICA'S MACROECONOMIC VARIABLES

3.3.1 Economic growth

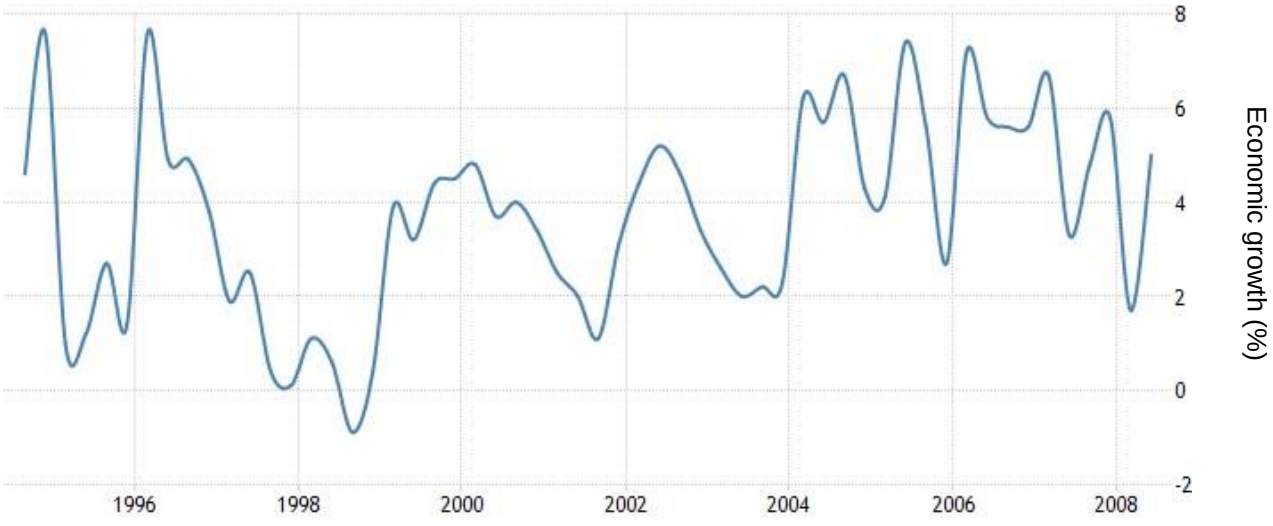
Economic growth is considered a prerequisite for a thriving economy, as it provides a signal on whether an increase in productivity and employment has occurred (Carley & Christie, 2017:32). Over the 21 years that is under consideration in this study, the economy has experienced significant changes in terms of the economic growth rate. The process of democracy and the implementation of various socio-economic and macro-economic policies have strongly influenced economic growth outcomes. Furthermore, influential events such as the Global Financial Crisis of 2008 and hosting of the 2010 FIFA Soccer World Cup have had various implications resulting in an impact on economic growth (Giampiccoli, Lee & Nauright, 2015:229).

Figure 3.1 shows the economic growth in South Africa from 1994 to 2008. It can be seen that from the period 2001 to 2007, South Africa maintained a stable economic growth rate. According to South African Market Insights (SAMI) (2019), this is a result of increased international demand for commodities as well as low levels of key industry volatility and vulnerability. However, since 2007, the country has been faced with low levels of economic growth, further worsened by the global financial crisis, leading the economy into recession in the first quarter of 2009. Figure 3.2 below shows the economic growth in South Africa over the period 2009 up until 2018, where a sharp decline

in growth can be seen in 2009. Following the relatively weak economic growth in 2009, the economy experienced a mild improvement in 2010, which may be directly linked to increased capital influx as a result of the 2010 FIFA World Cup.

Regardless of increased capital flow in 2010, the country's economic growth trajectory continued to decline, leading South Africa into a technical recession in both 2014 and 2017. Economic commentators believe soaring levels of public debt to be the cause. Subsequently, by the end of 2017, credit rating agencies Standard & Poor and Fitch downgraded the country's credit to sub-investment or 'junk status' (Donnelley, 2017:1). Besides the imminent risk of increased public debt, large-scale political instability mostly linked to former president Jacob Zuma, high-income inequality, and high levels of unemployment, are thought to have contributed to the downgrades (Donnelley, 2017:1).

Figure 3.1: Economic growth in South Africa (1994-2008)



Source: Trading Economics (2019)

Figure 3.2: Economic growth in South Africa (2009-2018)

Source: Trading Economics (2019)

More recently, SARB revised economic growth for 2019 to a mere 0.6 percent, whereas the government previously forecasted a 1.5 percent growth in the economy (National Treasury, 2019:11). In contrast to the National Treasury's growth prediction, the economy shrank by more than three percent in the first quarter of 2019 (Wasserman, 2019:1). Sectors most affected by the negative growth experienced at the beginning of 2019 include the mining sector, agriculture, and mining, all of which shrank significantly. The leading cause associated with the country's weak and subdued economic activity continues to be linked to state-owned enterprise energy supplier Eskom. According to Wasserman (2019:1), one of the only sectors that experienced substantial growth in the first quarter was government, linked to an increase in government employment, and the sector grew by around 1.2 percent. Growth in government is not particularly good news for a prosperous economy, given the already oversized state of civil service in the country. However, in recent news, National Treasury's Director-General has made comments relating to a possible ten percent wage cut in government as a means to stabilise their overall financial position (Brown & Malope, 2019:1).

3.3.2 Economic development

Economic development is a broader concept than that of economic growth, as it is concerned with the positive effects of growth on the overall standard of living of citizens, as well as the structural transformation of the economy (Schumpeter, 2017:38). Various indicators may be consulted in measuring the level of economic development, such as the Human Development Index (HDI), the Gini Coefficient (which measures inequality), as well as the newly established Human Capital Index (HCI). The HCI measures the amount invested in healthcare and education, specifically for young people (World Bank, 2019). Economic development goes further than economic growth, as it measures whether or not growth effects are inclusive and have a positive effect on society as a

whole. According to Peet and Hartwick (2015:281), development cannot be generated in an economy if investment does not increase in terms of basic human provisions, and income inequality is not reduced.

As stated above, the Gini coefficient measures the level of inequality in a society and is a simple measure of income distribution. A coefficient of zero would indicate a completely equal society where everyone receives the same income; a coefficient of 1.0 (or 100) would indicate a completely unequal society where only one person holds all income. South Africa has been classed as the most unequal society in the world, with a large gap that exists between rich and poor. According to Creamer (2018:1), inequality in South Africa has only worsened since 1994, even though levels of poverty have been reduced. Table 3.1 presents the Gini coefficient for South Africa over the period 1996 up until 2015. More recent results concerning the Gini coefficient in the country have not yet been released.

Table 3.1: South Africa's Gini coefficient (1996-2015)

	1996	2006	2009	2011	2015
Gini coefficient	0,61	0,65	0,64	0,63	0,65

Source: Own compilation (data obtained from StatsSA, 2019)

As Table 3.1 indicates, the level of inequality in South Africa is substantially high and has been on the rise since 1996. According to StatsSA (2019), the 2015 measure of inequality was among the highest in the world, indicating a highly polarised society with regards to income. Thus, it can be inferred regardless of economic growth within the country; economic development has been slow as income inequality remains high.

HDI assesses the development in a country by analysing the improvements, or lack thereof, in human capability. This includes indicators such as access to knowledge (education index), a decent standard of living (GNI index), and citizens' ability to live a long and healthy life (life expectancy index) (UNDP, 2019). The index does not include indicators such as inequality and poverty and instead focuses on human development in isolation. Table 3.2 puts forth South Africa's HDI values over the period 1995 to 2017.

Table 3.2: Human Development Index for South Africa (1995-2017)

	1995	2000	2005	2010	2015	2016	2017
HDI	0,649	0,630	0,614	0,649	0,692	0,696	0,699

Source: Own compilation (data obtained from UNDP, 2018)

According to the UNDP (2018), South Africa's HDI was 0.699 in 2017, therefore placing them in the medium human development category, showing improvement since 1995 and ranking the country 113th out of 189 countries. Among the highest-ranking countries for HDI is Norway, with an HDI of 0.953 for the year 2017, closely followed by Switzerland with an HDI of 0.944 (UNDP, 2018). Although South Africa's HDI is not as high as that of developed countries, it is reasonably high for a developing country and shows signs of improvement. The improvements made in South Africa have been attributed to increased spending on public healthcare and quality education (Haile & Nino-Zarazúa, 2017:369). Although the HDI has improved in South Africa, it is worthwhile to note that this measure does not include factors such as poverty and inequality.

3.3.3 Corruption

In recent years, South Africa has been plagued with high levels of corruption, in both the public and private sectors, as supported by several economic commentators (Warner, 2011; De Villiers, 2011; Gould, 2012; Bennet, 2016). In 2011, former head of the Special Investigation Unit, Willie Hofmeyer, estimated that around R25 to R30 billion was lost yearly to corruption in the public sector (Lannegren & Ito, 2017:56). However, more recently the state of corruption is perceived as being far worse than previously estimated as evidence of corruption in state-owned enterprises and the public works sector mounts (Schreuder, 2019:1; Ndlovu, 2019:1).

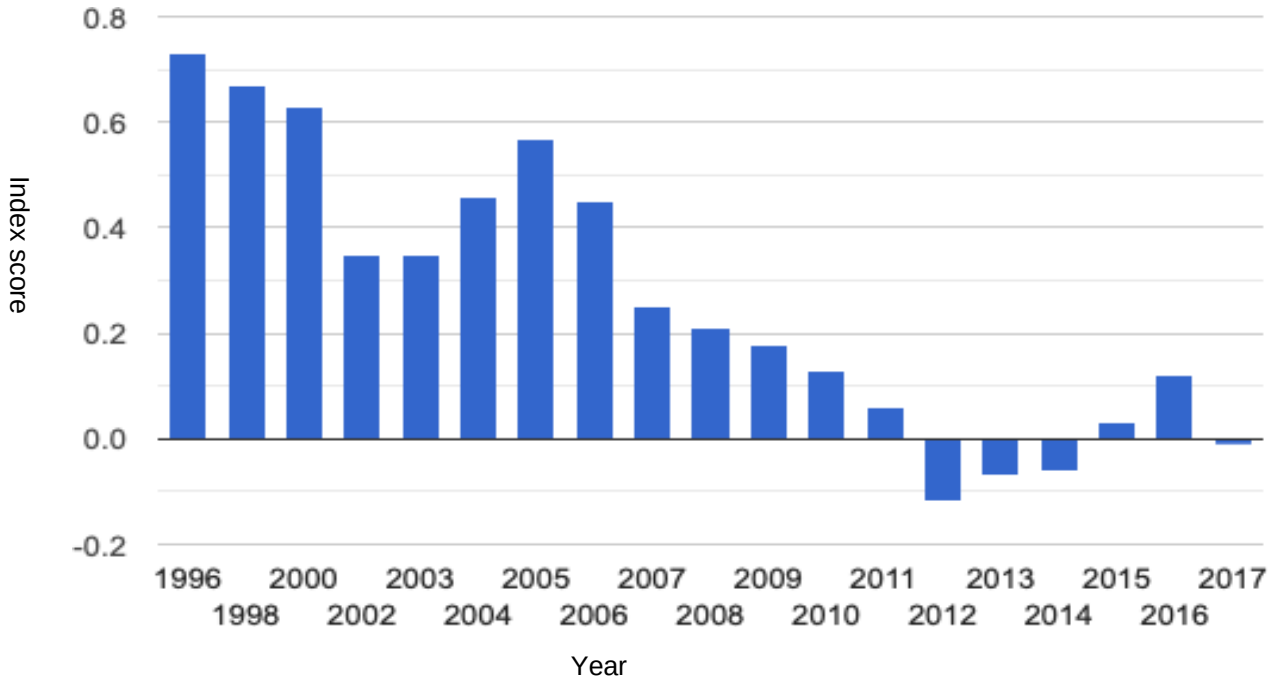
Former president Jacob Zuma has been charged with numerous offences, following continuous allegations of corruption and fraud during his reign. In 2016, Zuma was accused of violating the South African constitution as he faltered in making a payment following his abuse of state funds for the construction of his luxury home (Lannegren & Ito, 2017:57). The alleged amount in question was pinned at a whopping R246 million in taxpayer money. More recently, the allegations have progressed to that of state capture and Zuma's link to the infamous Gupta family, who are believed to have influenced decision-making and various other actions stemming from the former president. Throughout Zuma's presidency, 2010 to 2017, it has been estimated that the economy lost around one trillion Rand to corruption and mismanagement of government resources (Merten, 2019:1).

Corruption involves the abuse of entrusted power for private/personal gain, usually leading to large sums of money being lost (Transparency International, 2018). Due to the nature of corruption, it cannot be accurately measured. However, organisations such as Transparency International rank corruption according to perception and make use of what is known as the Corruption Perceptions Index. The index is considered the leading indicator of public sector corruption. This perception is based on the views of many people including people in business, analysts and other field experts in various countries (Transparency International, 2018). The indicator scores countries based on a scale from zero to a hundred, where a score of one indicates absolute corruption and a hundred indicates a clean public sector. South Africa received a score of 43 for the year 2018, indicating that

perceptions of corruption remain high, as the score continues to drop below the 50 mark (Transparency International, 2018).

The World Bank Worldwide Governance Indicators include an indicator used to determine the level of control over corruption in a country through the Corruption Control Index. The indicator makes use of available data on filed cases of corruption, the rate of conviction for corruption-related crimes as well as corruption perception within a country (World Bank, 2019). The index scores a country on a scale from 2.5 signalling perfect control of corruption and -2.5 signalling no control over corruption. Figure 3.3 presents South Africa's control of corruption scores over the period 1996 to 2017. It is evident in Figure 3.3 that South Africa is not particularly successful in controlling corruption, with relatively low and sometimes negative scores since 2012.

Figure 3.3: Corruption Control Index - South Africa (1996-2017)



Source: World Bank (2018)

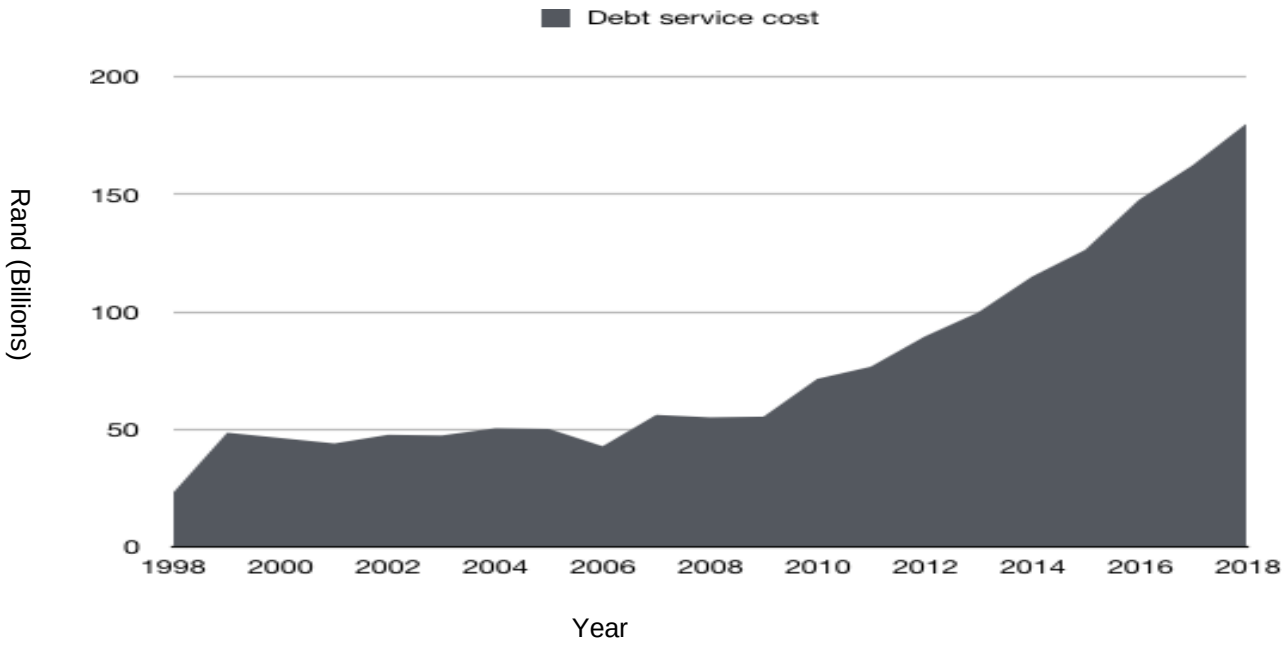
Much of the concern related to corruption within a country is the negative implications it has on democracy and institutional capacity. According to Corruption Watch South Africa (CWSA) (2018), around 35 percent of all reported corruption takes place in provincial government, with the national government following closely behind at 27 percent. Gauteng has been pinned as the province which generates the highest number of corruption reports, accounting for 45 percent of total cases reported in 2018 (CWSA, 2018). With a substantial amount of corruption reported relating to provincial government; policy uncertainty and ineffective implementation of policy is a common occurrence, particularly institutional functions regarding effective service delivery and resource allocation. Political instability is symptomatic of weak institutional capacity and higher rates of corruption within the public sector, as well as extensive coordination problems (Arora & Chong, 2019:178).

3.3.4 Government debt

When government expenditure within a year exceeds the revenue generated by the government in that same year, a budget deficit occurs. This budget deficit is usually funded through increased borrowing and may have significant negative implications on the economy as a whole (Zhu, Lin, Wang, Wu & Qin, 2018:5). The private sector will usually suffer from increased taxation, as the government sets out to offset their deficit; the public sector will also suffer in the long run as a prolonged budget deficit leading to increased debt levels will reduce the effectiveness of public spending (van Wyngaard, 2019:68).

Following particular economic targets, such as those mentioned in GEAR and ASGISA, to reduce and maintain a low fiscal deficit in order to avoid incurring more debt, National Treasury managed to keep the deficit relatively low between 1996 and 2010 (Saungweme & Odhiambo, 2018:176). However, following the adoption of the NGP (and later, the NDP), the budget deficit began to rapidly increase, as government spending began to exceed the revenue collected. Figure 3.4 shows South Africa's debt-service costs over the period 1998 to 2018. National debts have been rising at an astounding rate and have been cited as the cause of various negative implications present in the South African economy (Saungweme & Odhiambo, 2018:177). Negative implications associated with growing national debt include: a lower rate of saving and investment, increased interest rates usually leading to higher taxation and spending cuts as well as increasing the country's risk of a fiscal crisis (Coccia, 2017:21). Concerning Figure 3.4, debt-service costs just about doubled in only six years from R89.4 billion in 2012 to R180.1 billion in 2018.

Figure 3.4: South Africa's debt-service cost (in billions - 1998-2018)

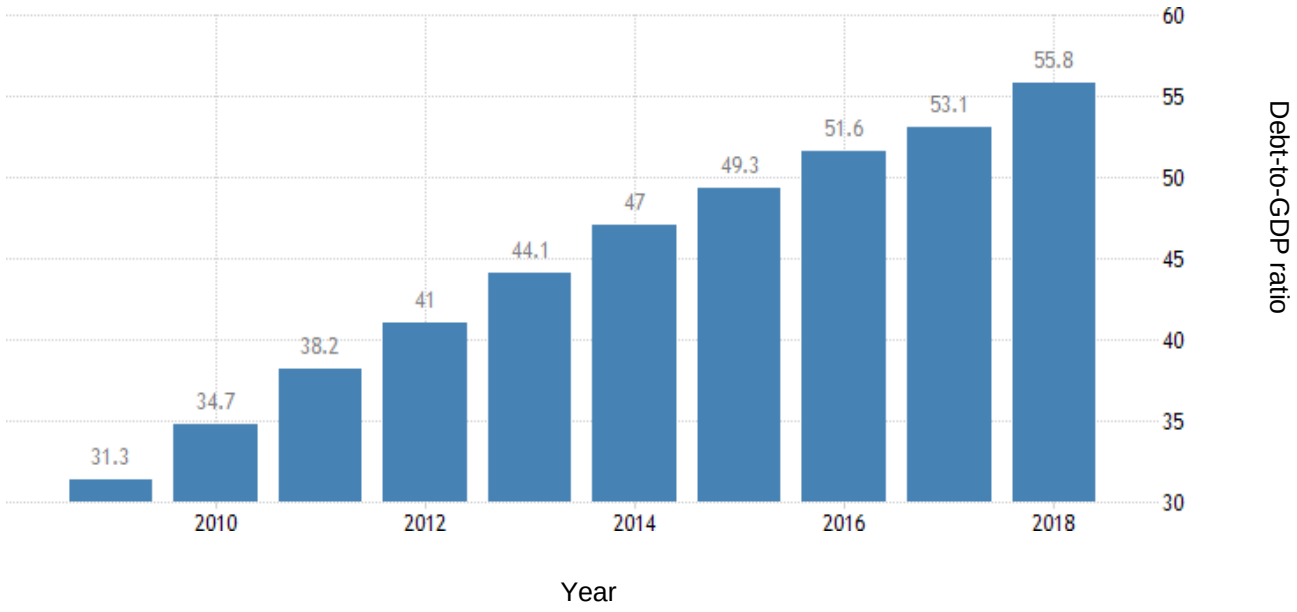


Source: Own compilation (Data obtained from National Treasury, 1998-2018)

Figure 3.4 accounts for funding allocated towards servicing the country's debt; however, it does not reveal the current total debt of the state. According to Bernstein (2019:1), the combined debt of the government and state-owned enterprises has grown 15 times since 1992, from R200 billion to more than R3 trillion in 2019. The rapid increase in South Africa's state debt has been attributed to a gap between government spending and revenue, which begun to increase dramatically following 2008 (Bernstein, 2019:1).

Figure 3.5 presents the debt-to-GDP ratio in South Africa over the period 2009 to 2018. As discussed in chapter 2, a country's debt-to-GDP can serve as a good indicator of economic wellbeing and financial stability. As of 2018, the country's debt-to-GDP reached an all-time high of 55.8 percent, while 2009 saw the lowest recorded value at 31.3 percent (Trading Economics, 2019).

Figure 3.5: South Africa's debt-to-GDP (2009-2018)



Source: Trading Economics (2019)

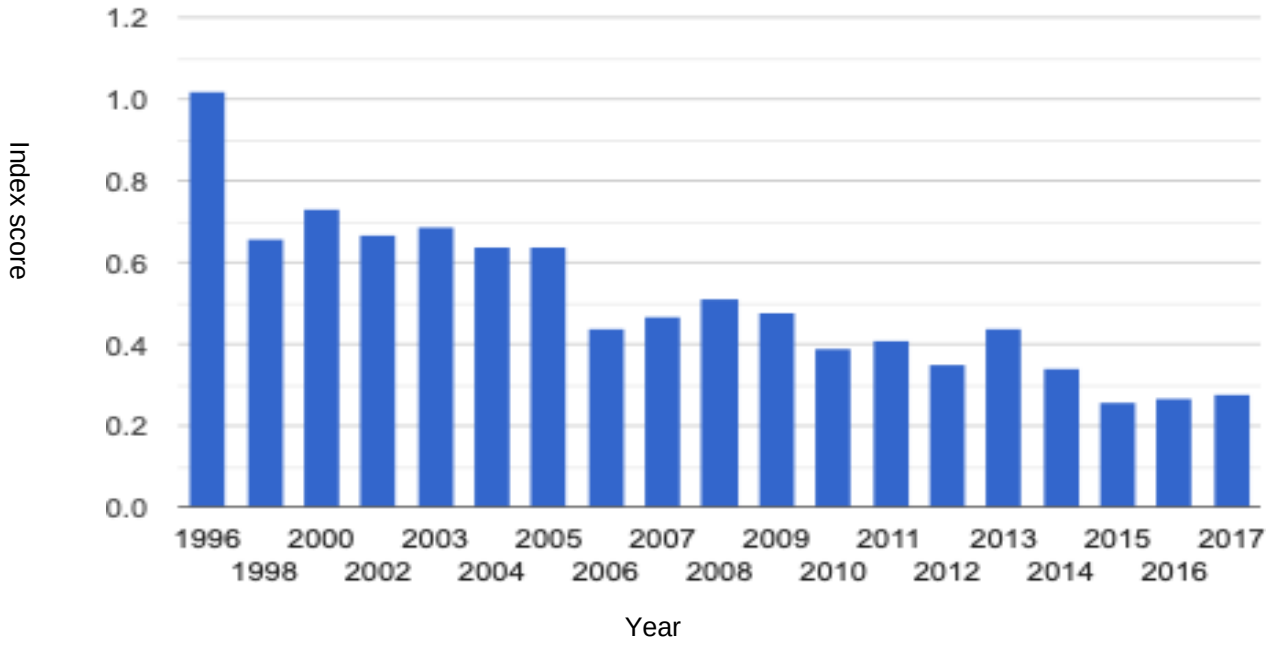
According to the International Institute of Finance (IIF)(2019), South Africa's debt-to-GDP ratio reached 59.3 percent in the first quarter of 2019. Many economic commentators warn that if the ratio were to go above 60 percent, it might have significant consequences on the already weakening credit ratings (Ka'nkosi & Khumalo, 2019; Niselow, 2019; Naidoo, Goko & Cohen, 2019). Besides the concern of reduced credit and investment ratings, the economy is at a higher risk of financial crisis and hyperinflation (Bernstein, 2019:1).

3.3.5 Government effectiveness

In servicing government debt, government effectiveness is essential, as it will determine the effectiveness or non-effectiveness of repayment. The most widely used measure for government effectiveness is the Government Effectiveness Index (GEI). According to the World Bank (2019), the

GEI aims to: “measure perceptions of the quality of public services, the quality of civil service and the degree of its independence of political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies.” The index scores countries on a scale between -2.5 and 2.5, where -2.5 indicates extremely weak levels of government effectiveness and where 2.5 indicates extremely strong levels of effectiveness. Figure 3.6 provides South Africa’s score of government effectiveness over the period 1996 to 2017.

Figure 3.6: Government Effectiveness Index - South Africa (1996-2017)



Source: World Bank (2018)

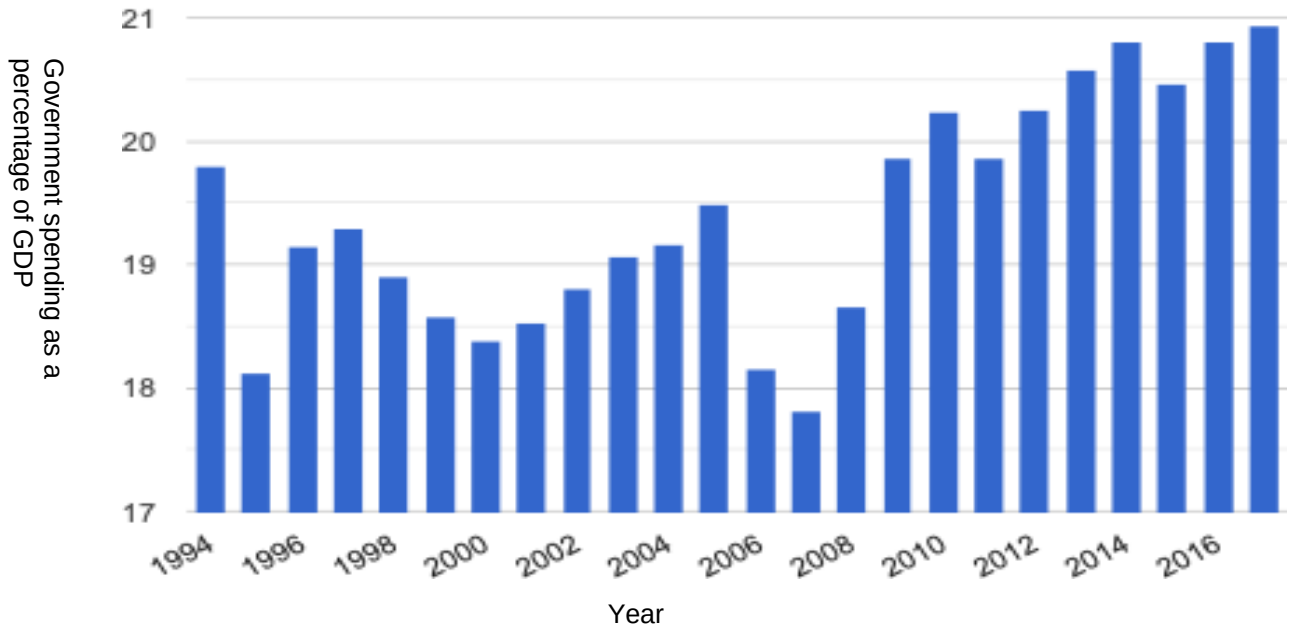
Figure 3.6 indicates a steady decline in South Africa’s government effectiveness, scoring a relatively weak 0.28 in 2017. According to Meyer (2018:24), effective governance plays a significant role in achieving economic growth and improved capacity of government is crucial in achieving sustained economic growth. Perhaps the decline in government effectiveness has been a contributing factor towards slow economic growth in South Africa. Government effectiveness is closely linked to matching services to the preferences of the population; thus, a lack thereof suggests an unorganised public sector (Garcia-Sanchez, Cuadrado-Ballesteros & Frias-Aceituno, 2013:567). As a result, a disorganised public sector will inevitably lead to a mismatch in population needs and the services provided by government.

3.3.6 Size of government

As discussed in the previous chapter, the size of government can be measured in different ways, with the most common being an analysis of overall public spending or revenue collection as a percentage of GDP. Government size can also be measured by determining the number of people employed in the government sector, therefore those in civil service. As discussed in the previous chapter, the size of the government has a significant impact on economic growth and therefore is an

important macroeconomic variable. Figure 3.7 shows the amount of government spending as a percentage of GDP for the period 1994 to 2017.

Figure 3.7: Government spending as a percentage of GDP in South Africa (1994-2017)



Source: World Bank (2018)

Based on Figure 3.7, the amount of government spending as a percentage of GDP has remained relatively consistent. In 1994, it amounted to 19.8 percent, which then dropped to 17.8 percent in 2007 and then begun to increase and stay within the 20 percent range ever since. However, in the last ten years, government spending has been growing faster than the economy; this alludes to poor quality in public spending and reduced performance in the public sector (Bernstein, 2019:1).

According to van Wyk (2018:1), the size of South Africa's civil service has increased substantially over the last couple of years, bringing about much concern about sustainability in the long-run. Table 3.3 provides statistics on employment in the South African civil service and other major industries, including agriculture, manufacturing, and trade. In comparison to all other industries in South Africa, the government sector employs a significant number of people. Though those employed by the government include those in education, health care, and law enforcement; the ever-increasing wage bill and employees are a cause for concern. Increases in employment in the government sector are particularly concerning given the fact that overall unemployment is rising and retrenchments are increasing in the private sector (Barchiesi, 2019:38). The lack of institutional capacity and reduced performance in governance signals wasteful and unproductive spending within the public sector (Festus, Kasongo, Moses & Yu, 2016:583).

Table 3.3: A comparison of civil service employment and major industry employment in South Africa

	2018 - Q1	2018 - Q2	2018 - Q3	2018 - Q4	2019 - Q1	2019 - Q2
Civil servants	3 785	3 692	3 675	3 624	3 574	3 622
Agriculture	847	843	842	849	837	842
Manufacturing	1 849	1 744	1 719	1 766	1 780	1 789
Trade	3 276	3 219	3 305	3 320	3 345	3 429

Source: Own compilation (Data obtained from StatsSA (2018-2019)

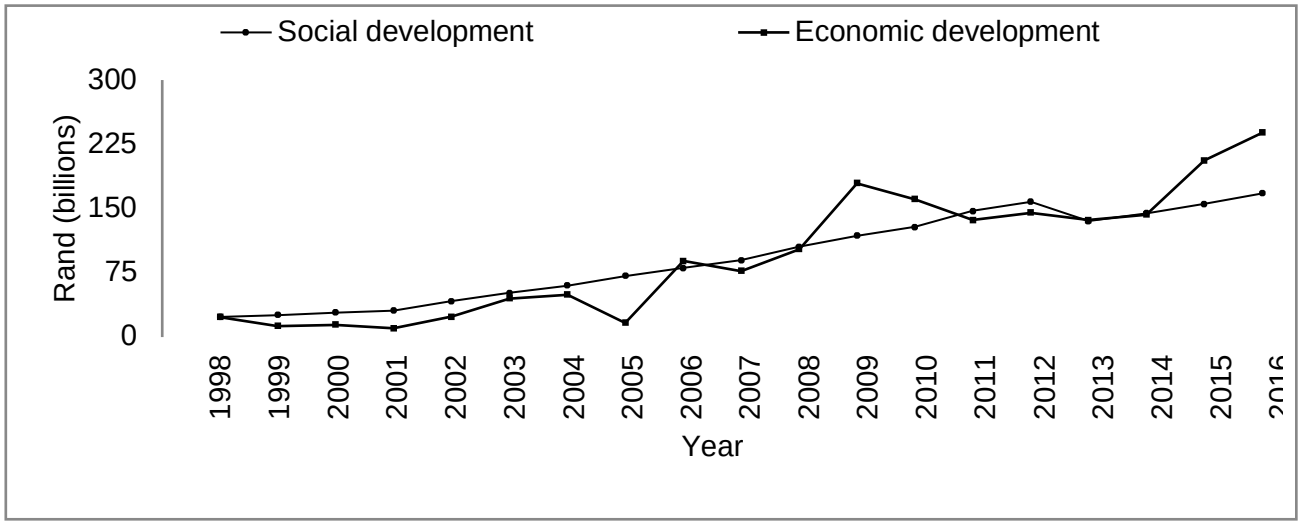
3.4 GOVERNMENT SPENDING IN SOUTH AFRICA

3.4.1 Brief overview of post-Apartheid spending history

The South African government's spending history is well documented in the annual national budget released by the National Treasury. The National Budget coincides with economic policy, such as the Reconstruction and Development Programme (RDP), New Growth Path (NGP), and the National Development Plan (NDP). According to Jibao *et al.* (2011:113), since 1994, the economy has undergone three broad phases of fiscal reform. Fiscal policy is influenced significantly by national economic policy, objectives to reduce poverty and inequality would usually see an increase in expenditure on sectors such as healthcare and education, which are classified as poverty reducing (World Bank, 2019).

Due to the status of poverty, inequality, and unemployment in South Africa, government spending on combative measures has increased yearly (Alden, 2019:157). A study conducted by Inman and Rubinfeld (2013:2) observed the fiscal allocations from the year 1996 up until 2008 and determined that fiscal allocation was sustainable in the long-run due to the lower degree of redistributive taxation. However, following President Jacob Zuma's rise to power at the beginning of 2009, redistributive spending and taxation were classed as unsustainable in the long run, due to the rapid increase in resource allocation far exceeding the value of revenue collected (Turok, 2016:13). Figure 3.7 above contrasts government spending on social development and economic development over the period 1998 to 2018. In recent years, as is evident in figure 3.8, social development spending exceeds economic development spending. Swilling, Musango, and Wakeford (2015:661) refer to this as non-developmental welfarism, where the South African government afforded a major increase in social spending as a means to impede social unrest.

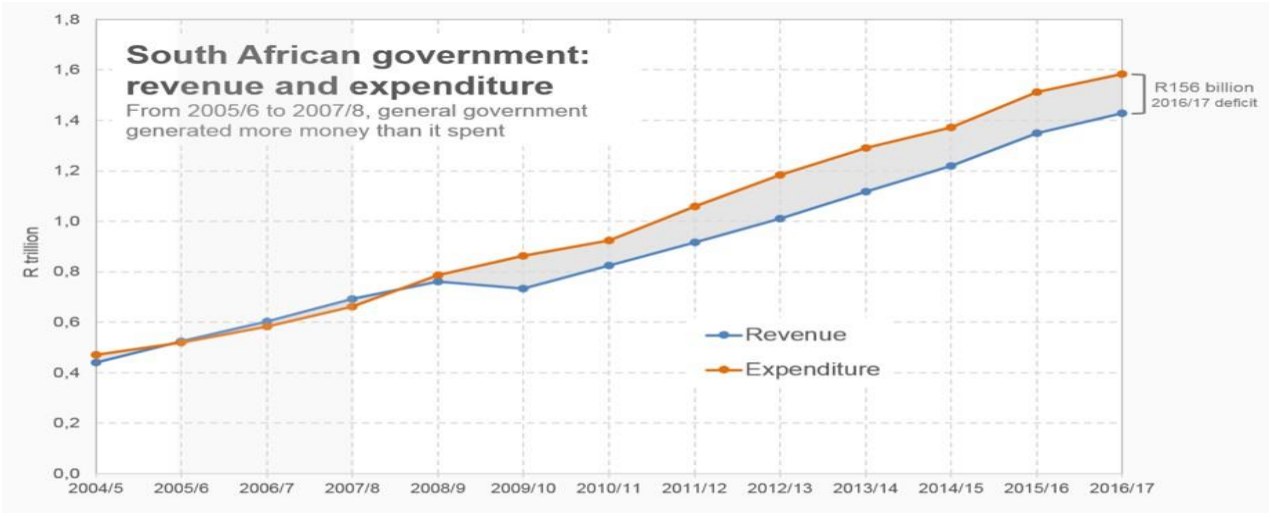
Figure 3.8: Social development vs. Economic Development spending (1998-2018)



Source: Own compilation (Data obtained from National Treasury, 1998-2018)

The composition of the national budget in South Africa has undergone significant changes since 1994. National economic policy set out to reduce the existing fiscal deficit in 1996, National Treasury was able to reduce and maintain a relatively healthy fiscal deficit and recorded a primary surplus up until 2007. Figure 3.9 depicts government revenue and government spending for the period 2004 to 2016. Since 2008, government spending has exceeded revenue collected, and the gap has continued to grow. According to Burger and Calitz (2015:641), by 2012, South Africa's fiscal deficit was increasing a lot faster than that of similar emerging economies such as Brazil, Chile, Indonesia, and Mexico. A fiscal deficit is it not always considered to be a negative occurrence, however if government debt continues to rise unsustainably along with an increasing deficit, interest payments on debt will become consequential for the economy in the long run (StatsSA, 2019).

Figure 3.9: Government revenue vs. Government expenditure (2004-2016)

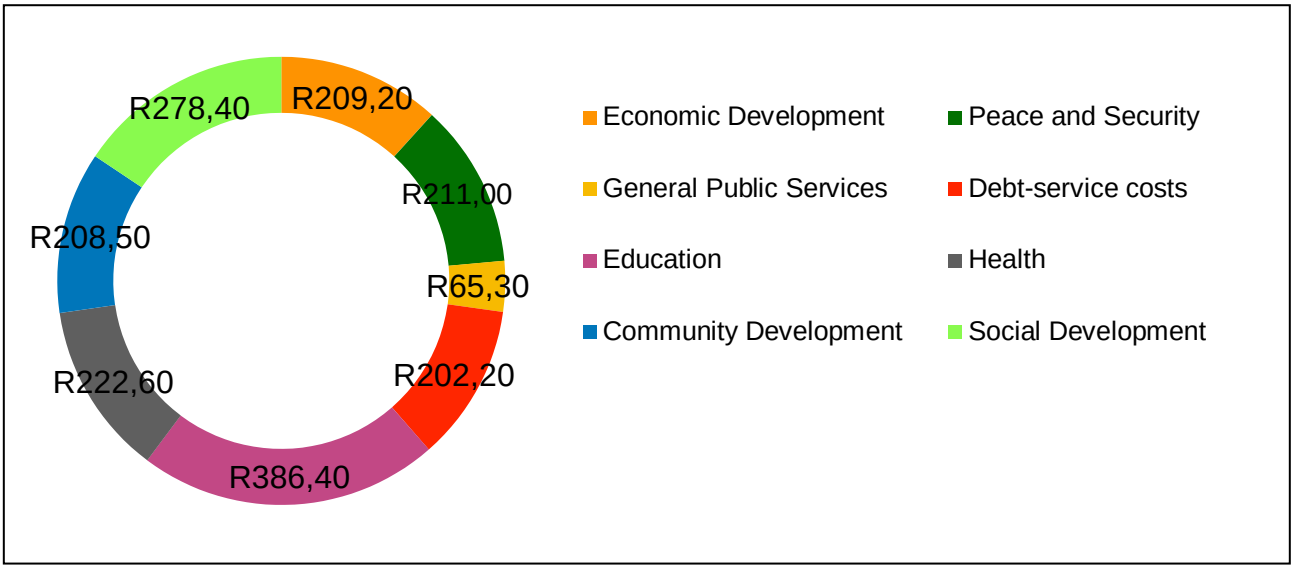


Source: StatsSA (2019)

3.4.2 Review of the 2019 national budget

Total consolidated government expenditure for 2019 amounted to R1.83 trillion, and revenue collected by the South African Revenue Service (SARS, 2019) amounted to R1.28 trillion, resulting in an R14.6 billion deficits. Of the R1.83 trillion, R1.1 trillion (or around 60 percent) of the total budget was allocated towards social services. Social services, as outlined by National Treasury (2019), include all spending on healthcare, education, community development, and social development. The remaining R730 billion went towards economic development, debt-service costs, general public services, and peace and security. Figure 3.10 graphically depicts the general break-down of the 2019 national budget.

Figure 3.10: South Africa's 2019 National Budget (in billions)



Source: Own compilation (Data obtained from National Treasury, 2019)

Resources allocated towards the countries education/learning and development exceeded every other category outlined in the budget. Education received a total of R386.4 billion (22%) of the budget, with the bulk of it going towards basic education and university transfers. This equates to an R35.3 billion increase from the previous year. The sector receiving the second-largest allocation is social development, with a total of R278.4 billion (16%), an R19 billion increase from the previous year. Social development includes all spending on old-age grants, social security funds, child-support grants, and other grants that go to the unemployed or disabled. The third-largest allocation went towards healthcare, amounting to R222.6 billion (12%) of the total budget, an increase of R17.2 billion from the previous year. Therefore, the national budget prioritises socioeconomic issues above macroeconomic issues.

Economic development spending is concerned with economic regulation, infrastructure, industrialisation, exports, rural development, job creation, labour affairs, innovation, and science and technology (National Treasury, 2019). Economic development received R209.2 billion allocations,

with only R23.2 billion going towards job creation and labour affairs. Given the current high unemployment rate of around 29 percent (StatsSA, 2019), the low allocation towards job creation and general economic development is a cause for concern. According to the NDP (2012), the government intends to become a "capable and developmental state," however with reduced spending on economic development and increased social welfare spending, the country's current economic policy is contradicted. Thus, the South African government has created a welfare state that relies heavily on state transfers, creating a higher level of dependency on government (Burger, 2014:172). This type of dependency is most likely unsustainable in the long run.

3.5 SOUTH AFRICA'S ECONOMIC GROWTH AND DEVELOPMENT POLICIES

Since 1994, economic policy has been fundamental in the country's transition toward democracy and improved economic growth and development. National economic policy plays an integral role in determining government spending, as discussed above. The abolishment of the apartheid dispensation led to the creation and implementation of a variety of policies and frameworks, with the intent of improving macroeconomic and socioeconomic conditions in South Africa. As a means to outline the newly found democracy, a basic legislation was tabled, known as the Interim Constitution (Inman & Rubinfeld, 2013:7). The document detailed the manner with which the president shall be elected as well as divided the country into nine provinces each to have separately elected governors. After about two years of continuous negotiations, the final Constitution of the Republic of South Africa (108 of 1996) was approved on the 11th of October 1996. Since then the Constitution has been the cornerstone of all government activity, and essential in directing actions and majority of the strategic decisions made, especially with regards to economic objectives (de Jongh, 2017:88)

The newly elected ANC government put forth the Reconstruction and Development Programme (RDP) (ANC, 1994), the first socioeconomic policy, which aimed to achieve an equal society as well as a stronger democracy. However, the RDP was short-lived and swiftly replaced with a new strategy in 1996, known as the Growth, Employment, and Redistribution (GEAR). GEAR was established in order to improve equity, accountability, and predictability, and to some extent, increase state control (Lyons, Smuts & Stephens, 2001:285). The RDP did not deliver as envisaged, as the new government faced a multitude of constraints linked to the previous government's fiscal and economic legacy. The RDP aimed to achieve its goals through a 'people-driven process' therefore requiring public participation, whereas GEAR focused less on public participation and more on public-private partnerships (Lyons *et al.*, 2001:276). However, the RDP's most notable success was the establishment of an extensive welfare system, which tended to the basic needs and social requirements of the most vulnerable citizens, such as the elderly, needy children, the disabled, and the poor.

The RDP and GEAR programmes did well in setting the policy landscape in South Africa but lacked the implementation necessary for success. The subsequent failures of these policies have been attributed to the neoliberal stance taken by the government. Thus, in the early 2000s, the role of government shifted towards a more direct approach through increased levels of intervention (Marais, 2011:338). This is apparent in the following economic and sectoral policies, such as ASGISA, IPAP, the NGP, and the NDP. According to Makino (2013:4), the new policies reflect a type of intervention that may be likened to the developmental state approach, as discussed in the previous chapter.

Although South Africa has adopted various policies and frameworks since 1994, a more equitable society through economic growth and development has been the chief focus. Like many developing countries, sustainable and inclusive growth is a top priority, and if achieved, the country stands to improve living standards for all by reducing poverty and inequality as well as providing employment opportunities (Carley & Christie, 2017:53). This section of the study, therefore, reviews the main policy initiatives implemented since democracy, with a specific focus on those aimed at achieving economic growth and development led by government. Therefore, this section aims to assess the impact economic policy has had on various macroeconomic variables such as economic growth, unemployment, inequality, and fiscal stability. A review of South Africa's economic policies is relevant to the study, as policy stipulates expenditure patterns and resource allocation.

3.5.1 Growth, employment and redistribution (GEAR)

The Growth, Employment, and Redistribution strategy (or GEAR) was put forward in 1996, and the strategy provided a framework that focused mostly on improved economic growth and macroeconomic stabilisation (National Treasury, 1996). The strategy aimed to achieve higher levels of employment and redistribution by stimulating economic growth through increased state control. The strategy acknowledges the difficulty of upholding stable macroeconomic conditions while also combating socio-economic challenges facing the country, such as inequality and unemployment (Mellet, 2012:40). The strategy then put forward the notion that in order to improve basic needs and skills development, the desired growth outcomes would have to be achieved. Two broad goals outlined in GEAR (National Treasury, 1996) were to:

- Achieve an economic growth rate between three and six percent by the year 2000; and
- Create 400 000 new jobs per annum.

The strategy was influenced by weakening global trade conditions, an unpredictable international financial environment, and increased investor uncertainty (Mellet, 2012:40). All of which have negatively impacted the economic growth prospects of the country. Thus, the government set out to achieve improved economic conditions through rebuilding and restructuring the economy. National Treasury (1996) based much of the strategy on neoliberal assumptions such as export-led growth, foreign investment stimulation, privatisation of state assets, and improved global competitiveness and trade (Mathe, 2002:1). Neoliberalism relies strongly on markets to solve growth, development,

and other economic issues; therefore, the public sector takes a more relaxed approach towards economic and development planning (Sager, 2011:148).

- The strategy's main aims are summarised as follows:
- To reduce fiscal deficits;
- To keep inflation relatively low;
- To decrease barriers to trade;
- To maintain exchange rate stability; and
- To liberalise capital flows (Visser, 2004).

The strategy argued for conservative fiscal policy and the need for reduced fiscal deficits, as it was put forth that lower budget deficits would allow for increased investment in the private sector (Streak, 2004:272). The Department of Finance (DOF) (1996) supported the argument as fiscal expansion would only add to the already high level of public sector wastage inherited from the previous government. The DOF (1996) further argued that a substantial increase in public spending was unsustainable as it would add to issues concerning the balance of payments as well as the country's ability to service its debts. Another concern expressed by the DOF (1996) is South Africa's relatively large public debt, sparse foreign reserves, and the possibility of capital flight. According to Streak (2004:272), all of the above would most likely reduce currency stability and lead to the monetisation of the budget deficit.

Given the country's unusually high level of inequality and poverty post-1994, GEAR makes little mention of these issues. Although the strategy did not have specific targets concerning the reduction of these socio-economic challenges, the strategy did aim to reduce both significantly (Cheru, 2001:511). Table 3.4 presents the targets as set by the GEAR policy document for macroeconomic variables including economic growth, the fiscal deficit, employment growth, and growth in private sector investment. The table also presents the actual outcomes of the macroeconomic variables over the same period from 1996 to 2000.

Table 3.4: GEAR predictions for key economic variables vs. actual outcomes (in percent)

	Year	1996	1997	1998	1999	2000	1996-2000 (average)
Real GDP growth rate	**Predicted**	3,5	2,9	3,8	4,9	6,1	4,2
	Actual	4,2	2,5	0,8	2,1	3,4	2,6
Fiscal deficit	**Predicted**	-5,1	-4,0	-3,5	-3,0	-3,0	-3,7
	Actual	-4,6	-3,8	-2,3	-2,0	-2,0	-2,9

	Year	1996	1997	1998	1999	2000	1996-2000 (average)
Employment growth	**Predicted**	1,3	3,0	2,7	3,5	4,3	2,9
	Actual	-0,6	-1,7	-3,4	-2,0	-2,7	-2,0
Private sector investment (growth)	**Predicted**	9,3	9,1	9,3	13,9	17,0	11,7
	Actual	7,7	4,8	-1,8	-3,3	6,4	2,7

Sources: DOF (1996:7); National Treasury (2000:40; 2001:38; 2002:43); SARB (2002)

As shown in Table 3.4, the actual outcomes for real GDP growth, bar that of 1996, indicate the policy failed to achieve its targets as predicted. GEAR's projections are seemingly optimistic as average growth over the period amounted to a little over half the average projection of 4.2 percent at only 2.6 percent. Thus, the strategy's primary goal of achieving an economic growth rate of between three and six percent by the year 2000 was not met. Although growth targets were not met, the strategy at least maintained positive economic growth over the period.

As stated in GEAR, the government aimed to create 400 000 new jobs per annum. However, considering the data presented in Table 3.1, this goal was not met in the slightest. Employment contracted substantially over the period 1996 to 2000, with an average contraction of two percent per year. According to Cheru (2001:509), this equates to a loss of around 100 000 jobs per year over the period of consideration. The ANC (1998) attributed the job losses over the period 1996 to 1998 to a lack of skilled workers in both the public and private sectors. Employment, or lack thereof, is considered a key determinant of poverty within a country (Butler, 2017:1); therefore, the lack of job creation and the loss of jobs over the GEAR period alludes to an increase in poverty as well as inequality. Many studies have found that poverty and inequality were not reduced in South Africa over the GEAR period, and in fact, found that both increased (Seekings & Nattrass, 2001:472; Cassiem & Streak, 2001:22; Liebenberg, 2001:234).

Growth in private sector investment, vital to the GEAR strategy, did not increase as predicted. Although investment increased relatively well in 1996 and 1997, growth in investment contracted by 1.8 percent in 1998 and by 3.3 percent in 1999. The average growth in private investment for the period amounted to 2.7 percent rather than the 11.7 percent as predicted. This lack of investment growth has been linked to the decline in employment and job creation (Heintz, 2003:2). Furthermore, the reduction in investment was attributed not only to the failure of the programme but to the weakening global conditions such as the Asian financial crisis and the general slowdown of the global economy (Manuel, 2002:8).

Apart from the apparent failure to meet most of the targets set out in GEAR, the National Treasury was able to reduce the fiscal deficit substantially. The data concerning the fiscal deficit in table 3.1, makes clear the deficit was reduced; however, the reduction missed the predicted outcome by an average of 0.8 percent. Yet the budget deficit as a percentage of GDP indicates the ratio fell by more than what was put forward in GEAR (Streak, 2004:277). According to the National Treasury (2002:49), the budget deficit equated to a staggeringly low 1.4 percent of GDP in 2001.

Although the outcomes of GEAR were mixed, the strategy has been credited with enhancing financial discipline as well as bringing greater macroeconomic stability (Kearney & Odusola, 2011:7). However, the strategy was widely criticised for its failure to impact formal employment, promote sustained economic growth, reduce inequality, and attract the necessary foreign direct investment needed to achieve the growth targets (Meyer, 2013; Kearney & Odusola, 2011; Chipeta, 2018). Thus, the government took the decision to re-examine their efforts which resulted in the formulation of ASGISA.

3.5.2 Accelerated and Shared Growth Initiative for South Africa (ASGISA) (2006-2010)

The Accelerated and Shared Growth Initiative for South Africa (ASGISA) was put forward in February 2006 and served as a framework to better coordinate the government's job creation and poverty reduction programmes (Chipeta, 2018:72). The ASGISA framework was based on the government's goals of reducing poverty and unemployment by half by the year 2014. According to Kearney and Odusola (2011:8), this would equate to an average economic growth rate of at least 4.5 percent over the period 2005 to 2009, and an average economic growth rate of six percent per annum over the period 2010 to 2014. Table 3.5 presents the average real GDP growth targets as prescribed in the ASGISA policy needed to achieve the objectives, as well as the actual outcomes for the period 2005 to 2009 and 2010 to 2014.

Table 3.5: ASGISA average real GDP growth rate predicted vs. actual outcomes (in percent)

		2005-2009	2010-2014
The average real GDP growth rate	**Predicted**	4,5	6,0
	Actual	3,06	-0,01

Source: StatsSA (2019)

Growth outcomes depicted in table 3.5, indicate the average growth targets were not met in either of the periods of consideration. Although positive growth was achieved in the period 2005 to 2009, the initiative failed to generate the necessary growth in GDP for the policy to be effective, missing the necessary target by just under one percent. The period 2010 to 2014 experienced a negative

average real GDP growth rate. Although the ASGISA came to a head in 2010, it is necessary to note that the predicted growth outcomes would not have been achieved in the period 2010 to 2014 had the policy remained.

Nevertheless, the initiative made a concerted effort in identifying existing constraints on economic growth. Growth constraints included were factors such as; the volatility of the currency, deficiency in government's capacity, low levels of infrastructure investment, high labour costs, low skilled labour as well as inequality and marginalisation (The Presidency, 2006:2). Education and skills development was also outlined as a constraint, reducing the ability to unlock private and public investment. Thus, the initiative set out to aid the increase of trained graduates as a measure to encourage investment and contribute to inclusive growth (The Presidency, 2006:9).

ASGISA set out to follow on from GEAR, particularly concerning fiscal austerity. However, the initiative called for an expansion in government spending in order to expand the social grant system and increase investment in infrastructure and general public works. Consequently, a more strategic industrial policy was adopted, requiring a higher degree of intervention (Naidoo & Maré, 2015:413). Thus, moving away from the previous neoliberal assumptions present in both the RDP and GEAR and towards a policy that requires the government to play a more significant and active role in aiding growth and developmental goals.

The ASGISA policy was in place for a mere four years and had a relatively short period to achieve the set objectives. This coupled with the global financial crisis drastically altered the economic and institutional conditions in which the policy was first implemented (Naidoo & Maré, 2015:413). Therefore, the projected outcomes of the policy were not met, and it has been argued that this was due to the unrealistic goals set in the policy (Chipeta, 2018:72). However, the policy was successful in creating and improving the platform for diagnosing institutional challenges relating to employment creation and economic growth (Madumo, 2012:48). Furthermore, some progress was made with regards to infrastructure, state capacity, regulation, industrial policy, and education (Moyo & Mamobolo, 2014:956).

3.5.3 Industrial Policy Action Plan (IPAP) (2007)

The Industrial Policy Action Plan (IPAP) was the first formal industrial policy to be implemented since 1994, and the policy was approved in August 2007 (Department of Trade and Industry (DTI), 2007). Although the government did not have a formal policy for the period 1994 to 2007, industrial intervention took place to a certain degree. The IPAP is a progressive policy, as each year, outcomes are reviewed against objectives, and the policy is adjusted accordingly. The policy framework recognises that the South African economy cannot solely rely on commodities and consumption for improved economic growth and development. Thus, the IPAP set four broad objectives to facilitate

industrialisation in order to better contribute to the economic growth and development of the country. The objectives as set by DTI (2013) are as follows:

- To facilitate diversification in order to move beyond traditional industry by promoting value added to goods and services, as well as promoting industries producing goods and services that are internationally competitive;
- To facilitate the intensification of South Africa's industrialisation process and move towards a knowledgeable economy;
- To promote an industrialisation path that is labour-absorbing and potentially job creating and;
- To promote an industrialisation path that is broader-based, as a means to provide opportunities to previously disadvantaged and marginalised regions.

The DTI (2007) has identified specific sectors to promote and focus on, i.e., plastics, textile, forestry, agro-processing, metal fabrication, creative industries, and automotive products. In addition, the policy planned to make use of various tariffs and import barriers in order to reduce competition in the local market and protect infant industries (Zalk, 2014:334). However, according to Hazelhurst (2013:1), this aspect of the policy is contradictory, as the states plan to increase trade barriers while simultaneously achieving export growth would in all likelihood generate a negative response from other countries with regard to trade. The IPAP also identified possible threats with regard to the strengthening of manufacturing in South Africa, which include the growing current account deficit, diminishing competitive advantages such as stable labour and high electricity prices, a reduction in demand for primary commodity exports, a weak skilled labour force, and unstable labour relations (Meyer, 2014:73). The IPAP is especially relevant to the study as the majority of successful developmental states had strong and successful industrial policies that were used to lead and stimulate economic growth and development.

3.5.4 The New Growth Path (NGP) (2010)

The New Growth Path (NGP) economy policy was formulated and released in late 2010, following the previous economic policy ASGISA. According to Meyer (2013:19), the implementation of the NGP was necessary, given the lack of national economic direction present in the South African economy. The NGP highlights job creation as its chief focus and objective to combat the persistently high levels of unemployment in South Africa. Secondary objectives include the reduction of inequality, the reduction of poverty, and improving the overall planning, implementation, and coordination of economic policy across all three tiers of government (national, provincial and local).

The targets set out in the NGP were:

- To create five million jobs by the year 2020;
- To reduce unemployment from 24.4 percent to 15 percent and;
- To train 100 000 youths of which 30 000 should be qualified engineers and 50 000 should be skilled artisans by 2015.

The NGP stresses the importance of government playing a leading role in achieving these targets, and planned to generate an increase in jobs through infrastructure development and investment. This would take form in various government-funded projects, including the construction of roads, railways, and ports as well as social infrastructures such as hospitals and schools.

The NGP continued up until June 2011, when the National Planning Committee (NPC)(2011) released a diagnostic report containing both the achievements and shortcomings. Much of the inefficiency was attributed to the structural history of South Africa, which was regarded as a major stumbling block in achieving executing the plan. According to the NPC (2011:15), these challenges were: existing and increasing levels of corruption, the racial division apparent in society, poor infrastructural location and maintenance, intensive and unsustainable use of resources, poor quality public healthcare system, exclusion of the poor from benefiting from development and a low number of working people. Although the government has struggled with these obstacles since the dawn of democracy, the NPC clearly outlines the importance of mitigating these factors as a necessary measure for policy success. Off the back of the NPC's diagnostic report, a new strategic framework was released in December 2011 as the National Development Plan.

3.5.5 The National Development Plan (NDP) (2012)

The National Development Plan (NDP) was established in 2012 following on from the NGP. The NDP took over from the NGP as South Africa's leading economic policy. The NDP provides a long-term vision for the country until the year 2030, with the primary aim to reduce inequality and eliminate poverty, through the following objectives:

- Reversing Apartheid geography;
- Strengthening the social wage and security for citizens;
- Growing the economy and employment by creating 11 million jobs by 2030;
- Implementing a rural development strategy that ensures job creation in agriculture as well as successful land reform and;
- Black Economic Empowerment (BEE) to assist the previously disadvantaged by enabling them to earn an income.

Unlike previous economic policy in South Africa, the NDP put a stronger focus on establishing long-term social benefits through structural change in order to achieve a more sustainable and inclusive economy (National Treasury, 2015:3). Thus, the NDP aids human development through the provision of quality education, reliable and safe transport, quality healthcare services, housing, water, electricity, adequate nutrition and sanitation (Hendriks, 2013:5).

The policy emphasises the need for a capable state, which includes well functioning state-owned enterprises in order to reach inclusive and shared economic growth (National Treasury, 2019:14). The NDP outlined the intention to transform the country into a "capable and developmental state able to intervene to correct historical inequities" (National Planning Commission, 2011), with the hope of becoming a developmental state. Therefore, the policy highlights the necessity of active government intervention as a prerequisite for sustained and rapid economic growth and development. In contrast to prior economic policies, such as GEAR and ASGISA, the NDP emphasises the need for a government playing an active role in the economy rather than a passive market-reliant one.

On the inception of the NDP, the plan received a particularly negative response. In economic circles, the plan has been for its lack of practicality and implementable steps (Meyer, 2013:13). The NDP has further been criticised as vague, as the plan fails to clearly outline key objectives and puts forward an actual detailed plan on how the government intends to achieve and measure these objectives continuously. The statements made in the plan are well-founded; however they are not measurable and are therefore unlikely to be achieved. The Human Sciences Research Council (HSRC, 2015) argued that the NDP is adequate; however, South Africa lacks the institutional ability and capacity to achieve the goals and objectives. The HSRC (2015) identifies key issues that are potentially problematic as: the lack of ability to implement policy, the lack of ability to enforce legislation, and the lack of ability to deliver services efficiently (HSRC, 2015). The National Union for Miners South Africa (NUMSA, 2016) claimed that since the NDP is not tied to any legal obligations, it takes away the incentive to enact the proposed goals for the country sufficiently and in a timeous manner.

The next section reviews the success and failures of developed and developing countries with regards to economic policy, particularly those making use of the developmental state or welfare state model, to generate improved economic growth and development.

3.6 CASE STUDIES

This section will analyse the trends in economic growth, government spending, government debt, and economic policy from South Korea, Singapore, Brazil, and India. The aim thereof is to determine the economic successes and failures of different types of government intervention and economic policy. The countries mentioned above were chosen based on their adoption of either the

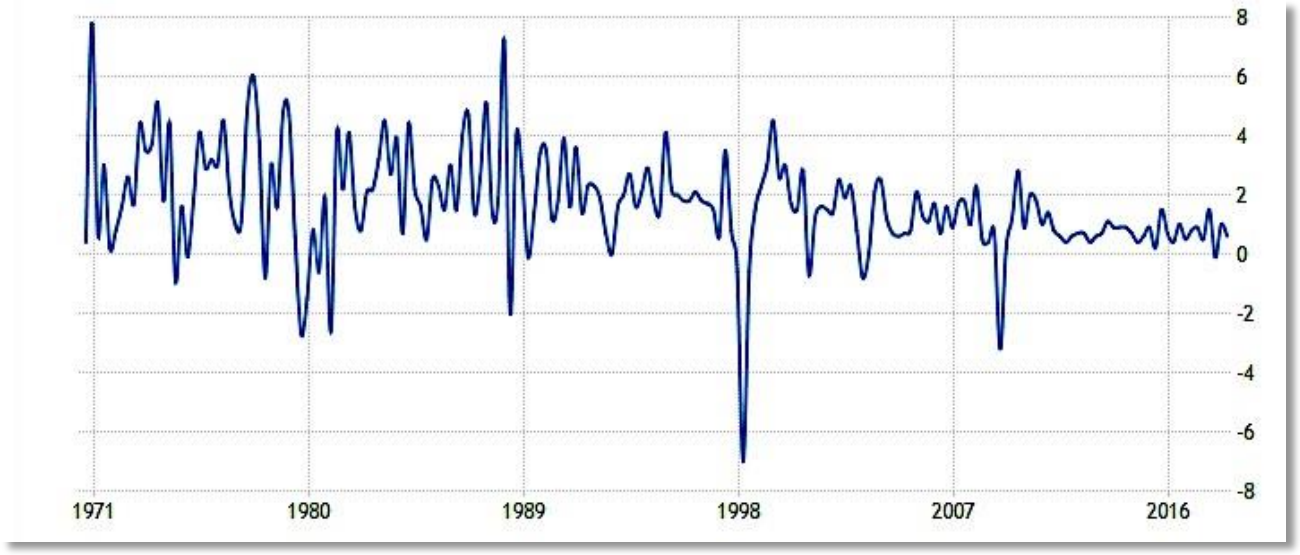
developmental state approach or welfare state approach, as a means to better understand the practical application and effects thereof.

3.6.1 South Korea

3.6.1.1 Economic growth and development

In the early 1960s, South Korea was poorer than most sub-Saharan African countries. However, following the end of South Korea's war with North Korea, the country reached unprecedented levels of economic growth for a sustained period between 1965 and 1989, leading to the country being classified as an 'Asian Tiger' (Minns, 2001:1025). Not only did the country manage to drastically increase GDP per capita, but the country achieved developed country status along with high levels of technology advancement (Amsden, 1992:226). The so-called economic 'miracle' spurred much interest, in particular with regards to the role of the government in implementing a robust developmental policy. A large portion of South Korea's developmental policy was concerned with the process of industrialisation (Rodrik, 1995:57). Figure 3.11 depicts the rate of economic growth in South Korea over the period 1970 to 2018.

Figure 3.11: South Korea's economic growth (1970-2018)



Source: Trading Economics (2019)

Economic growth in the country reached an all-time high of 7.8 percent in 1970, primarily as a result of increased state autonomy and the state's control of around 96.4 percent of the country's financial assets (Minns, 2001:1027). This control of assets allowed economic planners the ability to allocate resources towards industries considered crucial for economic growth and development (Minns, 2001:1027). Although the country successfully industrialised over the period 1965 to the 1970s, living standards for the working class did not improve as drastically, this has been linked to high levels of worker exploitation. Subsequently, Taiwan began to move towards democracy in 1998, and the level of social protection begun to increase (Dostal, 2010:156). South Korea experienced the lowest

economic growth in 1998, as a result of the Asian Financial Crisis, where growth plunged to negative seven percent. However, the economy recovered well following the crisis and has maintained positive growth, with an average growth rate of 1.79 percent since 1960 (Trading Economics, 2019). South Korea managed to avoid recession in 2009 following the global financial crisis, making it one of a few economies that managed to do so.

According to the OECD (2019), the country has achieved rapid economic development mostly due to an increase in labour intensive exports and highly skilled labourers and is currently the world's sixth-largest exporter. However, labour productivity has been declining and has been linked to deteriorating labour conditions as well as long working hours in comparison to other industrialised countries (OECD, 2019). South Korea's Gini coefficient indicates a level of income inequality that is relatively low, averaging around 0.35. Thus, in comparison to South Africa's 0.61 average, income inequality and the gap between rich and poor is not as large (Trading Economics, 2019). South Korea also has a high level of human development, as the country's HDI value for 2017 was 0.903, which increased from 0.817 in the year 2000 (UNDP, 2019). The high level of human development is a result of increased life expectancy and increased average years of schooling, which allows citizens of South Korea an improved standard of living.

3.6.1.2 Government spending

According to the OECD (2019), government spending in South Korea remains stable and low, staying well below the OECD average of around 40 percent to GDP at an average of 32.4 percent since 2011. South Korea is also one of the few countries that maintain a fiscal surplus averaging around 1.7 percent (Alston, Arsov, Bunny & Rickards, 2018:7). The largest item of public spending is concerned with economic affairs and exceeds many OECD countries, the second largest item of public expenditure is on education and has remained a top priority for the past four decades (OECD, 2019). Although spending on social protection has increased by around 11 percent annually since 1990, spending on social protection pales in comparison to other OECD countries, and less social spending has been attributed to South Korea's relatively young population who demand less assistance than the elderly portion of the population (OECD, 2019).

3.6.1.3 Government debt

South Korea has one of the lowest rates of public debt amongst the OECD countries, with debt making up around 38 percent of yearly GDP since 2014, in comparison to the average, which ranges between 61 and 83 percent of GDP (Fendos, 2019:1). The South Korean government is also considered a net creditor, as it holds more assets than liabilities (OECD, 2019). However, recently, the country has experienced economic growth rates lower than average and has received recommendations from the IMF to adopt an expansionary fiscal policy (Fendos, 2019:1). An expansionary policy would lead to an increase in public debt as the government would need to borrow more to increase spending as well as lower taxes as a means to stimulate economic growth.

According to Frascaroli, Oliveira, and Almeida (2019:2), a striking majority of countries that have adopted an expansionary fiscal policy in recent years, are now facing economic difficulties due to a continuous period of fiscal deficit.

3.6.1.4 Economic policy

As of the 1960s, the South Korean government adopted a protectionist policy as a means to promote development through exports, import substitution, and the overall industrialisation of the country (Luedde-Neurath, 2019:60). The government prevented the importation of various foreign products, excluding raw materials, in order to protect infant industries and allow for improved competition. South Korea's import substitution policy included multiple exchange rates, high levels of trade protection as well as repressed financial markets; the approach also allowed manufacturers duty-free access to raw materials necessary in labour-intensive production (Rodrik, 1995:58). Following the immense success of the country's import substitution policy, the state began to focus on export policies, which resulted in increased average incomes, investment, savings, and productivity (Rodrik, 1995:58). Thus, economic policy in South Korea had a chief focus on development through intervening in specific industries without hesitation as a means to steer the economy in a favourable direction.

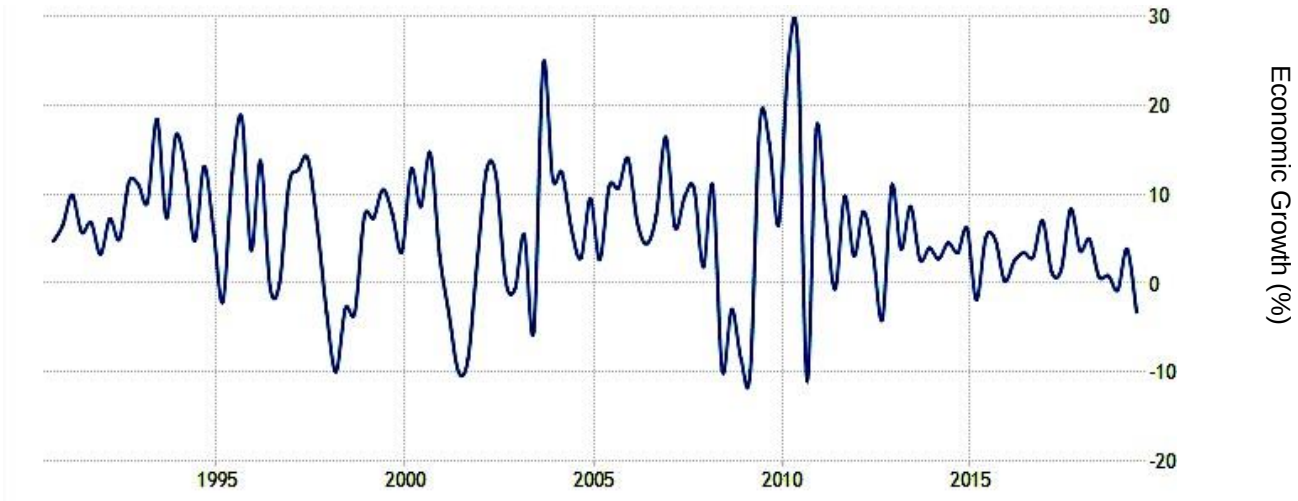
3.6.2 Singapore

3.6.2.1 Economic growth and development

Since gaining independence from Malaysia in 1953, the Singaporean economy began to grow rapidly and now has one of the highest GDP per capita in the world, resulting in the country becoming an Asian Tiger, and is now considered a high-income country (Trading Economics, 2019). According to Lauria (2014:1), the said country has doubled the number of people owning their businesses and has the world's second most entrepreneurs per capita trailing the United States. The government has played a large and significant role in the wellbeing of the economy and stimulates economic growth through various fiscal targets and industrial policy. The country also has a very low rate of unemployment, sitting at around two percent.

Figure 3.12 depicts Singapore's economic growth over the period 1990 to 2019. The country has maintained an average growth of 6.6 percent over the period, where the highest growth was 27.2 percent in the first quarter of 2010 and a low of negative 10.9 percent in this quarter of 2010 (Trading Economics, 2019). Although the country has maintained positive growth for the past decade, recent growth and growth projections have been considerably low, with a negative growth of 3.3 percent in the second quarter of 2019. This is considered to be a direct result of the increasingly challenging external environment related to the US-China trade war (Kit, 2019:1).

Figure 3.12: Singapore's economic growth (1990-2019)



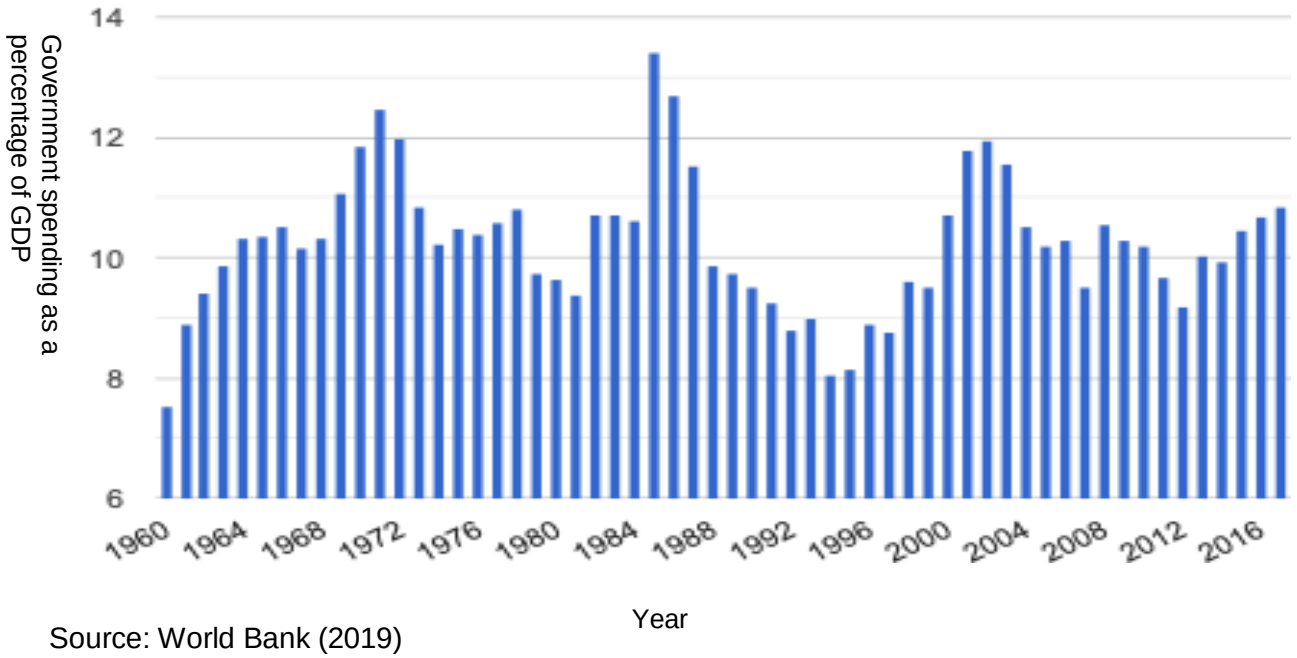
Source: Trading Economics (2019)

Concerning development, the country has one of the highest living standards in East Asia and had a Gini coefficient of 0.417 in 2018 (World Bank, 2019). According to the Singaporean Ministry of Finance (2018), income inequality is of the lowest in the developed world due to the low tax burden imposed on citizens in comparison to other developed nations. The government also provides citizens with a significant amount of assistance in the purchase of high-quality accommodation through subsidisation (Ministry of Finance, 2018). Another contributing factor to the high levels of economic development and competition is the level of education attained by the youth, which has improved drastically in the last two decades (Mahmud, 2018:1).

3.6.2.2 Government spending

Figure 3.13 below shows government spending as a percentage of GDP in Singapore over the period 1960 to 2017. Government spending as a percent of GDP remains relatively low in Singapore, reaching a high of 13.41 percent in 1985 and a low of 7.53 in 1960 (World Bank, 2019). In the last two decades, it has remained below 12 percent of total GDP (World Bank, 2019). The low percentage indicates a relatively small government size, which may link to the efficiency of government as it isn't oversized. As stated in the previous chapter, a smaller government usually allows a higher level of efficiency and autonomy within a country and aids in achieving economic objectives more rapidly. Along with indicating a smaller sized government, the relatively low spending to GDP also indicates that economic growth relies upon and is achieved mainly through private sector investment.

Figure 3.13: Government spending as a percentage of GDP in Singapore (1960-2017)



Source: World Bank (2019)

3.6.2.3 Government debt

Singapore's debt-to-GDP ratio amounted to 111.3 percent in 2018 (CEIC, 2019). Although this falls within the OECD average, it is around three times larger than that of South Korea. However, according to the Singapore government, this is sustainable due to the high amount of assets the country possesses, making it a net creditor (Ministry of Finance, 2019). Therefore, the high level of government spending is sustainable in the long-run due to a budget surplus and high asset capacity, which has allowed the country a strong second ranking in the Sovereign Risk Index, which ranks a country's creditworthiness (Ministry of Finance, 2019). Thus, Singapore may borrow from countries and institutions with ease as the risk related to non-payment is extremely low.

3.6.2.4 Economic policy

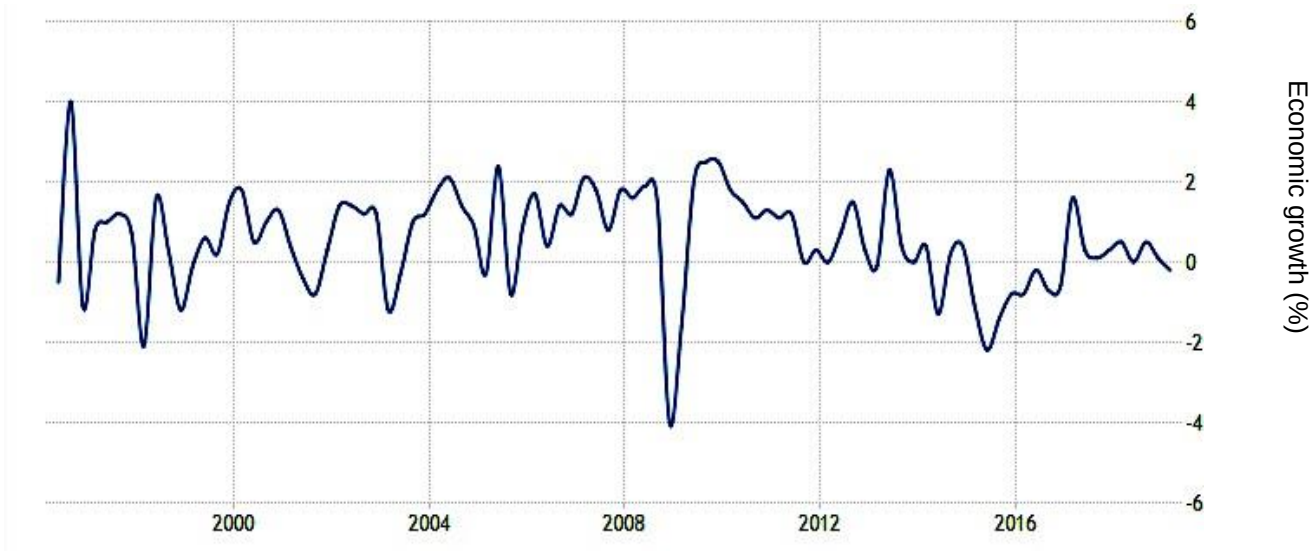
Much of Singapore's economic success is owed to the government's active industrial policy and efficiency in economic regulation. According to the Heritage Foundation (2019), the Singaporean government has extremely low levels of corruption and a high level of integrity, ranking the country as the second most economically free country in the world. A variety of roles taken on by the government has facilitated the nation's economic success, including: high levels of public investment, promotion of skills as a measure to attract foreign investment, economic diversification as well as easing exports and imports (Heritage Foundation, 2019). Singapore also protects property rights and enforces rules and regulations on property effectively, contributing to high investor confidence and attracting increased foreign investment over time (Heritage Foundation, 2019). According to Anwar and Zheng (2004:53), the economy has progressed at such a pace due to the government's foresight and provision of appropriate infrastructure, which led to increased levels of foreign investment.

3.6.3 Brazil

3.6.3.1 Economic growth and development

In the previous decade, Brazil was classed as a fast-growing emerging economy along with Russia, India, China, and South Africa; projected to overtake some developed economies by 2050 (Warner & Jones, 2019:476). The Brazilian economy is considered similar to the economy of South Africa and is used as a comparative study in various strands of literature. However, the country's economic performance within the last ten years has been feeble, with the country experiencing a two-year-long recession in 2015 and 2016. Figure 3.14 presents Brazil's economic growth date over the period 1990 to 2017. In 2017 and 2018, the overall economy shrank by 1.1 percent annually. According to Trading Economics (2019), the economy shrank by 0.2 percent in the first quarter of 2019. Before the deep recession and subdued economic activity, Brazil radically reduced inequality and poverty and lifted around 15 million people out of poverty between 2003 and 2014 (Rossi, 2018:4).

Figure 3.14: Brazil's economic growth (1990-2019)



Source: Trading Economics (2019)

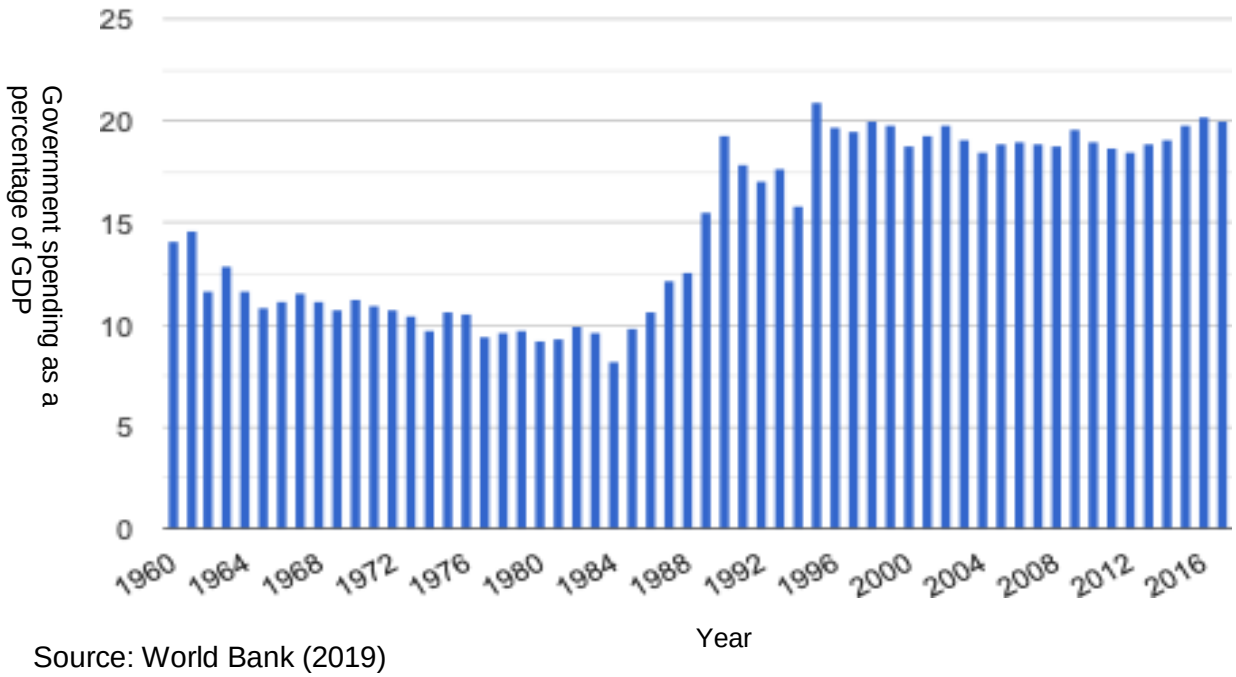
Concerning development, the country has progressed dramatically since the late 1980's where the Gini coefficient was around 0.65. The country had a Gini coefficient of 0.53 in the year 2017, having been classed as one of the most unequal societies at that time (World Bank, 2019). Thus, the general living conditions and income inequality within the country have shown significant improvement over the last three decades. However, the country faces the same unemployment challenge experienced by South Africa, with job creation in the private sector in sharp decline (Fendos, 2019).

3.6.3.2 Government spending

According to the World Bank (2019), fiscal sustainability is one of the most critical challenges facing modern Brazil. The country has a relatively high level of taxation and an increasing fiscal deficit (Gobetti & Orair, 2017:267). The Brazilian government spend a large portion of the budget on social

security, and according to Higgins and Pereira (2013:2), social spending has become much larger and more progressive. Higgins and Pereira (2013:3) assert that even though the government has focused spending on anti-poverty programs, a larger portion of social transfers is received by non-poor beneficiaries. Fendos (2019:1) attributes this spending to the increasingly younger age of retirement in the country, seeing some people as young as 50 years old retiring and claiming for government assistance. Figure 3.15 represents the country's government spending to GDP for the period 1960 to 2017. Spending as a percentage of GDP has been increasing over the last two decades, bringing to question the sustainability of spending within the country. As this figure continues to rise, the country's creditworthiness will decline as investor confidence in Brazil's ability to pay back loans is reduced. In comparison to South Africa, Brazil's debt to GDP ratio remains around one percent lower over the last decade.

Figure 3.15: Government spending as a percentage of GDP in Brazil (1960-2017)



Source: World Bank (2019)

3.6.3.3 Government debt

The country has failed in following through with fiscal reform measures, particularly within the national government, and has led to high and unsustainable debt; along with increasing public debt, and domestic debt is also on the rise (Baer, 2018:66). Government debt to GDP has averaged around 59.89 percent for the period 2006 until 2018. The country experienced its lowest debt to GDP in 2011 at 51.2 percent, and its highest at 77.22 percent in 2018 (World Bank, 2019). As a measure to address unsustainable debt, the Brazilian government has enacted Constitutional Amendment 95/2016, which limits public spending (World Bank, 2019). However, the debt to GDP ratio remains high and shows little sign of decline.

3.6.3.4 Economic policy

Import substitution was employed from the 1930s and onwards and is one of the main economic policies used to achieve economic growth in Brazil (Evans, 2018:143). This means that the government actively took measures to reduce the imports of certain goods and promote the domestic production of these goods instead, therefore, resulting in Brazil's industrial sector being the economies leading sector in generating state-led economic growth (Baer, 2018:68). However, due to recent economic downturn much of the Brazilian government's efforts have been focused on regaining international credibility and investor trust. Much focus has been on reducing the indebtedness of the country as well as imposing a spending cap on the public sector (Baer, 2018:68). Export promotion is another firm policy intended to stimulate job creation and increase global competitiveness.

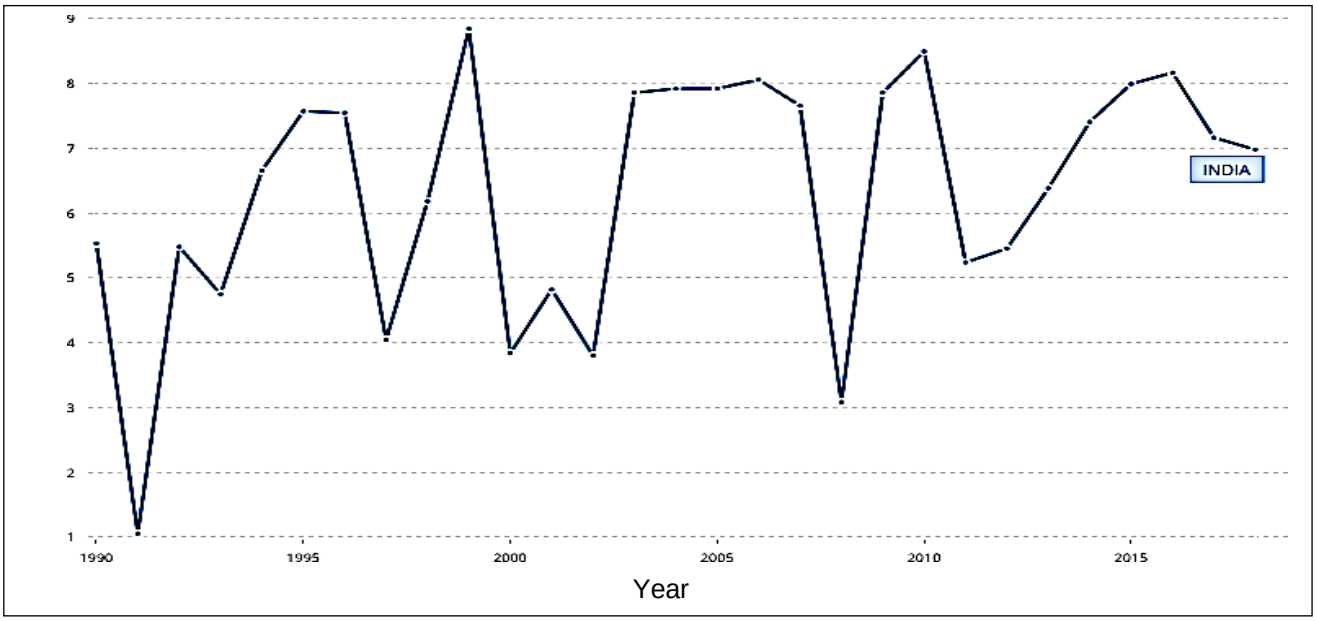
3.6.4 India

India is a developing mixed economy that relies on a balance between state intervention and basic market principles since liberalisation in 1991 (Sibal, 2012:17). Economic reforms were then implemented, and India began to open up the market to foreign competition, reduce fiscal deficits, and eliminate restrictions on foreign investment, making it easier for Indian businesses and entrepreneurs to obtain funding. Substantial growth was generated through the Information Technology (IT) sector, where employees received relatively smaller salaries in comparison to American IT sector employees. Subsequently, the IT sector is the largest private-sector job supplier in India.

3.6.4.1 Economic growth and development

Although the country experiences economic growth rates that surpass both the United States and China, the country is not classified as developed due to lagging progress in per capita income and human development indicators (Robson, 2019:1). Therefore, total economic output exceeds some developed countries; however, economic output per capita remains relatively low in comparison to these developed countries. Figure 3.16 depicts the rate of annual economic growth for the period 1990 to 2018. According to the World Bank (2019), India experienced the lowest annual economic growth rate within the period at 1.05 percent in 1991, and the highest in 1999 at 8.84 percent. India's most recent economic growth was pinned at 6.9 percent in 2018.

Figure 3.16: India's annual economic growth (%) (1990-2018)



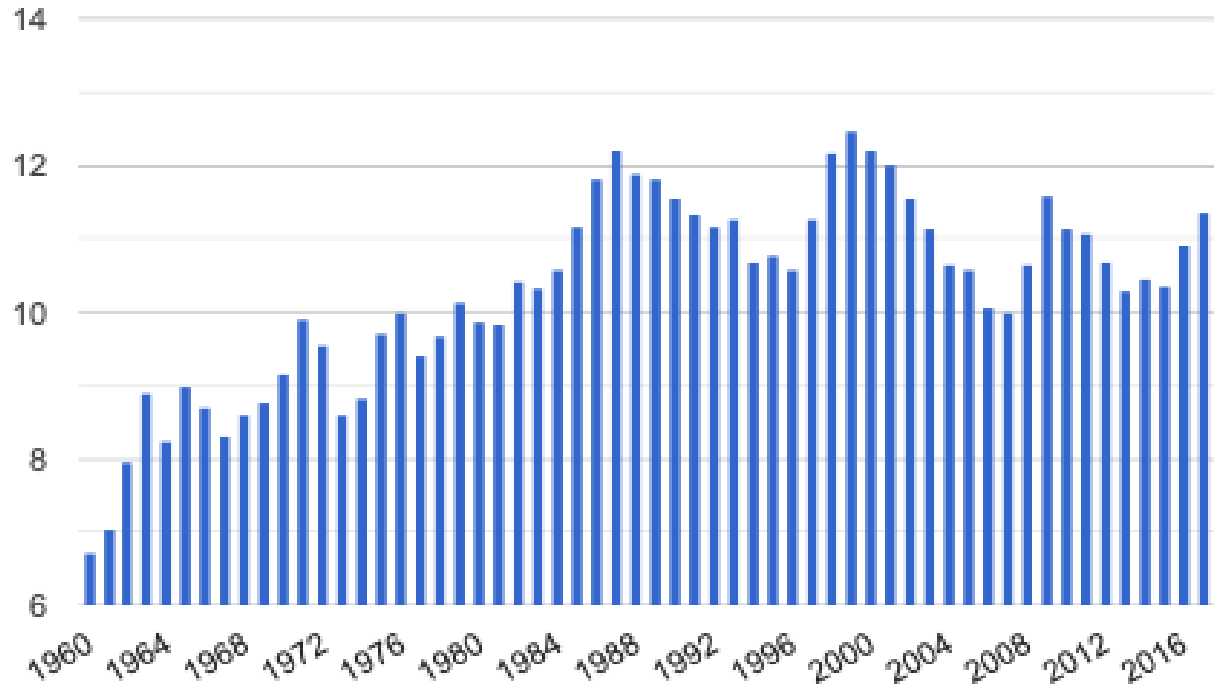
Source: World Bank (2019)

However, much of India's economic growth has not been distributed amongst a large portion of the population, with GDP per capita only being 17 percent of the world's average. This low GDP per capita alludes to jobless growth and is linked to the country, reaching a 54-year high rate of unemployment (Padney, 2019:1). India's current HDI rests at 0.640 leaving it in the medium human development category (UNDP, 2019). A massive 42 percent of the Indian population is considered to be living in poverty, even employed members of the population are considered to be living in poverty based on the average world measurement (UNDP, 2019). India has a large informal sector that is responsible for around half of the country's Gross National Income (GNI), the formal sector relies upon the informal sector and a number of economic commentators assert the need for integration between the financial sector and the informal part of the economy for improved economic development (Ghatak, 2017:1).

3.6.4.2 Government spending

The Indian government has a strong will to reduce its fiscal deficit; however, they intend to spend more on social services such as healthcare, education, and general basic needs (Padney, 2019:1). Given India's above-average performance with regards to economic reforms, public spending has also been well-allocated and productively spent (OECD, 2019). Figure 3.17 below indicates India's government spending as a percentage of GDP over the period 1960 to 2017. According to Tradings Economics (2019), the average for the period is pegged at 10.3 percent, with the lowest being 6.73 percent in 1960 and highest being 12.46 percent in 1999. Tax revenue received by the government amounts to an average of 9.71 percent of total GDP; therefore, the country has a relatively low level of taxation in comparison to other developing countries (OECD, 2019).

Figure 3.17: Government spending as a percentage of GDP in India (1960-2017)



Source: Trading Economics (2019)

3.6.4.3 Government debt

India's debt to GDP ratio has maintained an average of around 73.24 percent from 1991 up until 2017 (Trading Economics, 2019). In comparison to healthier developed nations, India's debt to GDP ratio is relatively low; for example, the United States had a debt to GDP ratio of 106.10 percent in 2018 (Trading Economics, 2019). Thus, a higher level of external government debt is not always viewed as a negative occurrence as, in most instances, the loaning of external funds to increase spending has a multiplier effect (McCombie & Thirlwall, 2016:65). Increased spending through incurring external debt has been advocated mainly within neoliberal policy stances as well as general Keynesian principles as stated in chapter 2. Consequently, economists have recommended India increase public spending and therefore increase external borrowing as a means to generate more inclusive economic growth (Padney, 2019:1).

3.6.4.4 Economic policy

Economic policy since 1991 has been viewed as developmental, as a key focus was thrust upon providing necessary infrastructure and facilitating and protecting industries (Maroufkhani, 2015:13). The industrial policy in India further emphasised the need for increased investment in research and development and particularly in the IT sector. Key economic policies recently adopted in India as outlined by the OECD (2019) include the reduction of regulation and burdens imposed on businesses as a means to ensure ease of doing business and promote the generation of new local business and entrepreneurs; to enhance the access to and quality of social infrastructure available to the Indian

population; to simplify and modernise labour laws to create more and better jobs for all and to pursue financial sector reform. The above-stated intents will reduce barriers to employment, govern banks in such a way that non-performing loans are avoided and overall improvement concerning healthcare and education (OECD, 2019). The developmental economic policy is thought to have failed with other developmental states, primarily due to the slow process of reform and inefficient bureaucracy in India (Maroufkhani, 2015:13).

3.7 SYNOPSIS

This chapter explored the historical and present macroeconomic and socio-economic environments in South Africa. Economic growth has been a key area of concern, as the forecasted and actual growth outcomes remain disappointing and in some periods, even negative, indicating the economy is shrinking. Another variable affecting the country, relates to the high level of inequality and unemployment in South Africa, which negatively contributes to the overall human development and inclusivity of growth within the country.

This chapter provided an in-depth discussion concerning public expenditure trends in South Africa post-Apartheid, the discussion found that the government has continued to increase spending on social welfare services and shown a decline in economic development spending. Given the economic policies discussed in the chapter, it may be inferred that the developmental objectives of the country do not align with the spending habits of the state.

The chapter further examined four countries, namely South Korea, Singapore, Brazil, and India concerning specific variables relevant to the study, as a measure to increase understanding of rapid, sustained economic growth and development primarily due to state-led economic activity. The case studies include both developed and developing countries, which have both succeeded and failed in achieving developmental state-like growth. The findings of the above-mentioned case studies indicated the need for focused government spending as well as high and efficient levels of intervention necessary for improved economic growth outcomes. Furthermore, the countries with lower levels of labour regulation indicated a positive impact on economic growth and development. Additionally, the case studies showed that countries with high government debt are not necessarily worse off, although those that fail to make debt repayment within a reasonable time frame were negatively affected. A strong and concise industrial policy may also be linked to improved economic growth and development outcomes.

The next chapter presents the research design and methodology of the study. It discusses the source of the data, the sample size, and the variables used within the econometric model for this study. Furthermore, the next chapter discusses the model used in the econometric approach and will explain the formulation of the econometric approach adopted by this study.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

Government intervention, in its many forms, plays a crucial role in determining the developmental status of a country (Wieczorek, 2018:207). The causal relationship between government spending and economic growth has been researched at length in the field of economics, often with varying results and conclusions. The literature reviewed in Chapter 2 establishes that a relationship does in fact exist between economic growth and government spending (size of government). Chapter 2 also indicated the growth effects of specific types of government spending, namely social welfare spending and economic development spending as well as debt-service costs. In addition to this, the chapter also indicated the possibility of an optimal government size for enhanced economic growth and development. Furthermore, the reviewed empirical literature demonstrates that a gap exists specifically with regards to disaggregated government spending, and the relationship they have with economic growth, particularly in the South African context.

Subsequently, various questions arise pertaining to the effectiveness of South African national economic policy in conjunction with government spending and the size of the existing government. National economic policy is highly influential on the actions of government, in addition, the government is influenced by internal issues such as corruption and the effectiveness with which objectives are carried out (Rose-Ackerman & Palifka, 2016:17) . In the previous chapter various macro-economic and socio-economic variables in South Africa were examined as a means to identify trends and patterns with regards to government spending, corruption, government size, government debt and national economic policy. The chapter further conducted case studies using the same variables on four developed and developing countries which are considered relevant to the study.

Thus, the economic design and methodology used to achieve the empirical objectives will be discussed in this chapter, the empirical objectives of this study are:

- To determine the long-run and short-run relationships between economic growth and corruption perception, government effectiveness, social welfare spending, economic development spending, government debt and government size;
- To determine the long-run and short-run interrelations and causal effects between economic growth and corruption perception, government effectiveness, social welfare spending, economic development spending, government debt and government size;

- To compare economic development spending and social welfare spending, in an attempt to classify the type of State intervention.

The current chapter aims to outline and describe the theoretical methodologies and techniques in the study. Firstly, the chapter presents the data sources, the sample period, the sample size as well as the dependent and independent variables in section 4.2. Secondly, section 4.3 discusses and outlines the specification of the model employed in the study, in particular, the standard Autoregressive Distributed Lag (ARDL) method of estimation. It is important to note the use of the ARDL approach relates to the prior discussed theoretical and empirical literature. Additionally, the section will briefly discuss factors relating to stationarity tests, the modelling of the chosen variables, the error correction model (ECM), the Toda-Yamamoto (1995) Granger-causality model and the underlying diagnostic testing tools.

4.2 SAMPLE PERIOD AND DATA DESCRIPTION

The study focuses on the South African economy in order to evaluate the impact of specific types of government spending particularly disaggregated spending on either social welfare, economic development and spending on servicing debt on economic growth. Additional variables will be considered as a means to further evaluate the government's relationship with economic growth. This study is based on a quantitative research design and makes use of an annual time-series data set.

4.2.1 Sample frame, size and period

The secondary data collected for the study originates from various sources including the South African Reserve Bank, the National Treasury, the World Bank and Transparency International. It precedes over 21 annual observations for the period 1998 to 2018. The chosen sample period is justified by the lack of concise budgetary information from the National Treasury prior to 1998, therefore having a specific focus on post-apartheid trends and government composition in order to facilitate much needed development.

4.2.2 Data collection and variable description

The study focuses on analysing the effects of the South African governments spending patterns on economic growth, and therefore more broadly, economic development. However, trends in government spending is not the only variable that determines economic growth. Therefore, variables including corruption, government debt, government effectiveness and the size of government will be included in the sample. The above mentioned variables do in fact have a relationship with economic growth, according to both the empirical and theoretical literature, thus justifying their use in the study.

Prior to conducting the analysis, it is noteworthy to mention that the data employed in the study has been transformed by natural logarithm (L) for the purpose of reducing data set variation and to adjust for scale effects. Therefore, this transformation of the data stabilises the variance of the original series (Lütkepohl & Xu, 2012: 629). Table 4.1 summarises the variables used in the study and includes both the independent and dependent variables used in the study.

Table 4.1: Variable specification

Variables	Variable specification
(L) Symbol	Natural Logarithm
SWS	Social welfare spending
EDS	Economic development spending
GOVD	Government debt
GOVE	Government Effectiveness Index
CORR	Corruption Control Index
GOVS	Government spending (government size)
GDP	Gross domestic product per capita

Source: Own compilation

4.2.3 Dependent variable specification

As mentioned in Section 4.1, the primary objective of the study is to analyse the impact of government spending, government effectiveness and the control of corruption on economic growth in South Africa. GDP per capita is used in the study as it measures the share of economic growth per person living in a country. In a developing country such as South Africa, which experiences relatively high population growth rates, it provides a clearer understanding of whether or not the country is growing in an inclusive manner (Kopf, 2018:1). This may be done by investigating the impact of independent variables including social welfare spending, economic development spending, government debt, the Government Effectiveness Index, the Corruption Control Index and the size of government on economic growth.

4.2.4 Independent variable specification

Through reviewing the relevant empirical and theoretical literature relating to South Africa and similar economies, specific independent variables have been sourced to better estimate the impact of government through characteristics including size, type and effectiveness. Numerous authors,

through empirical estimation, found government spending in South Africa is significantly related to economic growth making it a macroeconomic determinant (Bose, Hague & Osborn, 2007:550; Mo, 2007:519; Gadinabokao & Daw, 2013; Chirwa & Odhiambo, 2016) Furthermore, a number of empirical studies support that a positive linear relationship exists between government spending and economic growth, and does not have a negative correlation with economic growth, as found by previous studies (Bittencourt, Van Eyden & Seleteng, 2014; Dunne & Tian, 2015; Phiri, 2019).

In order to quantify the relationship and causation of government social welfare spending, government economic development spending and government debt-service costs on economic growth in South Africa, t was necessary to consult the country's National Budget's over the period of the study which have subsequently been disaggregated and categorised as one of the above three possible classifications. As mentioned in Section 1.5.3, two indexes will be included as variables, these indicators aim to gauge the control of corruption and the quality of government with regards to quality service delivery and growth facilitating intervention in South Africa.

4.2.4.1 The Corruption Control Index

As discussed in Section 3.3.3 the relationship between increased corruption and economic growth is theorised to be negative, as presence of corruption within government institutions reduces the institutional capacity and overall government effectiveness. The Corruption Control Index (CPI) is used to quantify the number of corruption cases filed, the rate of conviction for corruption-related crimes as well as the corruption perception within a country (World Bank, 2019). The scale used for the index ranges between 2.5 and negative 2.5, a score of 2.5 would indicate perfect control of corruption and negative 2.5 would indicate no control of corruption. As mentioned in Section 3.3.3 South Africa's score has remained relatively low since 2012, between 2012 and 2014 South Africa registered negative scores for this index and since then it has not risen above 0.2.

4.2.4.2 The Government Effectiveness Index

The Government Effectiveness Index (GEI) is the most widely used measure for the effectiveness of government. As discussed in Section 3.3.5 the index aims to measure the quality of public services provided by government, the quality of civil service, the quality of policy implementation and the degree of independence from political pressure (World Bank, 2019). Like the CPI the GEI makes use of a scale ranging from 2.5 to negative 2.5, where 2.5 indicates an extremely strong government and high level of effectiveness and where negative 2.5 indicates extremely weak government and a low level of effectiveness. As mentioned in Section 3.3.5 government effectiveness has been declining steadily in South Africa since 1996.

4.3 MODEL SPECIFICATION AND ECONOMETRIC ESTIMATION APPROACH

4.3.1 Model specification

As a means to better understand the systems behaviour, a dynamic model approach is used in the study. The use of the dynamic approach will better ensure that the estimations and the overall model is precise and dependable. According to Pesaran (2015:301) the dynamic economic model forecasts the path of an economy around its long-run equilibrium and therefore permits a concurrent relationship between variables. This concurrent relationship between variables allows the determination of whether or not simultaneous causation exists between variables at a specified time, *t* (Pesaran, 2015:303). In addition, this type of model allows for the insertion of lags for variables independent and dependent. Such a model is referred to as an autoregressive distributed lag (ARDL) model, and is particularly useful in considerably smaller sample sizes. The chosen model will be used to achieve the first empirical objective by means of the following equation:

GDP = *f* (SWS, EDS, GOVD, GOVE, CORR, GOVS) ..... (4.1)

Equation 4.1 will therefore measure the impact of the independent variables, government spending, corruption control and government effectiveness, on GDP per capita in South Africa over the period of the study.

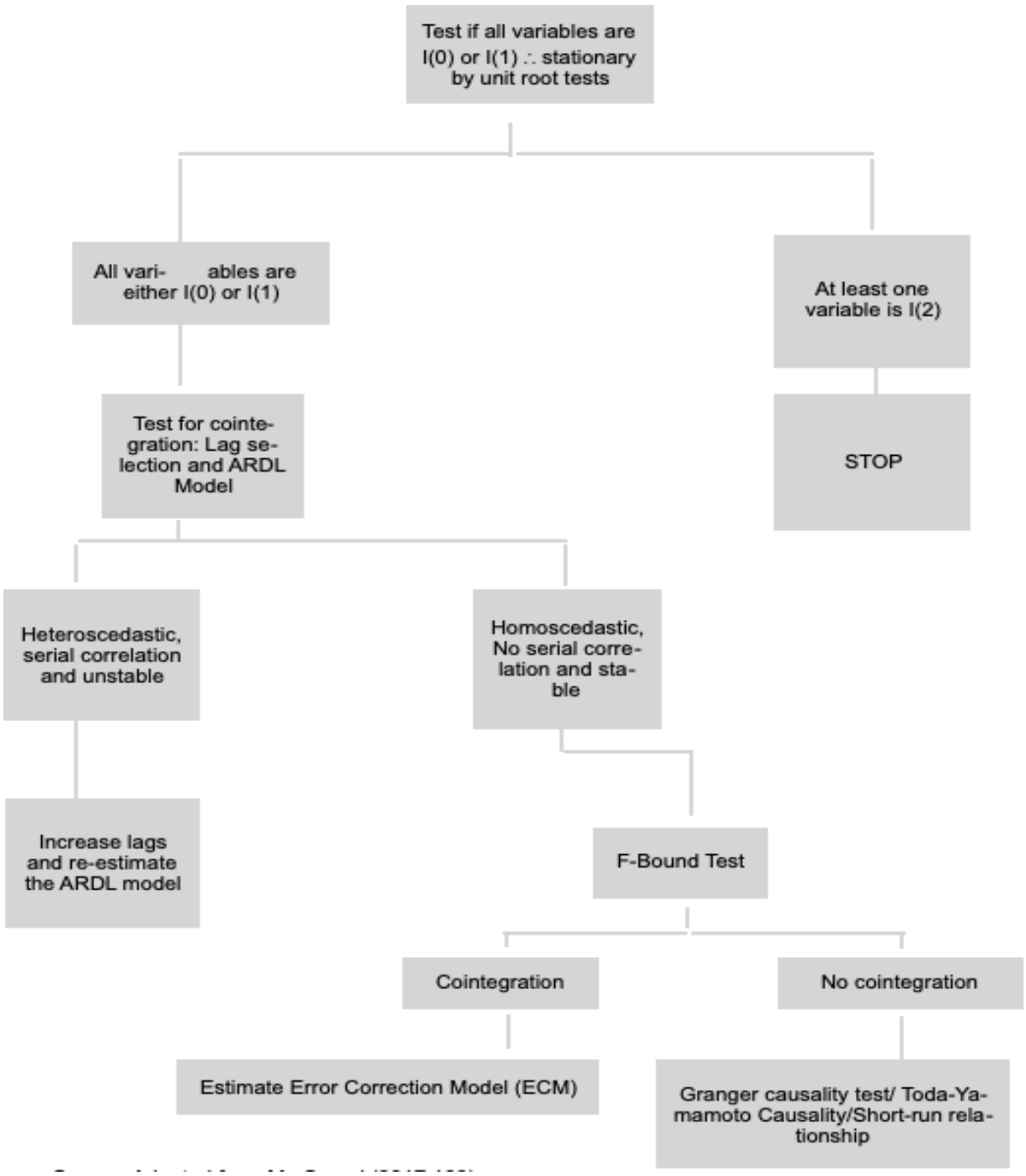
4.3.2 Econometric estimation approach

In taking a functionalist approach to the study, each variable is viewed as being interdependent and contributing to the overall stability and functionality of the economy or society as a whole (Thompson, Hickey & Thompson, 2016:190). Functionalism involves the consideration of both social and economic dynamics through a macro-level lens with a broad focus on variables which shape society (Hassard, 2015:536). Therefore, the functionalist paradigm ensures a specific type of view which leads the study particularly with regards to the empirical analysis.

As mentioned previously, the study adopts the ARDL estimation model in order to analyse the statistical model of the study. The estimation will include a variety of statistical tests in order to ensure stability as well as to establish the stationarity of the data. The ARDL approach has the ability to provide reliable results as it is able to detect and correct multicollinearity, serial correlation and determine stationarity of the selected variables. Furthermore, the model is useful in econometric testing as all variables are considered as explanatory variables and endogenous variables (Dritsakis, 2011:1).

Unlike conventional co-integration procedures, the ARDL model is flexible in this regard as it accommodates for a variety of optimal lags to be assigned to each variable within the model (Dritsakis, 2011:1). Thus, the model allows variables to be integrated at either I(0), I(1) or contain a mixture of I(0) and I(1) variables. However, variables integrated at I(2) may not be used in this model (Dube & Zhou, 2013:203). Figure 4.1 below describes the procedure to be followed when using the ARDL model for estimation.

Figure 4.1: The ARDL model estimation approach



Source: Adapted from McCamel (2017:103)

4.3.3 Unit root and stationarity test

Testing a time-series model for stationarity is crucial, a time-series considered to be non-stationary is a stochastic process that may either have structural breaks or more likely, unit roots (Nkoro & Uko, 2016:66). Stationarity testing is a prerequisite in estimating long-run equilibrium relationships between variables that employ co-integration techniques (Gujarati & Porter, 2008:762). Traditional unit root tests such as the Augmented Dickey Fuller (ADF) and the Phillips-Perron (PP) tests, however, are often linked to poor unit root estimations in small data samples (Maslyuk & Smyth, 2008:2593). Therefore, the use of the Kwaitkowski-Phillips-Schmidt-Shin (KPSS) method may be used as an alternative in order to compensate for the shortcomings of the ADF and PP unit root tests (Syczewska, 2010:27). As a means to ensure reliable unit root or stationarity estimations, the study will employ the ADF, PP and KPSS, and results will be compared to ensure variables are either I (0) or I (1), or mixed, as prescribed when using the ARDL method (Saafi, Farhat & Mohamed, 2015:589).

4.3.3.1 Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root test

The ADF test is an amended version of the original Dickey-Fuller (DF) test, which is otherwise known as the autoregressive unit root test (Nkoro & Uko, 2016:63). Said and Dickey (1984:599) improved upon the original test by accommodating for autoregressive moving averages (ARMA) which are ordered at either p or q in cases when the order of the variable/s is unknown. The accommodation for autoregressive moving averages, often leads to the ADF test generating similar results to that of the PP test. According to Phillips and Perron (1988:338) the variations in these tests occur based on the manner in which serial correlation in errors are handled.

In contrast to the ADF test, the PP test does not include lagged difference terms while serial correlation is controlled, which is done by making use of the Newey-West (1987) estimator (Gujarati & Porter, 2008:758). Thus, the PP test is considered to be superior to the ADF test in the fact that it accommodates for variables that indicate the presence of structural changes and prompts the use of non-parametric statistical methods by estimating a non-augmented Dickey-Fuller (Phillips & Perron, 1988). Although the ADF and PP test show differences, as stated above, they usually generate similar results. Due to this phenomenon Abdalla and Murinde (1997:28) present a standard regression equation with a constant for the DF, ADF and PP tests which is expressed as follows:

$$\Delta Y_{!"#!} + \beta_{\$} + \lambda_{\%} Y_{!\&\$} + \sum^{(} "\$ a \cdot \Delta Y_{!\&\$} + \epsilon_{\%!} \quad \text{(4.2)}$$

Where:

Δ - Denotes the first difference operator

X - Denotes the natural logarithm of each variable considered in the study, such that $\Delta Yt = Xt - Xt-1$;

t - Denotes the time trend; and

$\epsilon 1$, $\epsilon 2$, $\epsilon 3$ and $\epsilon 4$ - White noise errors.

Additionally, the ADF and PP tests for stationarity carry the following hypothesis:

H_0: $\lambda 1 = \lambda 2 = \lambda 3 = \lambda 4 = 1$

Then $Y_!$ consists of a unit root, I(1);

H_1: $\lambda 1; \lambda 2; \lambda 3 and \lambda 4 < 1$

Then $Y_!$ are stationary, I(0).

The null hypothesis (H_0), where λ = 1, supports that the variable consists of a unit root *I* (1) and is thus non-stationary. However, the alternative hypothesis, where $\lambda <$ 1, supports that the variable does not have a unit root and is *I* (0), thus being stationary. The KPSS stationarity test was employed to validate the results of the both the ADF and PP tests.

4.3.4 Autoregressive Distributed Lag (ARDL) Bounds Test for Cointegration

To further analyse the long-run and short-run cointegration of the individual variables, the study employed the ARDL bounds test method (Pesaran *et al.,* 2001:296). The study makes use of a single equation in the ARDL model estimation. According to Dube and Zhou (2013:203) the ARDL model will determine whether long-run relationships exist between the variables considered in the study. Due to its ability to allow for variables integrated at I(0), I(1) or a mixture of I(0) and I(1) the approach has been applied progressively over time. The model ensures impartial long-run estimates to be generated for the causalities tested, along with a plausible t-statistic, regardless of whether the series is endogenous or not (Harris & Sollis, 2003:111). Furthermore, the model adopts and OLS (Ordinary Least Squares) technique, which simplifies the estimations of correlations between the variables and has the ability to distinguish between dependent and independent variables used in a model (Pesaran *et al.,* 2001:296). The discussed model holds the following hypothesis-testing framework:

H_0: No cointegration (no long-run impact);
H_1: Cointegration (long-run impact).

The null hypothesis (H_0) indicates the non-existence of cointegration or a long-run relationship between the considered variables. This is estimated by means of conducting the bounds test (Wald test) where the F-statistic value is compared to the critical values of the lower and upper bound as established by Pesaran *et al* (2001:297). In the case that the F-statistic is greater than that of the critical values of the upper bound, co-integration is present, thus the null hypothesis of no cointegration may be rejected in favour of the alternative hypothesis. In contrast, a F-statistic value which is lower than the critical values of both the upper and lower bound indicates the absence of cointegration amongst the variables, therefore the null hypothesis of no cointegration is accepted and no long-run impact is presented between the underlying variables. However, obtaining a F-

statistic value that falls between the upper and lower bound critical values leads to an inconclusive estimation (Dube & Zhou, 2013:203).

The ARDL model is not only useful in determining long-run estimations and impacts, but also the short-run impacts between variables (Pesaran *et al.,* 2001:308). To provide these short-run estimations, the ARDL model produces the error correction model (ECM), presenting the error correction term (ECT) and estimating the short-run adjustments, alongside the long-run equilibrium. The ECT denotes the short-run adjustments coefficients providing measure for the long-run disequilibrium of the dependent variables corrected in each quarter. Therefore, in the case that co-integration between variables in the study the model will estimate the ECM. However, if no co-integration is found between the variables the Granger or Toda-Yamamoto causality tests will be estimated as a means to determine causation and short-run correlation between the variables (Alimi, 2014:106).

As previously stated, the ARDL model permits several optimal lags for each variables which makes use of a general-specific approach to modelling and taking the various sufficient lag structures into account for each model (Mc Camel, 2017:110). The study employs the Schwarz information criterion (SIC) as a means to determine the maximum number of lags to be introduced to the statistical model estimated in the study. Using the SIC for this purpose may be justified through various empirical studies which state the criterion has a higher rate of consistency and power in comparison to alternative lag selection criterion particularly when considering sample sizes that are relatively small (Greene, 2003; Asghar & Abid, 2007; Javed & Mantalos, 2013; Chen, Choi & Escantiano, 2017). The criterion also introduces a penalty term for the number of parameters within the ARDL models used in the study, which addresses issues of over-fitting.

The study examines whether or not a long- and short-run relationship exists between the independent variables (SWS; EDS; GOVE; CORR; GOVD and GOVS) and dependent variable (GDP) using the ARDL model. As discussed in section 4.3.2, the study will test the dependent variable against the independent variables, as described by equation 4.1.

4.3.5 Toda-Yamamoto Granger Non-Causality Test Model

In the case that no long-run co-integration exists between the variables, the Toda-Yamamoto non-causality test will be conducted as a means to investigate the causal relationship between variables of the study (Wiener, 1956:125). The null hypothesis for the causality test, states that lagged x values provide no explanation for y, therefore the null hypothesis assumes that x(t) does not cause y(t) (Granger, 1969:424). The Granger causality test is the conventional test for causality and determines whether or not one-time series can be useful in forecasting another (Jalil & Rao, 2019). The nature of the variables used in the study determine the subsequent mathematical formulation and

application of the model, thus the causal factors repressed in the model depend on the chosen variables (Seth, 2007:16)

Habanabakize (2016:52) asserts the models forecasting does indeed carry a few limitations. The model predicts the future behaviour of a given variable based on a given order, and does not take other variables and their influences into account (Gujarati & Porter, 2008). The causality test relies on the number of lags selected, therefore the results may fluctuate subject to the number of lags selected (Habanabakize, 2016:52). Another shortcoming of the causality test model relates to the nature of the data used, when using time series data it is usually non-stationary which may possibly result in inaccurate outcomes and false predictions (Huang, Kao & Chiang, 2004:34).

Subsequently, the Toda-Yamamoto (1995) augmented causality test can be used in place of the conventional Granger Causality test, as the test allows for the application of the ECM whereas as the Granger causality test cannot be applied to the ECM. The Toda-Yamamoto test is developed irrespective of whether Y_1 and X_1 is I (0), I (1) or I (2), thus non-cointegrated or cointegrated or a random order. Therefore, the mentioned test provides the testing for causality amongst integrated variables employed under the study (Dritsakis, 2017:123).

4.3.6 Model diagnostic tests

A series of diagnostic tests follow those discussed in Section 4.3.2, this is considered the final stage in establishing the overall performance of the model. Tests including both residual and diagnostic are crucial, as they ensure that conclusions drawn from the previously estimated results are in fact accurate. The above mentioned tests include tests for normality in the distribution of data, serial correlation, heteroscedasticity and stability of the model (Takaendesa, 2006:100). In the event that the mentioned assumptions are not valid, the subsequent conclusions drawn from the chosen ARDL model could possibly be considered inaccurate and misrepresentative.

4.3.6.1 Residual diagnostic tests

In order to evaluate the validity of the assumptions of the econometric model procedure and identify irregularities within the features of the ARDL model that might lead to problematic and unreliable conclusions, the study will make use of a normality test, serial correlation test and a heteroscedasticity test (Chipeta, 2018:101). The said tests are presented as follows:

- *Normality test*

To ensure residuals are normally distributed, the test for normality is conducted by making use of a visual representation in the form of a histogram as well as the Jarque-Bera test. Normality is tested to eliminate the possibility of statistical errors and the normal distribution of the data. It is essential to have a normal distribution in the data to ensure sound statistical procedures such as correlation, regression, parametric tests and t-tests as a means to ensure conclusions reached are reliable

(Myers, Well & Lorch, 2013:61). The Jarque-Bera is a statistic used to test whether a series is normally distributed, the statistic measures the difference in the kurtosis and skewness of the series against those from the normal distribution (Bai & Ng, 2005:57). The Jarque-Bera test carries the following hypothesis-testing framework:

$\mathbf{H_0}$: Normal distribution

$\mathbf{H_1}$: Non-normal distribution

The statistic is computed as follows:

$$JB = \frac{N-k}{6}\left[S^2 + \frac{(K-3)^2}{4}\right] \quad (4.5)$$

Where:

N indicates the number of captured observations and *k* indicates the number of estimated parameters. *K* denotes the kurtosis in variables and *S* denotes the skewness of variables. This indicates that when the JB statistic value is greater than $X^2(2)$ or the p-value is less or equal to the significance level, the null hypothesis is rejected. This suggests that the variables are therefore not normally distributed. On the contrary, should the JB statistic value be smaller than *X2*(2) or the p-value is greater than the significance level, then it can be concluded that the variables are normally distributed.

- *Serial correlation Breusch-Godfrey (LM test)*

According to Wooldridge (2012:412) serial correlation exists within a time series when the error terms from one period carry over to future periods. In other words, serial correlation occurs when correlation exists between the error terms from multiple periods in a data series. Different types of serial correlation exists, first-order serial correlation and positive serial correlation. First-order serial correlation occurs when errors in one time period are correlated directly with errors in the ensuing time period, positive serial correlation occurs when errors in one time period are positively correlated with errors in the next time period (Hunter, Burke & Canepa, 2017:138). The presence of serial correlation is troublesome, as it may lead to unreliable estimations from the ARDL model.

The Breusch-Godfrey (LM) test is applied to test for autocorrelation in the errors in a regression model, therefore it makes use of the residual from the model being considered (Keele & Kelly, 2006:187). Unlike the Durbin-Watson statistic for the residuals, the LM test may be used to test for higher order errors and is applicable whether there are lagged dependent variables or not. The Breusch-Godfrey test carries the following hypothesis-testing framework:

$\mathbf{H_0}$: No serial correlation up to order *p*

H_1: Serial correlation up to order *p*

The following test statistic assists in ascertaining whether or not the residuals are serially correlated or not:

$$Q_{12} = T(T+2)\sum_{5''\$}^{*} \frac{3''}{4\&5} \quad \text{..... (4.6)}$$

Where:

T denotes the number of captured observations in the series and *p* denotes the tested elevated order of serial correlation. The r_5 indicates the j[th] serial correlation. The null hypothesis of no serial correlation is rejected in the event of the p-value being less than or equal to the significance level, thus suggesting that the residuals are serially correlated. In contrast, should the p-value be greater than the significance level it indicates that the residuals are not serially correlated.

- *Heteroscedasticity test*

Heteroscedasticity refers to the event when error terms within a model are not uniform in nature, therefore indicating inconsistency in the variance in error terms within the model (Hayakawa & Pesaran, 2015:112). Frequently, heteroscedasticity is present within a data set due to outliers contained in the data set. Another less frequent cause can be attributed to interpolation or extrapolation when manipulating data, which subsequently leads to ARDL estimators not to be the best liner unbiased estimators or "BLUE" and could result in unreliable conclusions. Thus, the Engle's arch LM test is used to test for heteroscedasticity within the data, the test has the following hypothesis-testing framework:

H_0: Homoscedasticity

H_1: Heteroscedasticity

The test statistic helps decide whether or not heteroscedasticity exists within the data:

$$LM_E = nR^2 \text{ ..... (4.7)}$$

Where:

n indicates the number of captured observations and R^2 denotes the augmented residual regression resolution coefficient. In the event that the p-value is less than or equal to the significance level, the null hypothesis of homoscedastic data is rejected. Therefore, the rejection of the null hypothesis indicates that the data is heteroscedastic. In contrast, no heteroscedasticity exists when the p-value is greater than the significance level.

4.3.6.2 Stability diagnostic/recursive residual tests

In addition to performing various residual diagnostic tests, the study also makes use of stability diagnostic tests to ensure consistency amongst the parameters of the various ARDL models over times (Seddighi, Lawler & Katos, 2000:82). Stability diagnostics are conducted by making use of various recursive residual tests, these tests plot the recursive residuals around zero and indicate standard errors at each point (Brooks, 2014:233). This in mind, stability is indicated by the residuals that then reside within the critical bounds of the standard errors. The study will use the cumulative sum of recursive residuals (CUSUM) test as well as the cumulative sum of squared residuals (CUSUMQ) test, which are methodised as follows:

- *Cumulative sum of recursive residuals (CUSUM) test*

The CUSUM statistic that resides within the normalised form of recursive residuals must be tested based on the null hypothesis of quintessential parameter stability (Brooks, 2014:232). This means that the CUSUM statistic is often zero, based on the predicted value or interference typically being zero (Brown, Durbin & Evans, 1975:154). Therefore, should the residuals resin outside of the standard error critical lines after estimation of the CUSUM test, the null hypothesis of quintessential parameter stability is rejected. According to Brown *et al.* (1975:154) the CUSUM test can be expressed as follows:

$W_t = \sum^{!}{}_{*6\$}\ ^{19}{}_{S}$ ……..(4.8)

Thus: t = k + 1,…, T and $s = S_T / (T- k)$

Where:

$W_{t\ denotes}$ the recursive residual and s denotes the calculated standard deviation. t indicates the time necessary for a constant to diverge. Therefore, should δ represent a constant and δ continue to be constant at times, E (W_t) will then be equal to zero. Moreover, should δ diverge, then W_t will correspondingly diverge from the critical line of its zero mean value (E (W_t) = 0). Brown *et al.* (1975:154) assert this will then indicate that the significance of divergence from the critical line of zero mean value will be estimated by using two critical lines of five percent significance interval, which will then measure the level of stability and will determine whether or not the null hypothesis of quintessential parameter stability will be rejected.

- *Cumulative sum of squared recursive residuals (CUSUMQ) test*

The CUSUMQ test statistic finds its origin in the normalised form of the cumulative sum of squared residuals and can, as with the CUSUM test, be tested by means of the null hypothesis of quintessential parameter stability (Brooks, 2014:234). Although similar characteristics exist between the CUSUM and CUSUMQ tests, the CUSUMQ test plots the cumulative sum of squared residuals

and not that of the reclusive residuals such as the CUSUM test (Brown *et al.,* 1975:153). The CUSUMQ statistic is expressed as follows:

$$S_t = \frac{S_{!9}}{S_4} = (\sum^{!}_{5''*6\$} w_{\cdot}) / (\sum^{4}_{5''*6\$} w_{\cdot}^{\cdot} \quad \text{..... (4.9)}$$

Where:

t = *t* = *k* + 1,…, *T,* as well as the projected value of S_t for the null hypothesis of parameter stability is described as $E(S_t)$ = (t - *k*) / (T - *k*). The most effective technique in capturing the values of significance, is to start from zero at *t* = *k* and then join at *t* = *T.* Therefore, the significance of the divergence of *S* from the projected value is projected by making use of a set of two diagonal critical lines. Both lines are estimated at the five percent confidence interval and are parallel to each other around the projected value (Brown *et al.,* 1975:154).

4.4 SYNOPSIS

This chapter aimed at establishing and providing a discussion on the data selection procedures and statistical methods used in chapter 5. The methodological discussion provided the steps undertaken in establishing econometric models and techniques to be used in the estimation of the long-run and short-run relationships and causal linkages between South Africa's economic growth and government size, government debt, government spending on social welfare and economic development as well as control of corruption and government effectiveness. Data employed in the study was sourced from various sources including the South African Reserve Bank, World Bank Worldwide Governance Indicators, the National Treasury of South Africa and Transparency International. The period encompassing the study was selected based on the available data, in particular the available data pertaining to government spending, which was not clearly stipulated prior to 1998.

The chapter described the chosen sample period and reviewed the various tests employed in the study. It further justified the used modelling methods and framework thereof. The various tests conducted in the study were discussed, such tests include tests for unit roots and stationarity, the ARDL cointegration test, the Error Correction Model (ECM), the Toda-Yamamoto Granger non-causality test as well as various diagnostic and stability tests. The chapter further justified the use of the chosen ARDL model for the analysis of the study's empirical objectives, thus the model was chosen due to its flexibility components in relation to traditional cointegration methods. The next chapter estimates the empirical tests employed in the study.

CHAPTER 5

EMPIRICAL ESTIMATION, RESULTS AND DISCUSSION

5.1 INTRODUCTION

The previous chapter outlined and discussed the econometric estimation approach which has been used by this study in order to analyses the long- and short-run impact of the independent variables on economic growth in South Africa. Chapter 4 specified and methodised the ARDL model that is applied in order to achieve the empirical objectives of the study. Additionally, econometric techniques necessary in ensuring the reliability of the ARDL estimation results were methodised (i.e. unit root tests, stationary tests and residual diagnostic tests). The present chapter presents the estimations and results established by making use of the ARDL cointegration model. The empirical analysis begins with graphical and descriptive representations of the movements in the dependent and independent variables under consideration across the sample period 1998 to 2018.

Subsequently, the chapter presents the correlation results and the unit root and stationarity test results, which identifies the relationships between variables and determines the order of integration of each variable. As discussed in the preceding chapter, determining the order of integration of the variables is a condition of the application of the ARDL bounds test approach to cointegration. The previously stated estimations are conducted to assess the relationship between the chosen variables as mentioned in Section 4.2. Lastly, diagnostic tests are conducted on the chosen ARDL model, followed by a discussion of the findings, the recommendations and finally, the concluding remarks.

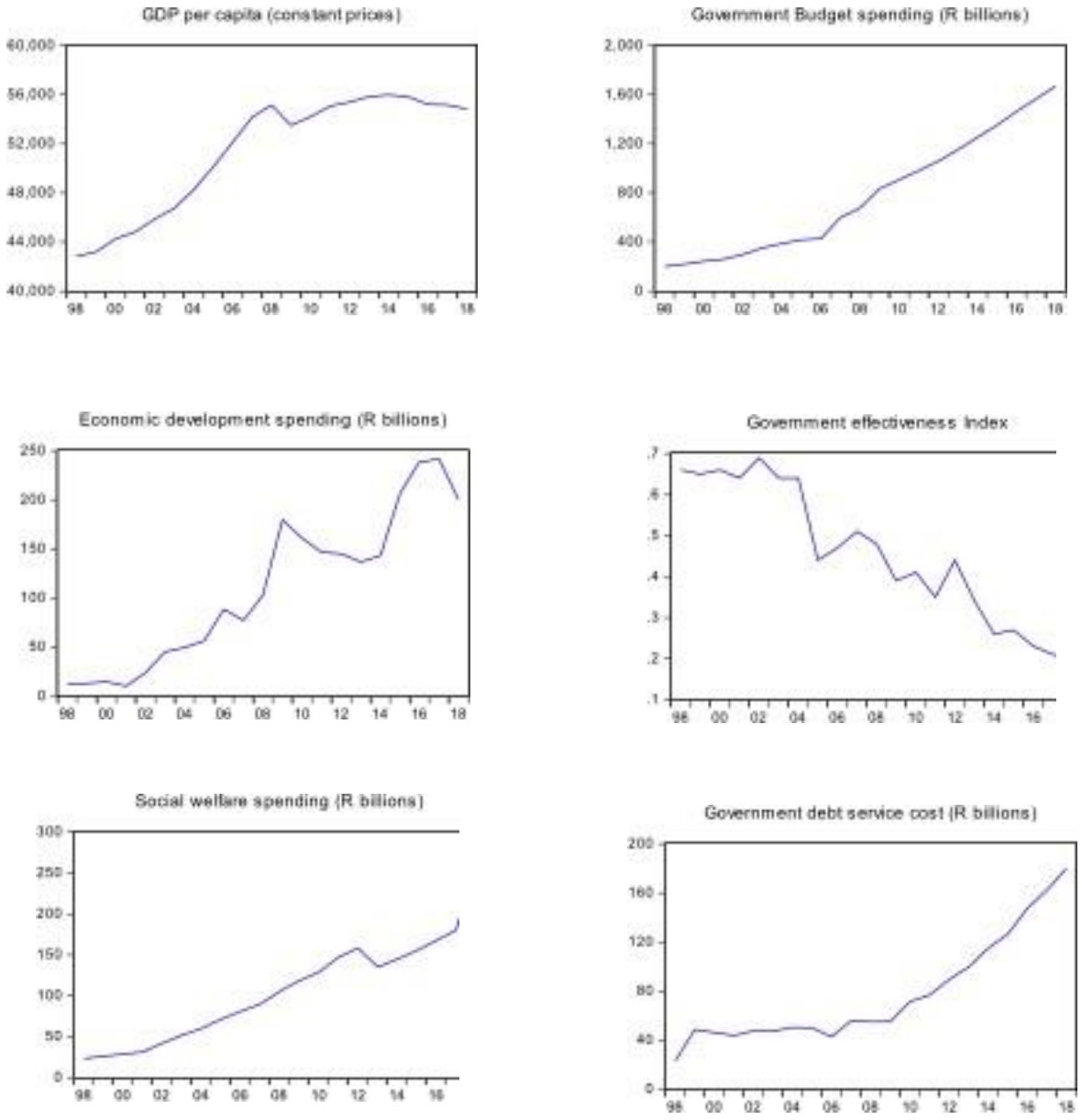
5.2 GRAPHICAL ESTIMATIONS

In conducting econometric testing, graphically plotting the residual series is an important tool in understanding the time series movements, as well as identifying possible deficiencies within the series. According to Lükepohl and Krätzig (2004:40) unusual residuals or deficiencies may be observed in the form of outliers, structural breaks or inhomogeneous variances. Deficiencies as mentioned above, may have a major influence on the accuracy and reliability of results, therefore identifying such deficiencies in each time series is crucial to econometric modelling and analysis (Chipeta, 2018:106). The graphical estimations were established and are demonstrated by Figure 5.1, which illustrates the descriptive representation of the variable series in order to identify any deficiencies.

According to Figure 5.1 below, which is based on the raw data of each variable of the study, GDP per capita has been increasing since 1998, however the steady upward trend was disturbed in 2007 which can be linked to the global financial crisis as discussed in Section 3.5.1 (Giampiccoli, Lee & Nauright, 2015:229). The decline is visible between 2007 until 2009, and begun to recover post-

crisis until late 2010, early 2011, and then begun to decline. Since the disturbance, GDP per capita has been increasing at a declining rate and more recently a negative trend can be seen, indicating slow recovery within the South African economy. Government spending shows a slight upward trend from 1998 up until 2006, thereafter government spending begun to increase and has been rising yearly since 2006.

Figure 5.1: Trend analysis and movement within variables (raw data)



Source: Compiled by author

Social welfare spending, over the period of the study, has shown a consistent upward trend. As discussed in Section 3.2.2 South Africa has a high level of inequality and poverty, along with rising unemployment, therefore increased social welfare spending is a crucial tool in mitigating such challenges. By contrast, economic development spending showed a gradual increase between 1998 and 2002, followed by a rapid increase between 2002 and 2009. Following 2009, a steady decline in spending can be observed between 2010 and 2015, thereafter economic development spending has been declining. As discussed in Section 2.5, in order for a country to be considered a developmental state economic development spending should exceed welfare spending. In addition, Section 3.5.4 discussed the NDP where the document clearly states the governments aspirations of becoming a developmental state. Therefore, government expenditure in South Africa contradicts the current adopted economic policy

As depicted in Figure 5.1, government debt-service costs remained steady and relatively consistent between 1998 and 2008. However, since 2008 debt-service costs have been soaring and show no sign of relenting, as discussed in Section 3.3.4 the rapid increase in South Africa's debt has been attributed to a widening gap between government spending and revenue collected post-crisis. The index for government effectiveness has been plunging 2003, indicating the South African government is less effective in carrying out tasks and in particular, less effective in servicing debt and reduced quality of service delivery.

Lastly, the Corruption Control Index declined between 1998 and 2003, this indicates the government has a reduced institutional capacity and a low prosecution rate for corruption-related crimes. Following 2003 the index begun to rise and peaked in 2008, following 2008 the control of corruption index plummeted up until 2011 where it then started to increase. However, the increase in corruption control has been levelling off and subsequently begun to decline rapidly in 2016. As discussed in Section 3.3.3, corruption control within a country is fundamental in achieving various macro-economic and socio-economic objectives, lack of control over corruption will reduce the effectiveness with which all tiers of government function. The next section presents the results of the correlation analysis and unit root tests, as discussed in Section 4.3.3.

5.3 CORRELATION ANALYSIS AND UNIT ROOT TEST RESULTS

Correlation analysis along with unit root testing forms the basis of any statistical estimation such as a regression (Ogbokor, 2015:124). Therefore, this section will present the correlation matrix results, the unit root test results, as well as the stationarity test. As previously discusses in section 4.2, the data of the variables in the study have been transformed to natural logarithm (L) in order to ensure that growth rates of the variables are determined and to reduce variation within the data sets.

5.3.1 Correlation matrix results

Table 5.1 reports the correlation coefficient matrix and includes all the variables that are under study.

Table 5.1: Estimated correlation metric results

Variable	LGDP	LGOVS	LSWS	LGOVD	LEDS	LGOVE	LCORR
LGDP	1.000000 - - - - -						
LGOVS	(0.937655) [0.0000] **	1.000000 - - - - -					
LSWS	(0.960033) [0.0000] **	(0.977465) [0.000] **	1.000000 - - - - -				
LGOVD	(0.757496) [0.0001] **	(0.912240) [0.0000] **	(0.853734) [0.0000] **	1.000000 - - - - -			
LEDS	(0.954953) [0.0000] **	(0.950209) [0.0000] **	(0.974884) [0.0000] **	(0.789916) [0.0000] **	1.000000 - - - - -		
LGOVE	(-0.803216) [0.0000] **	(-0.926608) [0.0000] **	(-0.881182) [0.0000] **	(-0.917295) [0.0000] **	(-0.844125) [0.0000] **	1.000000 - - - - -	
LCORR	(-0.650636) [0.0014] **	(-0.738227) [0.0001] **	(-0.748102) [0.0001] **	(-0.716979) [0.0003] **	(-0.711316) [0.0003] **	(0.666633) [0.0010] **	1.000000 - - - - -

Notes: ( ) denotes correlation coefficient, [ ] denotes P-value, & ** denotes significance at 1 percent.

The results given in Table 5.2 report the correlation along with their corresponding t-statistic and probability values of each variable under study. Therefore, the strength of correlation or the relationship between variables is determined quantitatively by means of correlation coefficients. The value of the coefficient determines the correlation between variables, this value lies between -1 and one, where the correlation coefficient with a value of -1 indicates a strong inverse or negative relationship whiles a correlation coefficient of 1 indicates a strong positive linear relationship between variables. Additionally, a correlation coefficient of zero indicates that no correlation exists between

variables. In that case, no further investigation should be carried out regarding that particular relationship.

Table 5.2 above shows LGDP, LGOVS, LSWS, LGOVD, LEDS, LGOVE and LCORR as denotations of the natural logarithms of GDP per capita, total government spending, social welfare spending, government debt-service costs, economic development spending, government effectiveness and corruption perception, respectively. With respect to the correlations between variables, Table 5.2 shows that all the variables under the study have significant p-values at a 1 percent level of significance. This establishes that all the variables have either a positive or a negative correlation toward each other. LGDP has a strong positive correlation with LGOVS (0.937655), LSWS (0.960033), LGOVD (0.757496) and LEDS (0.954953). This suggests that as total government spending, social welfare spending, economic development spending and debt-service spending increases economic growth increases in the South African economy. Conversely, LGDP has a strong negative relationship with LGOVE (-0.803216) and LCORR (-0.650636). This suggests that the less effective government is deemed to be and the more corrupt the government is perceived to be has a negative impact on economic growth in South Africa. Similar results concerning corruption and economic growth were also found by Davoodi (2000), Wei and Wu (2002), Escaleras and Register (2016), Baum and Gupta (2017) and Trabelsi (2018); as mentioned in Section 2.6.2. ***

5.3.2 Unit root test results

This section will present the results of the unit root tests and the stationary test employed by the study in order to determine the order of integration of each variable. The estimation of an ARDL econometric model depends on whether the variables are integrated as I(0), I(1) or a mixture of I(0) and I(1) variables. Determining the order of integration of each variable is crucial, as a variable that is not integrated as I(0) or (1) cannot be used in the ARDL technique. The ADF and PP unit root tests are used to determine the unit roots and the KPSS stationarity test is used in order to determine the variables' order of integration.

As discusses in Section 4.3.3, the ADF and PP unit root tests tend to generate similar results, this both being biased toward the non-rejection of the null-hypothesis. This, therefore, leads to the use of the KPSS stationary test to confirm and assess the robustness of the ADF and PP unit root test results. Table 5.3 reports the ADF unit root tests results and Table 5.4 presents the PP unit root test results.

Table 5.3: Augmented Dickey-Fuller (ADF) unit root test results

Variables	At Level I(0)				At 1st Difference		Results (Order of Integration)
	With intercept & without trend		With intercept & trend		Without trend		
	t-stat	P-value	t-stat	P-value	t-stat	P-value	
LGDP	-2.486	0.1333	-2.1629	0.2245	-1.747	0.0427***	I(1)
LGOVS	-1.0026	0.7315	-1.0427	0.7167	-4.4735	0.0026***	I(1)
LSWS	-1.0098	0.7289	-2.5803	0.1141	-1.8945	0.0230***	I(1)
LGOVD	1.6235	0.9990	-1.0890	0.6990	-4.9655	0.0048***	I(1)
LEDS	-1.5269	0.4998	-1.9026	0.3244	-4.0108	0.0069***	I1)
LGOVE	-0.0211	0.9457	1.0463	0.9953	-5.8639	0.0001***	I(1)
LCORR	-2.1395	0.2326	-2.1063	0.2443	-4.4659	0.0039***	I(1)
(***)	*The rejection of the null hypothesis of not stationary at 1% significance level*						
(**)	*The rejection of the null hypothesis of not stationary at 5% significance level*						
(*)	*The rejection of the null hypothesis of not stationary at 10% significance level*						

The ADF unit root test results as presented in Table 5.3 show the all variables are stationary at first difference, thus integrated of order one. All variables were first tested at a level without trend and when testing as non-stationary, trend was then considered. If the variables continued to prove non-stationary at level without trend, the final step was to difference them to first difference. Section 4.3.3.1 provides the methodised decision rule for the ADF unit root test, which was taken into consideration whilst obtaining the results. The following table, Table 5.4 presents the PP unit root test results.

Table 5.4: Phillips-Perron (PP) unit root test results

Variables	Level				First Difference		Order of Integration
	With intercept & without trend		With intercept & trend		Without trend		
	t-stat	P-value	t-stat	P-value	t-stat	P-value	
LGDP	-2.4886	0.1333	-2.1459	0.2245	-1.747	0.0217***	I(1)
LGOVS	-1.3526	0.7315	-1.0427	0.7167	-4.4735	0.0026***	I(1)
LSWS	-1.0679	0.7289	-2.4526	0.1141	-1.8944	0.0001***	I(1)

LGOVD	1.6643	0.9990	-1.0890	0.6990	-4.9655	0.0020***	I(1)
LEDS	-1.5269	0.4998	-1.9566	0.3244	-5.0118	0.0059***	I1)
LGOVE	-0.1215	0.9457	1.0463	0.9953	-5.8639	0.0001***	I(1)
LCORR	-2.2781	0.2326	-2.0157	0.2443	-5.4789	0.0000***	I(1)
(***)	*The rejection of the null hypothesis of not stationary at 1% significance level*						
(**)	*The rejection of the null hypothesis of not stationary at 5% significance level*						
(*)	*The rejection of the null hypothesis of not stationary at 10% significance level*						

The results of the PP unit root test correspond with that of the ADF unit root test for all the variables considered in the study. All variables were first tested at a level without trend and when testing as non-stationary, trend was then considered. If the variables continued to prove non-stationary at level without trend, the final step was to difference them to first difference. Section 4.3.3.1 provides the methodised decision rule for the PP unit root test, which was consulted whilst obtaining and interpreting the above results.

5.4 AUTOREGRESSIVE DISTRIBUTED LAG (ARDL) MODEL RESULTS: LONG- AND SHORT-RUN IMPACTS

The preceding results in section 5.3 indicate that all the variables are stationary at I(1), and that none were stationary at I(2), this permits the use of the ARDL model approach. The ARDL bounds test approach to cointegration is used to determine the long-run impacts of government spending, social welfare spending, economic development spending, government debt spending, government effectiveness and corruption perception has on economic growth in South Africa. In doing so, the study will determine the long-run impacts of the above mentioned variables on economic growth. This will be done by testing the impacts of the independent variables on GDP as discussed in Section 4.1. The current section will detail the optimal ARDL model, the ARDL bounds test followed by the model residual and stability diagnostic test results.

5.4.1 Optimal ARDL model

In order to determine the maximum number of lags to include in the ARDL model the Schwarz information criterion (SIC) was employed. The SIC has the ability to address issues of over-fitting by means of introducing a penalty term for the number of parameters. Thus, the SIC selected one lag as the maximum to include in the ARDL model regressing GDP as the dependent variable. Therefore the model sequence of the variables for equation 4.1 was ARDL model (1,1,1,1,1,1,0,0). Table 5.6 details the optimal ARDL model for Equation 4.1.

Table 5.5: Optimal ARDL model selected

ARDL Model	Trend Specification	Max no. of lags	Optimal model	R-Square	Adj. R-Square
Independent variables on GDP	Constant level	1	(1,1,1,1,1,1,0,0)	99.97%	99.96%

The optimal ARDL model is estimated at a constant level without trend as described in Table 5.5 with its corresponding R-square and adj. R-square values. The R-square value for the model implies that 99.97 percent of the variation in GDP can be explained by the regression with the independent variables.

5.4.2 ARDL bounds test results: long-run impacts on GDP

This section details the ARDL bounds test approach to cointegration, which is used to determine whether a long-run impact exists between the independent variables and GDP in the South African economy. Therefore, the ARDL bounds test results with lower- and upper-bound, the corresponding F-value and long-run equation are provided in Table 5.6.

Table 5.6: Estimated ARDL model (1,1,1,1,1,1,0,0) bound test results

ARDL model	Estimated F-value	
ARDL model (1,1,1,1,1,1,0,0)	3.55	
Critical Value Bounds		
Significance levels	**Lower bound I(0)**	**Upper bound (1)**
10%	1.75	2.87
5%	2.04	3.24
1%	2.66	4.05

Table 5.6 shows that the estimated F-value for the ARDL model (1,1,1,1,1,1,0,0) is 3.55, which exceeds the corresponding critical value bounds at 5 percent significance level. Therefore, the null hypothesis of no long-run impact is rejected. This indicates that long-run impacts running from government spending movements, government effectiveness and perceived corruption to GDP do exist in the South African economy. This suggests that although economic growth is affected by changes in government spending, economic growth is also affected by the level of perceived corruption and government effectiveness. The aforementioned empirical finding is consistent with various studies (Bose, Hague & Osborn, 2007:550; Mo, 2007:519; Gadinabokao & Daw, 2013; Chirwa & Odhiambo, 2016) that found government spending in South Africa is significantly related to economic growth making it a macroeconomic determinant.

The long-run equation, determined by making use of the ARDL bounds test, is indicated by equation 5.1 below.

Long-run equation: LGDP = 0.5952 + 1.6509*GOVS + 1.1329*LSWS + 0.2988LGOVD + 0.0329*LEDS - 0.1198LGOVE - 0.5424LCORR .....(5.1)

The long-run equation, which corresponds with the long-run impact, was determined by the bounds test results for the ARDL model (1,1,1,1,1,1,0,0) presented in Table 5.7, and shows that government spending (government size), social welfare spending, economic development spending and government debt-service spending all have a positive long-run impact on economic growth in South Africa. The corruption perception index and government effectiveness index both have a long-run negative impact on economic growth in the South African economy, this is mainly due to the reduction in government effectiveness and corruption control in the country.

The long-run equation further shows that a one percent increase in government spending will lead to a 1.65 percent increase in economic growth in the long run. This suggests that government spending is effective in stimulating economic growth in South Africa, and does not have a negative correlation with economic growth, as found by previous studies (Bittencourt, Van Eyden & Seleteng, 2014; Dunne & Tian, 2015; Phiri, 2019). The equation also indicates that a one percent increase in economic development spending will lead to a 0.0329 percent increase in economic growth in the long-run. This is consistent with the findings of Strauch (2008) which was discussed in Section 2.6.2, where economic development spending is considered public investment spending and has a positive relationship with economic growth in the long-run. Lastly, the long-run equation shows that a one percent increase in social welfare spending will lead to a 1.13 percent increase in economic growth in the long-run. This finding is consistent with those discussed in Section 2.6.2 where Lee and Chang (2006) also found a positive long-run relationship between social expenditure and economic growth, however, Clemente, Marcello and Montañes (2012) found no evidence of such a relationship.

5.4.3 The error correction model (ECM) results and short-run impacts on GDP

This section presents the short-run dynamic parameters obtained by making use of the ECM, this follows the long-run impacts determined using the bounds test in the previous section. As discussed in Section 4.3.4, the ARDL model produces the ECM, by presenting the error correction term (ECT), the ECT estimates the short-run adjustments of the variables therefore determining speed of adjustment. The speed of adjustment of the variables in the previous period, will indicate the length of time it will take for the variables to return to equilibrium (Pesaran *et al.,* 2001:308). Thus, Table 5.7 presents the ECM results for the ARDL model (1,1,1,1,1,1,0,0).

Table 5.7: Estimated ECM results

ARDL model (1,1,1,1,1,1,0,0)				
Variable	Coefficient	Std. Error	t-Statistic	Probability
LGOVS	1.165097	4.841372	-0.240654	0.0000***
LSWS	1.132912	3.919611	0.289037	0.1474
LEDS	0.032862	0.170014	-0.193291	0.2432
LCORR	0.542381	1.465066	0.370209	0.0223**
LGOVD	0.298777	1.514339	0.197299	0.0000***
LGOVE	0.119766	0.562210	0.213028	0.0852*
ECT(-1)	0.350100	0.158010	-2.215100	0.0345**
	(***) denotes significance at 1% level, (**) denotes significance at 5% level and (*) denotes significance at 10% level			

Source: Compiled by author

The estimated ECM results with the short-run dynamic coefficients for the ARDL bound test results for the ARDL model (1,1,1,1,1,1,0,0) is presented in Table 5.8 above. The ECT coefficient is 0.350100 and is significant at the 1 percent significance level, which indicates that around 35 percent of any previous disequilibrium between GDP and independent variables is re-established back to long-run equilibrium in each year. Thus, it takes roughly 2.85 (1/0.350100) years for any changes in the independent variables to have an impact on GDP.

Therefore, in the long-run causality runs through the ECT from independent variables to GDP. This result confirms that government spending, corruption perception and government effectiveness movements have a long-run impact on GDP in the South African economy. In the short-run, LGOVS, LCORR, LGOVD and LGOVE have positive and statistically significant short-run coefficients, meaning that increases in LGOVS, LCORR, LGOVD and LGOVE will increase GDP by 1.165 percent, 0.542 percent, 0.298 percent and 0.119 percent in the short-run, respectively. In order to test whether the bounds test and ECM results estimated by the ARDL model (1,1,1,1,1,1,0,0) are accurate and not misleading, the following section presents the model residual and stability diagnostic test results obtained in assessment of the ARDL model.

5.4.4 Toda-Yamamoto Granger Non-Causality test

The ARDL model provides estimates for the presence or absence of long-run cointegration between the considered variables, the approach also provides estimates for the direction of causality. As discussed in Section 4.3.5 the study employed the Toda-Yamamoto non-causality test to analyse the causal relationship between economic growth and the independent variables government spending, economic development spending, government debt-service spending, social welfare

spending, corruption perception and government effectiveness. Table 5.8 provides the results of the Toda-Yamamoto causality test.

Table 5.8: Toda-Yamamoto results

Dependent variable: LGDP		
Independent variables	**P-value**	**Result**
LGOVS	0.1913	No causal relationship
LSWS	0.0731*	Causal relationship exists
LGOVD	0.0014***	Causal relationship exists
LEDS	0.3235	No causal relationship
LGOVE	0.3027	No causal relationship
LCORR	0.2745	No causal relationship
All variables	0.0718*	Causal relationship exists

Dependent variable: LGOVS		
LGDP	0.0090***	Causal relationship exists
LSWS	0.0483**	Causal relationship exists
LGOVD	0.2242	No causal relationship
LEDS	0.1061	No causal relationship
LGOVE	0.6291	No causal relationship
LCORR	0.7135	No causal relationship
All variables	0.0000***	Causal relationship exists

Dependent variable: LSWS		
LGDP	0.4658	No causal relationship
LGOVS	0.6256	No causal relationship
LGOVD	0.3190	No causal relationship
LEDS	0.09657	No causal relationship
LGOVE	0.1956	No causal relationship
LCORR	0.9723	No causal relationship
All variables	0.1615	No causal relationship

Dependent variable: LGOVD		
LGDP	0.0090***	Causal relationship exists
LGOVS	0.0538*	Causal relationship exists
LSWS	0.3415	No causal relationship
LEDS	0.2751	No causal relationship
LGOVE	0.0055***	Causal relationship exists
LCORR	0.6417	No causal relationship
All variables	0.0004***	Causal relationship exists

Dependent variable: LEDS		
LGDP	0.0383**	Causal relationship exists
LGOVS	0.4104	No causal relationship
LSWS	0.0374**	Causal relationship exists
LGOVD	0.7555	No causal relationship
LGOVE	0.8883	No causal relationship
LCORR	0.8727	No causal relationship
All variables	0.8173	No causal relationship

Dependent variable: LGOVE		
LGDP	0.1308	No causal relationship
LGOVS	0.0150**	Casual relationship exists
LSWS	0.0910*	Casual relationship exists
LEDS	0.1090	No causal relationship
LGOVD	0.0281**	Casual relationship exists
LCORR	0.7395	No causal relationship
All variables	0.0000***	Casual relationship exists

Dependent variable: LCORR		
LGDP	0.3126	No causal relationship
LGOVS	0.0718*	Causal relationship exists
LSWS	0.1318	No causal relationship

LEDS	0.1954	No causal relationship
LGOVD	0.1022	No causal relationship
LGOVE	0.3810	No causal relationship
All variables	0.0227*	Causal relationship exists
(***) denotes significance at 1 percent level, (**) denotes significance at 5 percent level and (*) denotes significance at 10 percent level.		

Source: Compiled by author

Table 5.8 presents the short-run causal relationship between individual variables as well as the short-run relationship between each variable compared to all other variables. The results indicate that government debt has a significant, bilateral causal relationship with economic growth in the short-run at a one percent significance level. This implies that the current level of government debt-service costs in South Africa has a positive causal relationship with economic growth in the short-run. These findings are supported by Chiu and Lee (2017), Fincke and Greiner (2015) and Égert (2015), who found government debt payments to have a positive and significant bilateral relationship with economic growth within developing countries.

Additionally, results show that social welfare spending has a significant, unilateral causal relationship with economic growth at the ten percent level of significance. This implies that government spending on welfare-related functions contributes to the economic growth of the country in the short-run. These results are inconsistent with those found by others (Baum & Lin, 1993; Romero-Avila & Strauch, 2008; Yasin, 2011), where spending on social welfare was found to have a negative relationship with economic growth in South Africa, and have been discussed in Section 2.6.2.

The results presented in Table 5.9 further show that the size of government as well as government effectiveness have a significant, bilateral causal relationship with government debt payments at a ten and one percent significance level respectively. This therefore, implies that an increase in the size of government/total government spending contributes to increased debt-service costs. Government effectiveness, as discussed in Section 3.3.5, has been declining and therefore may possibly explain the causal relationship it has with debt-service costs in South Africa. Furthermore, according to the results in Table 5.9, government size has a significant, bilateral relationship with both government effectiveness and corruption perception at the five and ten percent level of significance.

Furthermore, the results show economic growth has a significant, positive bilateral relationship with economic development spending and total government spending/government size at the five and one percent level of significance. This implies economic growth in South Africa causes an increase in total spending and economic development spending in the short-run. It is important to note, economic growth does not have a causal relationship with social welfare spending in the short-run.

5.4.5 ARDL model diagnostic test results

The optimal ARDL model (1,1,1,1,1,1,0,0), the results of the ARDL bounds test and the results of the Toda-Yamamoto Non-Granger causality test have been reported and discussed. This section will report and interpret the results that were obtained by means of the residual and stability diagnostic tests performed on the ARDL model. These tests indicate that the results are not inaccurate or misleading. Therefore, Table 5.9 reports the residual diagnostic test results.

Table 5.9: Residual diagnostic test results

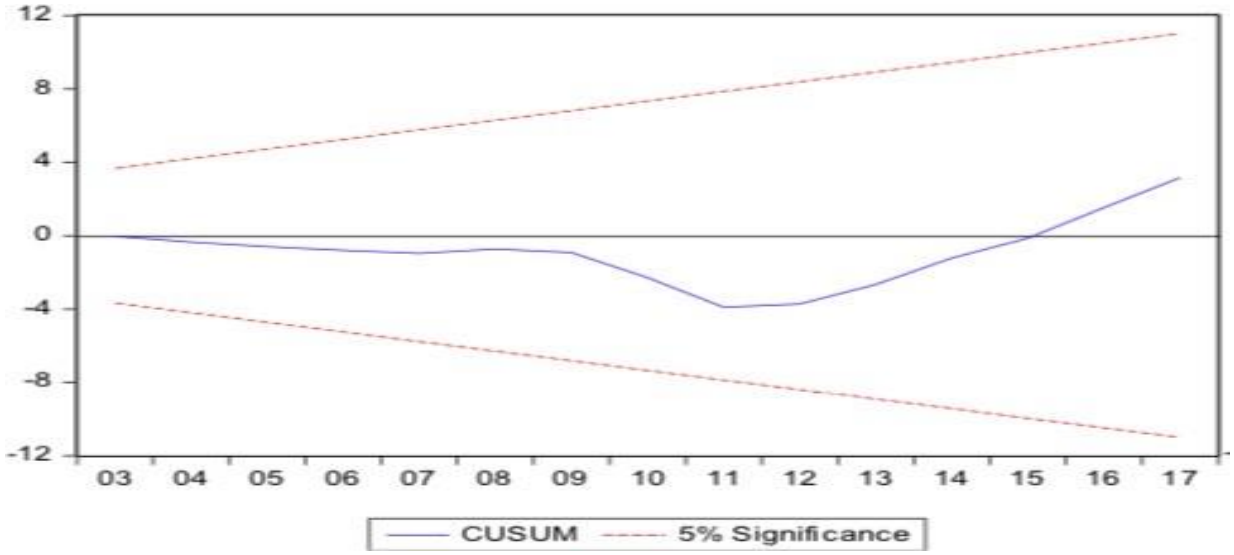
Residual diagnostic tests	**ARDL model**	
	ARDL (1,1,1,1,1,1,0,0)	
	P-value	Decision
Normality Test	0.6571*	Do not reject H_0
Serial-correlation Breusch-Godfrey (LM test)	0.5834*	Do not reject H_0
Heteroscedasticity Test: ARCH	0.6427*	Do not reject H_0

Source: Compiled by author

As discussed in Section 4.3.6.1, the null hypothesis for the Jarque-Bera (JB) normality test is normal distribution, while the null hypothesis for the Lagrange multiplier (LM) serial correlation is no serial correlation. The null hypothesis for the Engle's arch heteroscedasticity test is homoscedasticity. Thus, Table 5.8 indicates that the variables in the ARDL model are normally distributed, are unsusceptible to serial-correlation and are homoscedastic. This means that none of the aforementioned null hypotheses are rejected, which implies that both the bounds test and results for the ARDL model (1,1,1,1,1,1,0,0,) are accurate and not misleading.

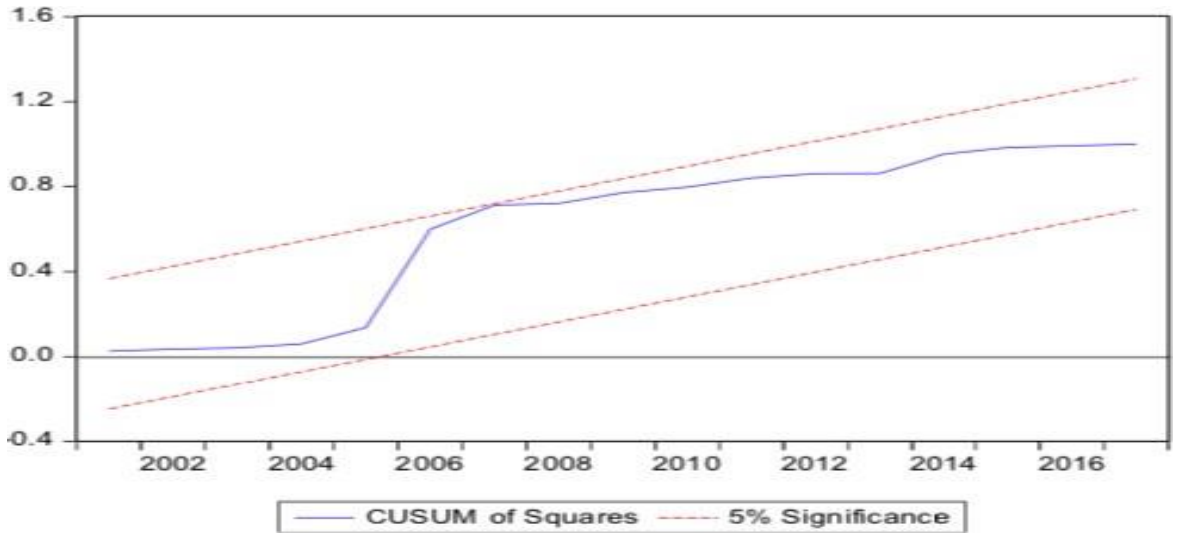
Figure 5.2 and 5.3 show the results of the CUSUM and the cumulative sum of squared recursive residuals (CUSUMQ) that were performed on the ARDL model. These results show the outside critical lines at five percent level of significance, while the blue lines denote the statistics of CUSUM and CUSUMQ. Therefore, it can be deduced that that there is no instability of residuals as the CUSUM and CUSUMQ statistics lines remain inside the lines of stability.

Figure 5.2: Stability diagnostic test results (CUSUM)



Source: Compiled by author.

Figure 5.3: Stability diagnostic test results (CUSUMQ)



Source: Compiled by author

5.5 SYNOPSIS

The main objective of this chapter was to present empirically the impact of the South African government's spending allocations along with government effectiveness and the perception of corruption on economic growth. In achieving this objective, an ARDL and Today-Yamamoto Causality model was conducted in conjunction with various other econometric techniques (unit root tests, residual diagnostics and stability diagnostic tests) which were used to estimate the long-run and short-run relationship between the independent and dependent variables. As such, this chapter

began with presenting the graphical estimations of the variables as a means to analyse and determine specific trends present within the raw data. The graphical estimations were followed by the selected unit root and stationarity tests, namely the augmented Dickey-Fuller (ADF) unit root test, Philips-Perron (PP) unit root test and the KPSS stationary test. Based on the results of the above mentioned tests, all the variables were found to be integrated at I(1), thus none of the variables were stationary at I(0) or I(2). The KPSS stationarity test further confirmed the validity of both the ADF and PP unit root test, therefore allowing the study to continue under the knowledge that the data is in fact stationary.

Furthermore, the correlation matrix was performed to evaluate the relationship between the dependent variables and the independent variables employed under the study. The study found that correlation between economic growth per capita and four of the six independent variables namely; social welfare spending, economic development spending, debt-service costs and total government spending have a significant positive relationship with economic growth at the one percent significance level. Therefore, this implies that these variables contribute to increased growth per capita in South Africa. Conversely, the two indexes which were employed a variable under the study, corruption control and government effectiveness, were found to have a significant negative relationship with economic growth at the one percent level of significance. Thus implying both of the indexes contribute to decreased economic growth in South Africa in the long-run. These negative relationships exist possibly due to the fact that both indexes have been declining over the last decade, indicating less effective government and less control of corruption.

Additionally, the chapter then presented the results obtained by making use of the ARDL model to estimate the long-run relationships and the Toda-Yamamoto model to estimate the short-run impact of the independent variables (total government spending, social welfare spending, debt-service costs, economic development spending, government effectiveness and corruption control) on the dependent variable (economic growth per capita). The results indicated that both short-run and long-run relationships exist between the independent variables and the dependent variables employed under the study.

In the long-run, there is evidence that total government spending, social welfare spending, economic development spending and government debt-service spending all have a positive long-run impact on economic growth in South Africa. Additionally, the corruption control index and government effectiveness index both were found to have a long-run negative impact on economic growth in the South African economy.

In the short-run, there is evidence that government debt-service costs have a significant, bilateral causal relationship with economic growth in the short-run at a one percent significance level. This means that LGOVD Granger causes LGDP, and LGDP Granger causes LGOVD. Social welfare spending has a significant, unilateral causal relationship with economic growth at the ten percent

level of significance. This means that LSWS Granger causes LGDP but not the other way around. The size of government/government size was found to have a significant, bilateral causal relationship with government debt-service costs at a ten percent significance level. This means that LGOVS Granger causes LGOVD, and LGOVD Granger causes LGOVS. Government effectiveness was found to have a significant bilateral relationship with debt-service costs at a one percent level of significance. This means that LGOVE Granger causes LGOVD, and LGOVD Granger causes LGOVE. Economic growth was found to have a significant, positive bilateral relationship with economic development spending at the five percent level of significance. This means that LGDP Granger causes LEDS, and LEDS Granger causes LGDP. Economic growth was found to have a significant, positive bilateral relationship with total government spending at the one percent level of significance. This means that LGDP Granger causes LGOVS, and LGOVS Granger causes LGDP.

The final chapter of the study will present a summary of the study, underscore pertinent findings, outline the limitations of the study and most importantly draw conclusions based on the realisation of the set objectives. Therefore, with the objectives of the study in mind, the current and previous chapters assisted in the analysis both theoretically and empirically as a means to better understand the relationship between the government and economic growth in South Africa. Furthermore, within the set framework of the investigation, recommendations for interventions will be made and future opportunities for research will be put forth.

CHAPTER 6

SUMMARY, RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

The role of government within society has been a topic of much research and debate since the inception of economics. The success of highly active government in certain countries has prompted much interest and a substantial amount of economic research has been carried out in this respect. Given the current economic situation in South Africa, the current study attempts to identify the successes and failures linked to the size and type of government in the country. In addition, the effectiveness with which government reaches objectives and the perceived control of corruption within the country are additional points of interest in this study. This chapter starts off by providing a summary of the research, highlighting the main contributions of the first five chapters and subsequently determining whether the theoretical objectives were met. This is followed by a review of the main findings relating to the derived empirical objectives. Thereafter, the chapter provides recommendations and elaborates on the perceived limitations of the study. Finally, the chapter concludes by providing the concluding remarks on the study.

6.2 SUMMARY OF THE STUDY

The study was centred on analysing the impact of the size and type of government intervention on economic growth in South Africa. In order to do so, variables relating to the actions of government, the effectiveness of government and the control the government has over corruption were included in the study. Hence, the study is categorised into six chapters and were structured as follows:

Chapter 1 served the purpose of introducing the study and the intended framework of the study. The chapter provides a brief background on the current macro-economic and socio-economic landscape across the world with specific focus on South Africa. The chapter underscores the importance of having a clear understanding of the purpose and functions of the government, especially when concerned with the economic growth and development of a country. Based on the challenges identified in this chapter, one primary objective, five theoretical objectives and four empirical objectives were formulated, which are presented in Section 1.4. Furthermore, the chapter explained the research design and methodology according to the selected sample and collected data. Additionally, the empirical section of the study and the statistical model that was used in Chapter 5, was discussed in Section1.5.

Chapter 2 gave in-depth insight into the existing literature by providing a literature review related to government intervention, economic growth theories, theories of intervention and empirical evidence relevant to the study. The first theoretical objective was to provide a literature review on government

intervention in general. Included in the theoretical analysis were various theories of economic growth and economic intervention. In line with the second theoretical objective linkages and theories relating to the chosen variables of the study were discussed both in the global and South African context. Theories of economic growth included the Keynesian theory, Classical theory and modern theories on the determinants of economic growth. Furthermore, the chapter provided a theoretical overview of the developmental and welfare state models of intervention which is in line with the third theoretical objective, as a means to better understand the main types of government intervention in modern economics. Lastly, Section 2.6.2 of the chapter presented empirical findings relevant to the study with regards to the variables including the composition of government spending, government effectiveness, corruption control, and government debt with economic growth.

Chapter 3 had the purpose of providing an understanding on the trends present in the selected variables in the South African context, and set out to fulfil the last theoretical objective of the study. The chapter assessed the trends of the associated variables as well as the previous and current national economic policies adopted in South Africa. A in-depth review of South Africa's past and present economic policies was conducted in order to better understand the link between the government's actions and economic policy in the country. Lastly, the chapter conducted various case studies on both developed and developing countries as a means to compare these cases with the South African case. As well as to identify best practice principles from reviewing the success and failures of similar economies.

Chapter 4 outlined the methodological framework which reviewed and justified the use of the ARDL model approach to cointegration. The study was based on the functionalist paradigm which set the philosophical foundation of the study, and defined the manner in which the results would be interpreted. Given that study aimed to analyse the relationships between the chosen variables of the study in both the long-run and the short-run the ARDL model was chosen. Furthermore, the ARDL model was used due to the small sample size selected for the study. The methods used to estimate the ARDL model in order to achieve the set objectives of the study, were justified through theoretic and empirical research. The sample period of the study was chosen based on the availability of data, and therefore the period of the study began in 1998 as data concerning government spending was not available prior to this.

Chapter 5 consisted of the empirical estimation, results and discussion. Results were obtained by applying the empirical techniques as discussed in Chapter 4 and then presented in relevant tables and figures as a means of analysing the results concisely. Lastly, the achieved estimates and results were summarised and discussed, taking into account the empirical findings.

6.3 REALISATION OF OBJECTIVES

This section gives a synopsis of how this study was conducted based on the primary aim, to determine the impact of government intervention on achieving economic growth in South Africa. Therefore, the following section will outline the set objectives namely the primary objective, theoretical objectives and the empirical objectives.

6.3.1 Primary objective

The primary objective of the study was to analyse the impact of the South African governments intervention and the size of government on economic growth in the South African economy. The study had a particular focus on government spending in the country over the period of the study. In order to fulfil the said primary objective, the study undertook steps in fulfilling the relevant theoretic and empirical objectives.

6.3.2 Theoretical objectives

A thorough literature and theoretical review was conducted in the study as a means to establish a concise understanding of the concepts and approaches surrounding the research problem and the primary objective. Pertinent theoretical objectives were set as a means to fulfil the primary objective, as stated above. In order to achieve these objectives, a structured outline was followed along with relevant discussions pertaining to the subject matter. The theoretical objectives were defined and achieved as follows:

- ***To provide definitions, concepts and approaches in relation to the variables and key themes of the study.***

To achieve this objective, section 2.2.1 of Chapter two established a distinction between variables including economic growth, government intervention, types of government spending as well as key themes relevant to the topic such as institutions, corruption and effective governance. Definitions concerning key themes in the study were also provided. In addition, the section outlined the importance of intervention classification as a means to better coordinate the roles and functions of government, in the case of this study the two main types of intervention were characterised as being the welfare state intervention approach and the developmental state intervention approach. Furthermore, the strong link between government intervention, government spending and subsequent economic growth was discussed.

- ***To discuss theories and linkages relating to economic growth, government intervention, government size, government debt and government spending.***

To provide a clear foundation for the study, section 2.3 detailed existing theories of government intervention this included Classical theory of government intervention, Keynesian theory of

government intervention and various modern perspectives on government intervention. Theoretical framework concerning government intervention serves as a key foundational aspect for the rest of the study. Section 2.4 detailed economic growth theories relevant to the study, these included Neoclassical growth theory, Endogenous growth theory and determinants of economic growth. Furthermore, section 2.4 linked each theory to the current study.

- ***To establish a theoretic understanding of developmental state and welfare state classification.***

Seeing as the study focused largely on the disaggregation of public spending into two broad categories, namely social welfare spending and economic development spending, section 2.5 is of utmost importance to the study as it provides the link between government spending and government intervention. Subsection 2.5.1 discussed the developmental state approach, which is concerned with increased economic development spending and high levels of government intervention in order to achieve rapid and sustained economic growth. Subsection 2.5.2 discussed the welfare state intervention approach, which is concerned with increased social welfare spending as a means to stimulate economic growth and development through the reduction of poverty and inequality. The classification of the above mentioned approaches, is essential to the study as South Africa's national economic policy expresses the need for a developmental approach for growth and development.

- ***To review empirical findings concerning the relationship between the composition of spending, size of government and government effectiveness with economic growth internationally and in South Africa.***

From the empirical review on the relationship between government expenditure and economic growth, covered in section 2.6, both the aggregate and individual spending categories were reviewed with regards to their relationship with economic growth. In section 2.6 empirical literature was reviewed internationally, in sub-Saharan Africa and in South Africa. More developed regions displayed contrasting results with those from sub-Saharan Africa and South Africa. The results concerning various types of spending as well as total government spending and the relationship with economic growth in South Africa were mixed. Thus, indicating a gap does in fact exist in the research as a consensus, concerning the variables under consideration, has not yet been reached.

- ***To provide a review of South Africa's growth and development policies.***

Moreover, the study outlined and discussed pertinent economic growth and development policies in section 3.5 of Chapter 3. Discussion on the selected national economic policies focused on those that are concerned with economic growth and development, and those that were established within the post-apartheid era. The policies discussed in Section3.5 include the Growth, Employment and Redistribution (GEAR), the Accelerated and Shared Growth Initiative for South Africa (ASGISA), the Industrial Policy Action Plan (IPAP), the New Growth Path (NGP) and the National Development

Plan. Each policy was briefly evaluated concerning their subsequent successes and failures, therefore comparing the predicted outcomes of the policies with the actual outcomes once the polices were adopted. Finally, the discussion also brought focus to the specific objectives relating to government intervention and government spending.

6.3.3 Empirical objectives

In order to fulfil the primary objective of the research, the study also set out to accomplish various empirical objectives as outlined below.

- ***To provide a status quo analysis of all the variables used in the study, as well as the trends present, through descriptive analysis, in social and economic development spending within the period considered for the study.***

Section 3.2 in Chapter 3 provided a brief overview of the South African economy and included discussions on socio-economic and macro-economic issues present in the country. The objective was further achieved in section 3.3 by establishing graphical and tabulated representations of the trends and patterns of South Africa's economic growth, economic development, corruption, government debt, government effectiveness and size of government. The representation of the above mentioned variables served as an important part of the study as it allowed for various trends and patterns to be identified for the period under consideration. Additionally, section 3.4 provided an in-depth overview of government spending over the period of the study, as well as a detailed breakdown of the most recent national budget. Furthermore, a comparison was made between government expenditure and revenue in order to better understand the gap present in the current national budget.

- ***To determine the long-run and short-run relationships between corruption perception, government effectiveness, social welfare spending, economic development spending, government debt and government size with economic growth.***

To achieve this objective, Section 5.4.1 to 5.4.3 of Chapter 5 established the results of the types of government spending, as mentioned above, government effectiveness and corruption control with economic growth in South Africa. The study made use of the ARDL model to determine the long-run relationship between the variables and the Toda-Yamamoto Granger non-Causality test to determine the short-run relationships between the variables. In the long-run, there is evidence that total government spending, social welfare spending, economic development spending and government debt-service spending all have a positive long-run impact on economic growth in South Africa. Additionally, the corruption control index and government effectiveness index both were found to have a long-run negative impact on economic growth in the South African economy.

In the short-run, there is evidence that government debt-service costs have a significant, bilateral causal relationship with economic growth in the short-run at a one percent significance level. This means that LGOVD Granger causes LGDP, and LGDP Granger causes LGOVD. Social welfare spending has a significant, unilateral causal relationship with economic growth.

- ***To determine if causality exists between the variables, and if so, the direction of causality.***

The study analysed the causal-movements amongst economic growth and the study regressors by means of the Toda-Yamamoto Granger non-causality test. The findings exhibited evidence of a bilateral causal relationship between government debt-service costs and economic growth; total government spending and government debt-service costs; government effectiveness and debt-service costs; total government spending and corruption control and economic growth and total government spending. Additionally, a unilateral relationship was found between social welfare spending and economic growth.

- ***To compare economic development spending and social welfare spending in South Africa, as a measure to classify the type of state that exists concisely.***

In order to achieve this objective a review was done on the national budget in Section 3.4.2, where it was found that the government spent more on social welfare than economic development for the year 2018. This indicates, according to the theory discussed in Section 2.5.2, South Africa may be better defined as a welfare state rather than a developmental state. As discussed in Section 3.5.4 the South African government has expressed the desire to become a capable developmental state, however, based on the above mentioned finding the interventionist and spending behaviour of the government does not coincide with this aspiration.

6.4 STUDY CONTRIBUTION

As is evident throughout the study, various scholars have analysed the impact of government spending on economic growth in South Africa. However, little research has been conducted on specific types of government spending on economic growth in South Africa. Existing evidence on the matter remains inconclusive as different findings and results have been achieved. Additionally, few studies have made use of the ARDL approach when analysing the impacts of government spending on economic growth in South Africa. Thus, it is an important factor for consideration as a variety of methods have been used often yielding dissimilar results.

6.5 LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

Limitations of the study may arise from the availability of data, as data regarding the national budget in South Africa was found to be vague and/or unavailable prior to 1998. Additionally, the use of indexes to measure government effectiveness and the control of corruption are not exact measures

and are merely based upon perception of a number of professionals in their field. Therefore, future research may consider using the number of reported cases of corruption and the rate of prosecution to better understand the extent of corruption in the country. Moreover, government effectiveness can perhaps be better measured by analysing a particular function within government and the outcome with regards to the set objective concerning that function over time. Future research may benefit by including each category of government spending in the theoretic and empirical analysis, rather than three broad categories as is the case in this study. Further studies may also make use of alternative methodologies in examining the impact of government spending on economic growth in South Africa. Lastly, further research could be conducted using a country comparison approach in order to better understand the behaviour and relationships between variables. Comparing the case of South Africa to other sub-Saharan African countries or similar developing countries might be beneficial in gaining a better understanding and obtaining more concise and accurate results.

6.6 RECOMMENDATIONS

Considering both the theoretical and empirical findings in the study, notable recommendations can be drawn concerning challenges regarding subdued economic activity, national economic policy and government spending in South Africa. In order to curb the countries sustained low economic growth, substandard economic policy and unproductive spending the following recommendations are put forward:

- ***Monitor and promote the quality, communication and optimal size of institutions***

Quality institutions, as discussed Section 2.4.3, are a significant determinant for economic growth; all determinants of growth (physical capital, human capital, investment) are directly influenced by institutions (Rodrik, 2002). Therefore, government should monitor and evaluate existing institutions regularly for timely feedback that allows for faster and more agile adjustments to the ever changing macro-economic environment. In doing so, government will avoid delays in achieving economic objectives and create an enabling environment for improved economic growth and development. Additionally, Haas and Jones (20170 have linked strong institutions increased economic development through rapid urbanisation and increased investor confidence. Furthermore, clear communication and coordination is needed between all tiers of government as well as an increased level of autonomy, as mentioned in Section 2.2.1 autonomy ensures the decision-making process remains with the best interest of society in mind. Section 2.6.1 discussed the optimal size of government for optimal economic growth and development, in Section 3.3.6 the size of the South African government was discussed. It was found that compared to all other sectors in the economy that have been employing less and less annually the only sector which has maintained an increase in employment has been the public sector. This is a cause for concern, as the size of government continues to grow and the private sector continues to shrink, therefore it can be deduced that the South African government is bloated and by most interpretations ineffective in achieving set

economic objectives in line with the the National Development Plan. Therefore, it is recommended that in order to achieve objectives and create a growth enhancing environments the public sector needs to reduce its size (Festus, Kasongo, Moses & Yu, 2016:583).

- ***Create and establish state-owned entities that serve as model/pilot entities***

Establishing state-owned entities that serve as a best practice model creates an example of how best to utilise resources and technology in order to achieve maximum levels of productivity. As discussed in Section 2.5.1, Japan took this approach as a means to ensure high levels of productivity and efficient resource allocation, which resulted in relatively high rates of economic growth in the country. Having a model entity serve as a an example of high productivity and minimal resource wastage, allows smaller privately owned entities to adopt similar methods of production. For example, South African state-owned entity and utility provider, Eskom, has been in decline for many years finding itself in an ever weakening financial position and costing the country billions in bail-outs (Section 3,2). Thus, the South African government needs to take another stance when considering state-owned entities, and instead of jeopardising the overall health of the economy, contribute to the wellbeing of the economy.

- ***A more balanced national budget***

Considering the national budget, reviewed in Section 3.4.2, government spending in South Africa is uneven with regards to economic development spending and social welfare spending. Since 2012 spending on economic development has been declining, which is a cause for concern, as this type of spending enhances the infrastructure and general levels of public investment (Coccia, 2017:21). Increasing social security demand has put strain on the general fiscus and government has felt an increasing pressure to provide quality education for all. Although social investment spending is crucial in moving the country towards a higher level of democracy, the infrastructural development in South Africa has been put on the back burner. Therefore, it is recommended that the government take a more balanced approach in its plight for economic growth and development. Additionally, the government should aim to maintain taxation as is rather than further pressure South African citizens with exorbitant taxation levels in the future. Government should also reduce the possibility of incurring more debt, as discussed in Section 3.3.4, the current debt levels in South Africa are unsustainable in the long-run, also the government has been allocating more funds to servicing debt than it is able to allocate to other crucial sectors in the country (Saungweme & Odhiambo, 2018:177).

- ***Ensure national economic policy is better implemented and regularly monitored and evaluated for success and failures as a means to ensure economic growth is enhanced***

As is evident in the case study Section 3.6, each country with strong economic policy that was correctly implemented were able to achieve and maintain high levels of economic growth and

development. The ability to create and implement concise economic policy, enhances the growth outcomes within a country. In Section 3.6 Singapore's industrial policy was reviewed and discussed, and has often been linked to the unprecedented rates of economic growth experienced in the country. The policy protects and promotes infant industries, through regulation of foreign competition and subsidising key infant industries. Furthermore, the government reduces the amount of intervention it carries out with regards to private sector businesses allowing the growth of the private sector resulting in improved economic growth and employment opportunities. India's economic policy brought much focus onto the technology sector, and heavily invested in the sector in order to enhance the country's growth and competitiveness. Therefore, it is recommended that the South African government streamline their economic policy with economic growth and development being the key features in mind. The government can further investigate and identify crucial industries within the country, and create a better environment which facilitates the growth of such industries, instead of over regulation and taxation.

6.7 CONCLUDING REMARKS

The main aim of the study was based on analysing the impact of the size and type of government intervention on economic growth in South Africa. The study specifically determined that the actions of government have a strong impact on the economic growth and development within a country. Government action stems from the adopted economic policy with relevant economic objectives pertaining both to the macro-economic and socio-economic condition of the country. The study discovered through descriptive analysis the various trends present among the variables in post-apartheid South Africa, with a specific focus on spending patterns and changes in national economic policy. The current economic challenges facing South Africa raises the importance of the governments facilitating role in achieving economic growth and development. Additionally, the lack of economic growth in recent years brings about much concern especially when considering the reduction in government effectiveness and unsustainably high levels of debt.

Further empirical tests were conducted in order to evaluate the independent variables against the dependent variable being economic growth. The findings of the empirical section revealed significance long-run relationships between government debt, government effectiveness, social welfare spending and economic development spending with economic growth in South Africa. The discussed empirical findings were obtained by making use of the ARDL and Today-Yamamoto Granger non-causality models, where the reliability and accuracy of the empirical findings were confirmers using the residual and stability diagnostic tests, where all residuals were found to be homoscedastic and serially correlated.

As such, the empirical findings together with the descriptive analysis suggest that there is indeed a strong relationship between the size and type of government and economic growth within South Africa. In this case, more extensive measures need to be undertaken in order to ensure the

government's actions and spending habits are contributing to the overall wellbeing and growth of the South African economy, as well as ensuring the actions undertaken by government are consistent with economic policy adopted by government.

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APPENDIX 1: LETTER FROM THE LANGUAGE EDITOR

REGCOR
ENTERPRISES PTY LTD
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Date: 22/11/2019

Dear Sir/Madam

This letter is to certify that I, Sarah Louise Cornelius, of Regcor Enterprises Pty Ltd, have completed the initial editing of the dissertation titled *An analysis of the impact of the size and type of Government intervention on Economic Growth in South Africa* by Tasmyn Cooper.

I have ten years of experience in the field, having worked on multiple doctorates. Currently, I am a member of the Professional Editor's Guild (PEG).
This has been an initial (first-time) edit and all recommendations and errors have been noted in the comments. Any changes or lack of corrections done to the document after editing is not a reflection of the editing services provided. Students are welcome to send the document for a further proofread before the final submission.

Kind Regards
Sarah Louise Cornelius

Professional Editor's Guild
Associate Member Membership number: COR003

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