

THE EFFECTS OF POLITICS AND ECONOMIC PERFORMANCE ON STOCK  
MARKETS IN SOUTH AFRICA

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IN

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FACULTY OF MANAGEMENT AND COMMERCE  
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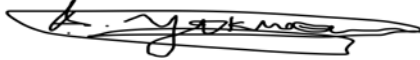
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## **DEDICATION**

I dedicate this project to all the researchers who dedicate their time and efforts into furthering economic policy development, to my son, family, and friends for the support and motivation, to the University of Fort Hare and my supervisors.

## **ACKNOWLEDGEMENTS**

I would like to express my gratitude to Dr Makhetha-Kosi for her unwavering support, patience, assistance, and guidance in preparing this dissertation. I sincerely value your dedication and mentorship. My special thanks also go to God Almighty, my co-supervisor Dr Ndlovu, my family, my son Liyema, and the academic staff at the University of Fort Hare.



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## **ABSTRACT**

The aim of the study was to investigate the effects of politics and economic performance on the stock market performance in South Africa for the period 2000 to 2022. Using the Autoregressive Distributed Lag model, the results found that economic performance as indicated by GDP per capita and political stability have significant effects on the South African stock market. The results showed that remittances, inflation, and political stability have a negative impact on stock market performance. On the other hand, control of corruption, GDP, and the combined effect of GDP and political stability have a favorable impact on stock market performance. The findings indicate that the economic performance has a substantial and lasting influence on the stock market capitalization, which serves as an indicator of the stock market performance in South Africa.

*Key words: Autoregressive Distributed Lag, economic performance, political stability, and stock market performance.*



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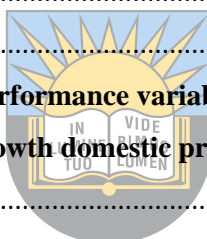
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## CHAPTER ONE

### INTRODUCTION AND BACKGROUND

#### 1.1 Introduction

Over the past 26 democratic years, South Africa has transitioned in high strides both politically and economically. Its transition, politically, is widely acknowledged among the most significant political accomplishments of the past century (World Bank, 2019). The transition brought a lot of changes to the South African economy including the review and amendment of various policies which affected the economic growth in terms of GDP, aimed at reducing inequality, unemployment, and markets concentration, amongst many other negative consequences of the apartheid era.

In that transition South Africa experienced overall positive economic development, with the first decade of democracy recording impressive GDP growth. For example, in 1995, the World Bank (2018, 2019) shows that South Africa recorded a positive GDP growth of 3.1% an up from 1.2% in 1993 and -2.1% in 1992. However, in the last decade of the South African democracy, the country started to show a declining trend in the GDP growth with the start of a much more unsatisfying streak of slow growth, recording a GDP growth of 0.4% in 2010, 1.4% in 2017, 0.8% in 2018, and an alarming 0.2% in 2019.

As can be seen by the above data, the South Africa economy has not been growing as expected and one of the major problems and causes highlighted by Goto and Ogunnubi (2015) is the rampant corruption which took over the last decade of the democracy. According to Goto and Ogunnubi (2015), the very rampant corruption in South Africa has a negative impact of reducing the level trust and confidence by the public when it comes to reliability and independence of elected political representatives. In turn, this affects negatively the progress of the developmental goals of South Africa. Khan and Pillay (2019) who argue that the regression in terms of social and economic development in the country can be significantly attributed to the very high corruption in the latest years of its democracy further confirm this.

One of the major contributing sectors (and well-established sectors) into the South African economy is the banking system, which supports the economy (South African National Treasury, 2011). The growth in real value added of the banking system in South Africa (SA) was 2.2% in the first three quarters of 2018, an increase from 1.8% during the same period of

2017. Moreover, the 2.2% GDP growth contribution by the financial sector in 2018 was higher than any other sector listed by the South African National Treasury (2019), including manufacturing and mining sectors. Further, SA was number 60 out of 141 economies in terms of the global competitiveness and 19<sup>th</sup> as a financial hub, attributable to a country's developed equity, insurance and credits markets, amongst others (World Economic Forum, 2019).

When it comes to the structure of the South African financial economy, there are two elements that play a considerable part, namely the banking system and the stock market (Rateiwa and Aziakpono, 2015). With that said, Rateiwa and Aziakpono (2015) asserts that South Africa has a financial system that is primarily dominated by the stock market in comparison to other African financial systems such as those of Egypt and Nigeria. In addition, Rateiwa and Aziakpono (2015) further argue that the magnitude and reach of the stock market in South Africa is almost twice as big as South Africa's banking sector.

Furthermore, it is also worth a note that the role played by stock markets is a significant one, particularly in terms of the development of countries' economies, specifically the developing countries like South Africa. Ali et al. (2016) asserts that stock markets help transfer countries' funds from surplus units to deficit units which means there is an expectation of a correlation between the positive stock market performance and the positive economic performance. Furthermore, Yartey (2008) argues that the returns on investment on a stock market influence the returns and in turn the movement and growth of stock markets. Consequently, these returns can be impacted by both the economic factors and institutional quality as represented by political stability (Yartey, 2007, 2008).

Moreover, studies by Yartey (2007), Thobarry (2009), Cherif and Gazdar (2010), Mishal (2011), Ifionu and Ibe (2015), and Ali et al. (2016) show that politics and economic development have a substantial influence on the performance of stock markets, asserting the significant influence of macroeconomic variables on this performance. Additionally, Ales et al. (2012), Yartey (2010), and Fedderk and Luiz (2015) show the prevalence of significant growth and development in the stock markets around the world and that of South Africa can be attributable to economic performance as well as politics.

Thus, studying the effects of politics and economic growth on South Africa's stock market performance is important for coming up with policy recommendations that add to the promotion of the efficiency of the two variables for the interest of further pushing the positive performance of the country's stock market, which consequently contributes to South Africa's

attempts at effectively participating in the global markets. The study also aims to examine the possibility of a joint impact of the two variables, namely, politics and economic growth/performance, on the performance of stock markets in South Africa.

## **1.2 Statement of the problem**

The South African stock market, namely the Johannesburg Stock Exchange (JSE), has seen quite a positive and consistent performance in the past decade even though it reached a concerning decline of 26738.91 in August of 2010, it recovered, climbing up to 55188.34 in April of 2015. Furthermore, the JALSH-All Share increased by 0.96% to 54211 on the 9th of May 2017 from 53696 in the previous trading session (Trading Economics, 2017). This notion can also be supported by the fact that most of the literature on this topic did not use political stability alone to measure institutional quality, but rather used a combination of, inter alia, effective law enforcement, institutional quality, the degree of freedom as well as political risk/stability. This can be seen on studies by, amongst others, Yartey (2008), Girma and Shortland (2008) and Aduda et al. (2012) which use these indicators to measure institutional quality.

Therefore, the issue of the role of politics on the economic performance a country and consequently the performance of their stock market is very significant in adding to case of emerging countries, particularly the case of South Africa. South Africa accounts for being among the countries with remarkable political history and transition, marked by the historic transition from the apartheid regime to the democratic republic in 1994 (World Bank, 2019). Therefore, on the topic of the relationship and/or correlation between the politics and the stock markets consequent from the economic performance, the state of South African politics has proven to be an important determinant of the country's performance in terms of the economic activity. This was made clear by the effect of the recent political instability which was highly characterized by corruption.

This period of corruption in South Africa was popularly themed as the “state capture” and went on until the year 2018. According to Marian (2019), politics were the main contributor to the poor performance of the South African economy. The state capture as the major cause of the damage to the economy, with the capital expenditure by the State-Owned Enterprises (SOEs) resulting in much less productivity than anticipated. Moreover, this was shown by the failure of SOEs such the power utility, Eskom and the South African Airways.

Further, when the current president of the country as well of leading political party, the African National Congress (ANC), embarked on the election campaign for the presidency in 2017, the level of confidence of consumers rose significantly reaching the highest since the inception of the Bureau of Economic Research's confidence series in 1982 (PwC, 2020). However, the outcomes, particularly in terms of economic performance, have continued on a negative slide even after the election of the new president. Among the many negative outcomes, the country experienced continued negative sovereign ratings by the rating agencies, a rise in economic instability, as well as the political and policy uncertainty, continued prevalent and significant irregular expenditure of public funds, and worsening financial state of the public sector and issues of governance at the SOEs (PwC, 2020).

It is clear that a connection exists between politics, economic growth, and stock markets. However, it remains a question as to how exactly politics impact the stock market performance. Therefore, it is imperative for this study to focus part of the attention to the role of politics on economic performance and consequently the stock market performance.

The South African stock market performance has shown significant resilience over the recent years, however, the year 2020 came with a severe crisis for the whole world, in the form of the COVID-19 global pandemic. This global pandemic has forced both private business and government operations to shut down as the world was forced into a lockdown. Consequently, the world markets suffered, including the South African stock market. As the time goes by and operations are opening back up, we have seen some of the world stock markets respond including that of South Africa. (Trading Economics, 2020).

The South African stock market has once again shown some resilience in the month of July 2020, with the South Africa FTSE/JSE Africa All Shares Index bouncing back with an increase of over 1% on Monday the 6<sup>th</sup> of July 2020 (Trading Economics, 2020). According to the Trading Economics (2020), this is due to global optimism offsetting concerns over the increasing daily cases of COVID-19 across the world. However, it is worth a note that this is an ongoing crisis, and new developments are expected on a more frequent basis that it is usually the case.

This study, however, will specifically focus on the role of politics and economic performance when it comes to understanding the level of performance of a stock market in South Africa. This will add into the recently developing literature on the factors determining the growth of stock markets, specifically those of developing countries like ours. Further, the performance

and ultimately the expansion of stock markets is significant for the economies and thus understanding the dynamics of stock markets through studying the effects of macroeconomic factors such as the economic growth as well as institutional variables and indicators such as politics on the stock market performance. This significance can be confirmed by, among others, Aduda et al. (2012).

Moreover, the level of importance of a high performing country's stock market for furthering a country's economy through financial development and investment is good enough reason to probe the influence of elements such as politics and economic growth on stock markets. Understanding such an effect may assist policy makers in developing relevant and appropriate policies that aim for economic development and political stability for the purposes of the continued development of stock markets.

Furthermore, while considerable literature focuses on whether a correlation exists between a particular country's economic development and the development of its stock market, limited literature exists on the specific concurrent effects of countries' economic growth and the state of their politics on the performance of their stock markets, specifically in cases such as those of an emerging nation like South Africa. In cognisance of existing research and literature (Yartey, 2008; Aduda et al. 2012; Kemboi and Tarus 2012), amongst others, studied and analysed the factors contributing to or determining stock market development and their varied results find important determinants to be, amongst others, a country's levels of income, the real gross domestic investment, capital markets liquidity as well as institutional quality as indicated by political stability. However, this literature needs to be explored further by studying the specific effect of politics and economic performance, particularly for South Africa.

This study thus aims to provide meaningful contribution toward the breaching of the gap in empirical literature on the topic since there is limited literature that specifically explores the relationship between South African politics and the economic performance thereof. Moreover, this study differs from the exiting literature, albeit limited, in that it provided an updated view on the topic in the case of South Africa since there is a need for a new perspective given the ever-changing economic conditions. The research to be provided herein is particularly important for South Africa, which has been experiencing institutional or political hurdles over the recent years. The thesis tests empirically, the relationship between institutional or political climate, economic performance, and stock market performance in the South African economy. This eliminates the risk of generalising about the South African landscape when making policy

decision, which would result from heavy reliance on literature that is based on the results from other countries or region given the differences in economic and political climates.

### 1.3 Objective

The main aim of this research is to analyse the effect of politics and economic performance on the stock market performance in South Africa.

The specific aims include:

- i) Examining and analysing the overview and performance of politics, economic performance, and stock markets.
- ii) Econometrically analysing the effect of politics on stock markets
- iii) Econometrically analysing the effect of economic growth on stock markets
- iv) Econometrically analysing the joint effect of politics and economic growth on stock markets.
- v) Based on the empirical results found, making the necessary policy recommendations.



### 1.4 Hypotheses

#### *Hypothesis 1*

H<sub>0</sub>: Politics does not have an effect on the stock market performance in South Africa.

H<sub>1</sub>: Politics have an effect on the stock market performance in South Africa.

#### *Hypothesis 2*

H<sub>0</sub>: Economic growth does not have an effect on the stock market performance in South Africa.

H<sub>1</sub>: Economic growth does have an effect on the stock market performance in South Africa.

#### *Hypothesis 3*

H<sub>0</sub>: Politics and economic growth do not have a joint effect on the stock market performance in South Africa.

H<sub>1</sub>: Politics and economic growth have a joint effect on the stock market performance in South Africa.

### 1.5 Significance of the study

There are significant differences between the developed and developing economies across the world. Although literature exists on role of politics and economic performance when it comes

to stock markets, many studies on the development of and factors impacting the stock markets have mostly been directed at the developed markets. This dissertation seeks to turn the focus into the emerging markets, specifically the South African stock market. The dissertation will therefore study and examine the effects of politics and economic performance on the development and performance of South Africa's stock market, as a developing economy.

The study by Yartey (2008) highlights the significance of the stock markets of Africa, specifically with regards to the contribution stock markets make towards the success of big, listed companies in certain African countries, including South Africa. A very dated empirical study by Singh (1995) also finds that many corporations in developing nations are largely dependent on external finance through the stock markets. This highly suggests the importance of a high performing stock market for African countries' economies and consequently raises the question as to the role of macroeconomic and institutional quality elements in impacting the performance of stock markets, specifically for a developing economy such as South Africa. Moreover, Ales et al. (2012) developed a theoretical framework of studying stock and financial markets' performance in which the political and economic cycles are analysed as mutually determined and the conclusion is that when considering the best sustainable equilibrium, the production is permanently distorted, and this is because of the interaction between the limited commitment as well as the policymaker's asymmetric information. This could be useful in understanding the extent of the politics' influence as well as the dynamics on such influence.

Therefore, studying the possible impact of economic performance and political variables on the South African stock market performance will not only confirm whether the macroeconomic variables, specifically economic growth and institutional quality as represented by politics have an impact on stock markets, but will also help further explore how they impact the stock market performance as well as inform policy changes needed.

### **1.6 Ethical considerations**

The research will acknowledge the work of various authors using the Harvard, APA, and other referencing systems, and to further maintain the highest level of objectivity throughout the dissertation. Further, the study will be carried out in line with the University of Fort Hare's ethical values, including an undertaking of the ethical clearance certificate.

## **1.7 Delimitations**

The study may identify the important effects of politics and economic performance on South African stock market by exploring sufficient quantitative measures will help to enrich the study.

## **1.8 Organisation of the study**

This dissertation will comprise six chapters as follows: chapter 1 will provide a background and introduction to the study; chapter 2 provides a stock market overview, specifically as it relates to the case of South Africa; chapter 3 provides a theoretical framework as well as the review of literature; chapter 4 contains the methodology of the study; chapter 5 will present and analyse the results; and chapter 6 will provide the summary, conclusions and policy recommendations of the study.



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## CHAPTER TWO

### OVERVIEW AND PERFORMANCE OF POLITICS, ECONOMIC PERFORMANCE AND STOCK MARKETS

#### 2.1 Introduction

This chapter presents an overview of the individual variables that will be employed in this study, namely, indices of politics, economic expansion, and stock market performance. The chapter will also provide overview of different relationships between politics, economic performance and stock market performance in South Africa. The macroeconomic factors utilised for the overview of the South African stock market evolution. For politics, the study will employ institutional quality as represented by regulatory quality and political stability as indices for South African politics. The GDP ratio will be employed as a representative variable for economic performance in this chapter. The chosen period for the overview in this particular chapter is from the year 2000 to 2022, which will differ from the period to be employed in chapter 4 of the thesis.

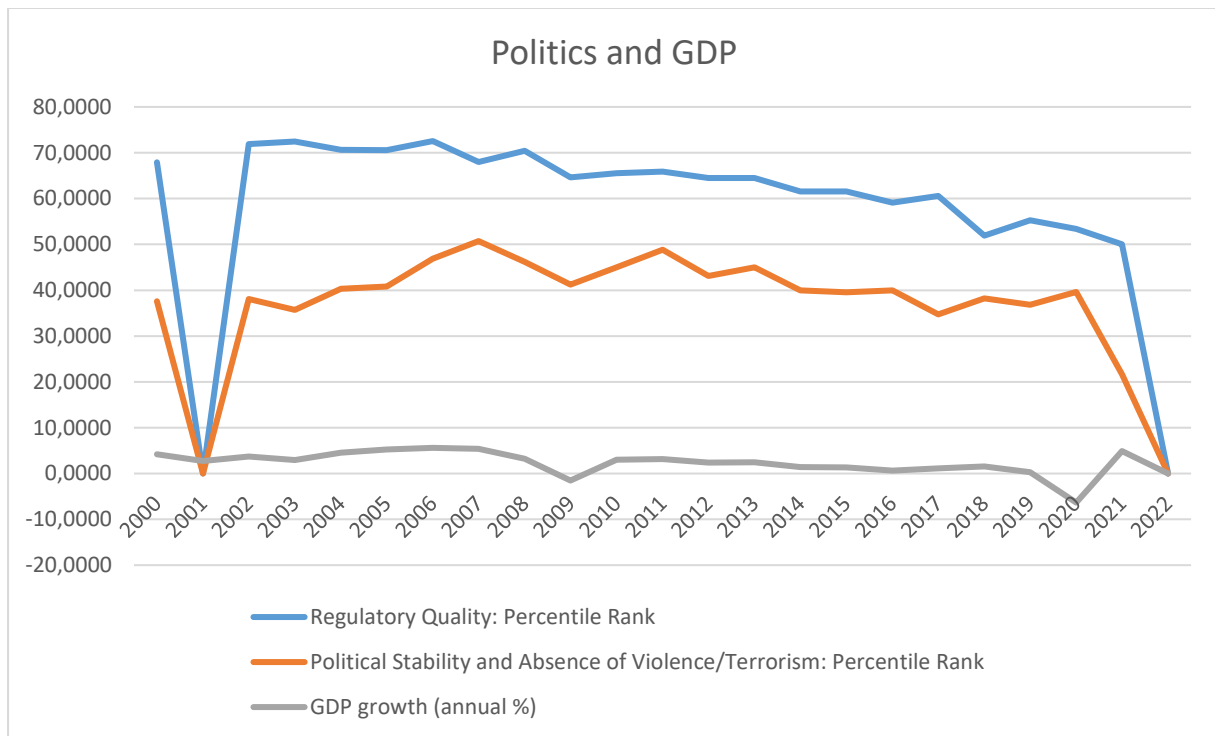
#### 2.2 Politics and economic changes

A lot has been happening in the South African political sphere, particularly since the year 2008 when the former president, Mr. Mbeki was removed from the office by the ruling party. The below graph shows the trends in economic performance (measured by GDP) and political indicators (measured by regulatory quality and political stability). The data is from 2000 to 2022.



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**Figure 2.1: Politics and economic performance**



Source: World bank (2023)



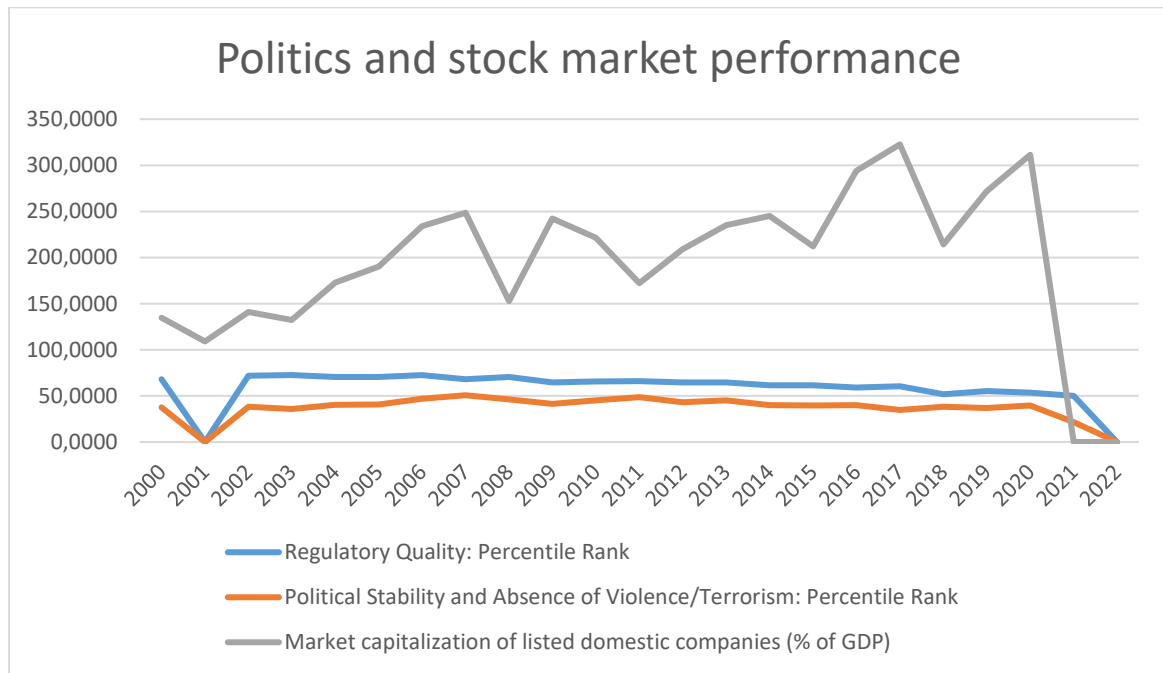
From the graph above, all three indicators for politics and economic performance show a decline in the year 2009. The GDP rate went down from 3.2% in 2008 to 1.5% in 2009 whilst regulatory quality and political stability declined from 65.5 and 46.1 in 2008 to 64.6 and 41.2 in 2009, respectively. This may be attributable to the drastic changes in the primary leadership of the country when the president was replaced. This may also suggest a correlation between a country’s economic performance and political changes, although further regression analyses are still needed.

### 2.3 Politics and stock market performance

The connection between politics and stock market performance is shown in figure 2.2 below. The graph shows three significant declines overtime across the political and stock market performance during the years 2008, 2011, and 2015. The declines mirror each other which suggests a correlation between politics and stock market performance. The 2008 decline was also experienced globally because of the 2008 financial crisis, globally. The correlation between politics and stock market performance concurs with Pagano (1993) who asserted that the presence of transparency that translate to better protection of shareholders’ and creditors’ interests increase investor participation and consequently stock market expansion. Moreover,

Yartey (2007) finds that political factors such as corruption, bureaucratic quality, democratic accountability and government stability play a substantial part in fostering the expansion of the stock markets in African countries. In addition, Yartey (2010) finds that political risk is a favourable determining factor for stock market expansion as a lower political risk rate promotes the feasibility of external finance sources and consequently improves the performance of a stock market.

**Figure 2.2: Politics and stock market performance in South Africa (2000-2022)**



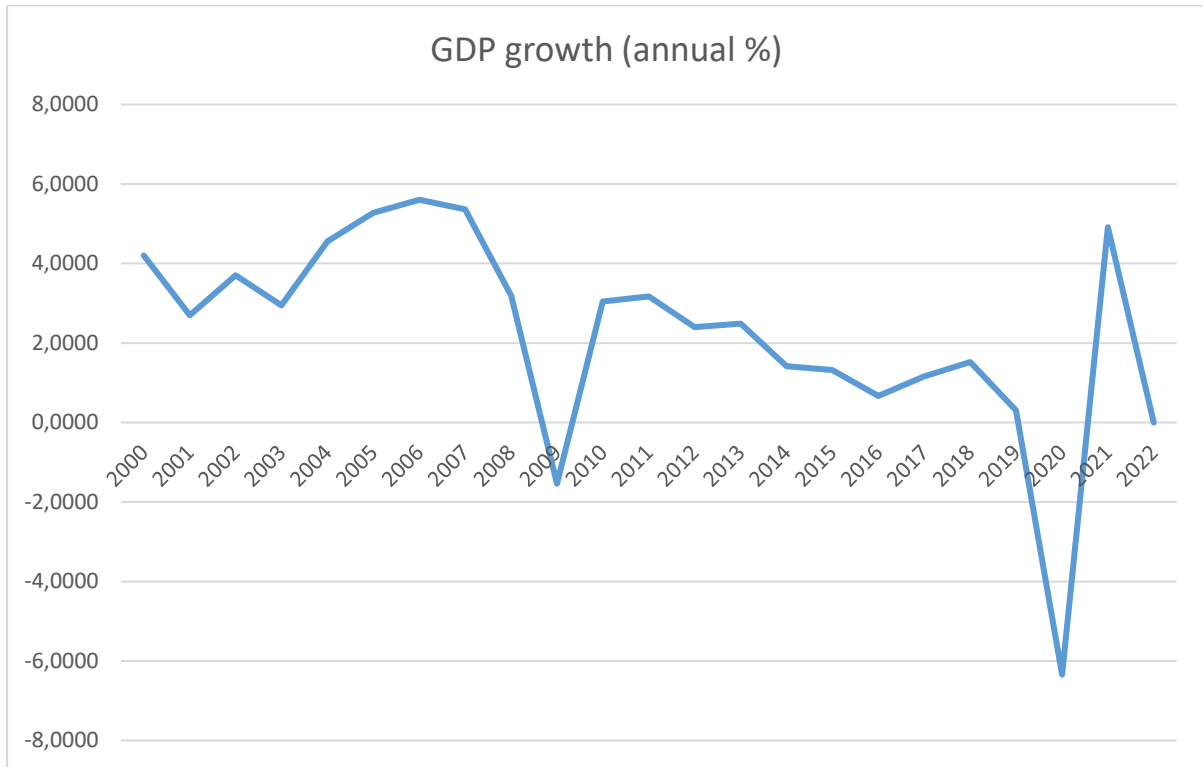
Source: World bank (2023)

## 2.4 Economic growth in South Africa

To measure economic performance in South Africa, the dissertation employs the GDP rate over the period 2000 to 2022. Figure 3 below shows quite a significant decline from 5.4 in 2007 to 3.2 in 2008 and a further step decline to -1.5 in 2009. The economy was promising with a recovery to 3.0 in 2010 before downward declining trend during the 2013 to 2016 period, going from 2.5 in 2013 to 1.9 in 2014, 1.2 in 2015, and 0.4 in 2016. The significant decline between 2008 and 2009 may be attributed to the highly volatile climate in South Africa when the former president, Mr Mbeki was abruptly replaced by the former president, Mr Zuma in 2008, consequently causing major political uncertainty towards South Africa. The decline is also a result of the consequences of the global financial crises that affected both the developed and developing economies across the globe. Moreover, the declining trend during the period 2013 to 2016 can be largely attributed to the political climate during the reign of the former president

Mr Zuma which was mostly characterised by accusations of state capture and many changes in the national leadership pertaining to the working terms of ministers. Finally, the significant dip in 2020 is attributed to the economic shock initiated by the COVID-19 pandemic.

**Figure 2.3: Economic performance for South Africa (2000-2022)**

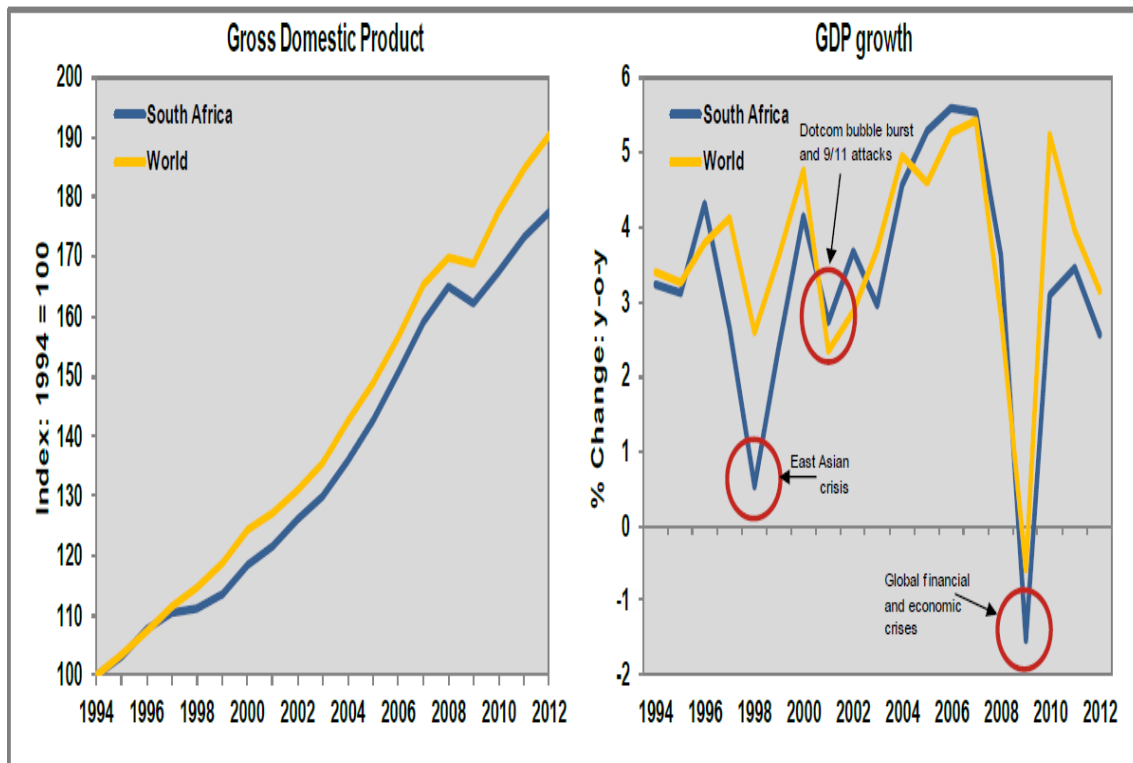


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Source: Worldbank databank (2023) *together in Excellence*

Furthermore, the South African economy went through a considerable transformation in terms of its performance. According to the IDC Report (2013), average GDP growth was 3.3% in SA yearly between 1994 and 2012, almost doubling the 1.4% average of the 1980 to 1993 period. However, the IDC Report (2013) also notes that the economic growth has volatile compared to the global economic performance. This is depicted in figure 2.4 below.

**Figure 2.4: South Africa's economic growth vs global economic growth (1994-2012)**



Source: adapted from the IDC Report (2013)



## 2.5 Stock market development and economic growth/expansion:

According to Standley (2010), over the years, several Sub-Saharan African nations have focused more on building and strengthening their financial markets. However, most of these markets are still undeveloped and lack the instruments necessary to improve economic prospects. Standley (2010) further contends that many Sub-Saharan African nations have undeveloped financial systems depending on the features of each country and its unique domestic financial sectors. Only a few nations in Sub-Saharan Africa have functional domestic bond markets, while the region's equities markets are small and illiquid outside of South Africa.

## 2.6 The South African stock market overview:

### 2.6.1 The Johannesburg Stock Exchange (JSE)

The Johannesburg Stock Exchange (JSE) was founded in the year 1887 with the purpose of facilitating the funding of developing mines and the expansion of the South African Mining Industry. Contrary to this objective, the majority of the currently listed firms consist of non-mining enterprises. In the late 1990s, many steps were put in place to improve or mend the institutional state of the JSE in order to obtain efficient functioning and/or operation of the exchange. The enactment of the Shares Exchanges Control law in November 1995 marked the

first substantial alteration to South Africa's stock trading system. This legislation granted brokers the authority to buy and sell shares for their own benefit and also expanded market access to non-South Africans. STRATE, an electronic payment and settlement platform, now automates the trading procedure.

The bond market is authorised as a financial market by the Financial Markets Control Regulation and has transitioned from the JSE to the Bond Exchange of South Africa. In 1997, an innovative real-time stock exchange information service was launched with the objective of enhancing investor confidence and market transparency. According to JSE listing guidelines, listed businesses must first transmit any business-related or price-sensitive information via the service before using any other media or source. Following its merger with the South African Futures Exchange (SAFEX) in 2001, the JSE established itself as the dominant player in South Africa's stock, futures, and options trading industry. Moreover, brokerage companies are facing substantial financial consequences due to the implementation of new capital sufficiency rules. This involves maintaining the segregation of customer funds and broker funds, in accordance with standards set out by the European Union.

Furthermore, the JSE categorised its goods based on the FTSE Global Classification system and aligned its equities trading strategy with that of Europe. Consequently, the FTSE/JSE Africa Index Series was established, enabling the comparison of South African indexes with comparable indexes worldwide. The London Stock Exchange (LSE) may now disseminate trading data for items listed on the JSE to more than 104,000 trading terminals worldwide, therefore enhancing the JSE's exposure to international investors.

## **2.6.2 The markets in the JSE:**

The JSE is responsible for overseeing listing applications, enforcing ongoing duties on behalf of listed firms, and interpreting listing regulations. The JSE also oversees applications to modify an existing listing, any corporate activities that result from these, and the examination of business records with an eye towards public disclosure. After 118 years as a mutual organization, the exchange was demutualized in July 2005.

### **2.6.2.1 Equity market:**

Although a significant portion of the market is held by a few industry titans like GlencoreXstrata, BHP Billiton, SABMiller, and British American Tobacco, The Exchange offers a wide range of products. Approximately 400 businesses can be found on the Exchange, both on the Main Board and AltX. The JSE as well as the FTSE Group have partnered to create

the JSE index series, known as the FTSE/JSE Africa Index Series. Therefore, the two yardstick indexes are the FTSE/JSE Top 40 Index, which follows the top listings across a wide range of industries, and the FTSE/JSE All Share Index, which covers 99% of market capitalization (JSE, 2021).

#### **2.6.2.2 Bond market:**

The continent's biggest market for interest rates is found in South Africa. Government-owned institutions issue the bulk of South African bonds, however the amount of business bonds issued is increasing. By collaborating with other stock markets in Africa on a dual-issuance model, the Exchange seeks to draw in additional bond issuers to the trading platform. The first tranche of an R3bn (\$275.2m) project was launched by the Namibian government in November 2012, at a price of R850m (\$78m), or 8.26%. The JSE expects that this move may incentivize other African nations to list notes on Its Exchange (JSE, 2021).

#### **2.6.2.3 Derivatives:**

Many derivatives are traded on the JSE, such as the futures and options on stocks, bonds, indices, interest rates, currencies, and commodities. According to the World Federation of Exchanges Annual Derivatives Survey, the JSE was placed sixth in terms of single stock futures traded and ninth in terms of currency derivatives traded in 2012 (JSE, 2021).

#### **2.6.2.4 Regulation:**

Establishing and implementing listing, membership, and trading regulations, the JSE is the exchange's primary regulator. Overseeing the JSE in the execution of its regulatory responsibilities is the Financial Services Board (FSB). With South Africa aiming to adopt a twin peaks model of oversight, the regulatory environment is expected to undergo a transformation in the near future. A strengthened FSB will be in charge of overseeing market behavior under the new system, which will shift prudential supervision to the South African Reserve Bank (SARB). As per the World Economic Forum's Global Competitiveness Survey for 2013–2014, South Africa holds the top spot globally when it comes to securities exchange regulation (JSE, 2021).

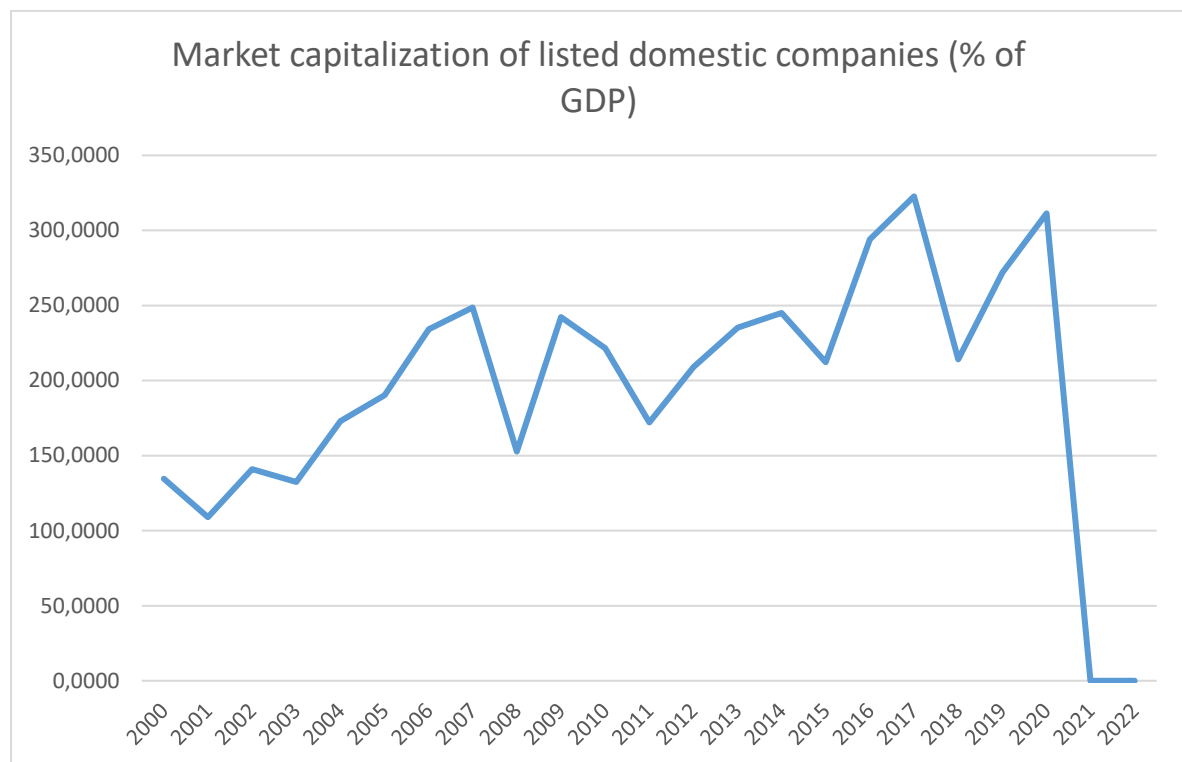
### **2.7 The main characteristics (of stock market development):**

#### **2.7.1 Market size:**

As can be seen from the figures 2.5 and 2.6 below, the market capitalization ratio rose from 121% in 2000 to about 322% in 2016. This high level of growth in the market capitalization ratio corresponded with a decline in the number of listed companies, which went from 600 in

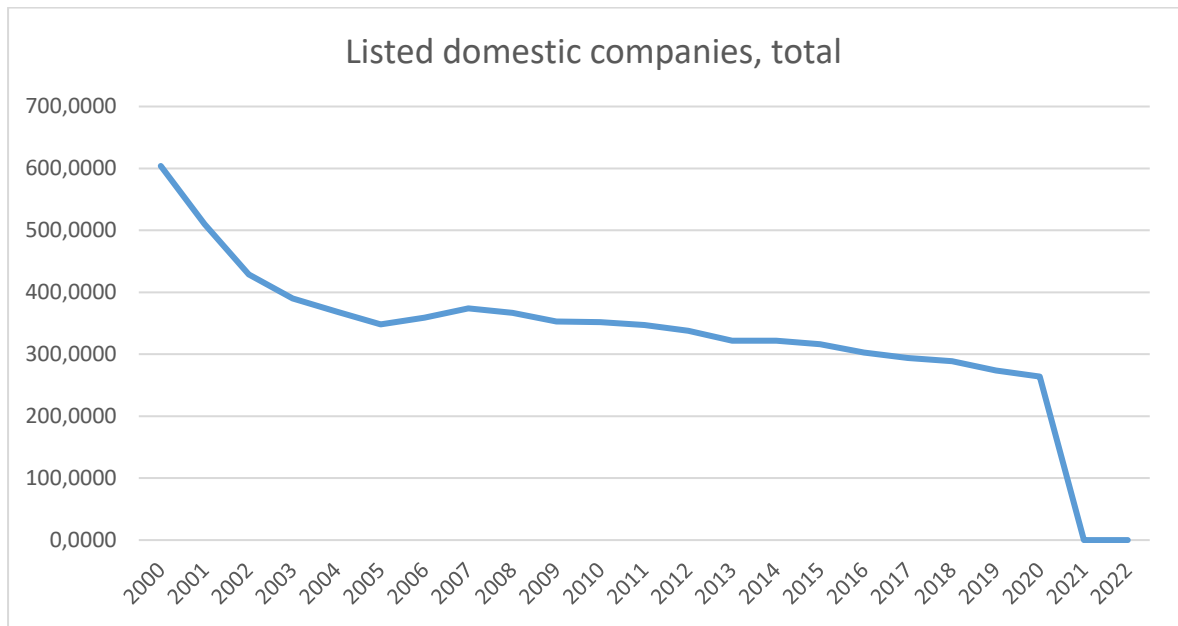
2000 to 303 in 2016, a reduction of more than 300 corporations as most of the largest listed firms in South Africa switched their principal listings to the established markets that are more attractive to international investors. Furthermore, the trends in South Africa's stock market performance as shown in figure 2.5 below show that, like most countries in the global sphere, the stock market performance in South Africa dropped significantly in the year 2008 mostly due to global financial crisis which saw many financial markets crash. There are also declines in stock market performance during the years 2011 and 2015, and this may be attributed to, amongst other things, the political uncertainty around the governance of the country during these periods.

**Figure 2.5: Market capitalization ratio for SA (2000-2022)**



*Source: The Worldbank (2023)*

**Figure 2.6: Number of listed companies for SA (2000-2022)**



Source: The Worldbank (2023)

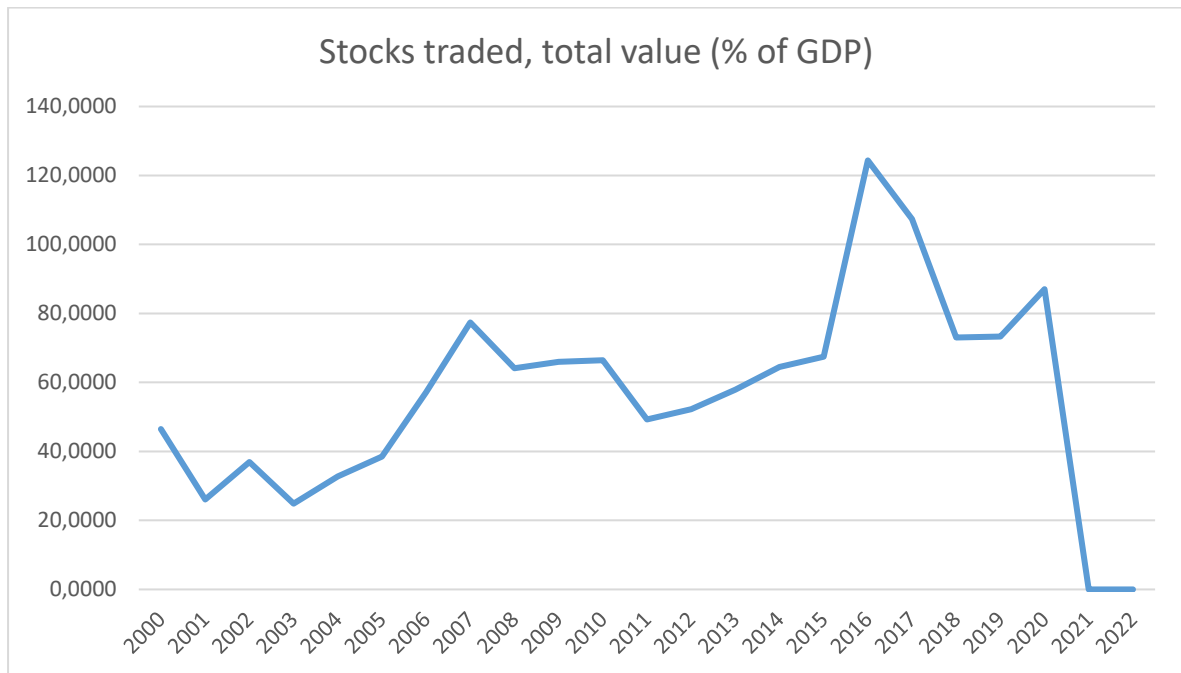
### 2.7.2 Market depth:

Liquidity or the capacity to purchase and sell shares is referred to as market depth. The total amount traded as a percentage of GDP, according to Levine and Zervos (1998), gauges market liquidity since it assesses trading in relation to economic activity. In the case of South Africa, we can see from figure 2.7 below that, the stocks traded, total value as a percentage of GDP increased from about 51 percent of GDP in 2000 to 136 percent of GDP in 2016, showing a huge growth over the period of 16 years before the consistent decline.



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**Figure 2.7: Stocks traded, total value for South Africa (2000-2022)**

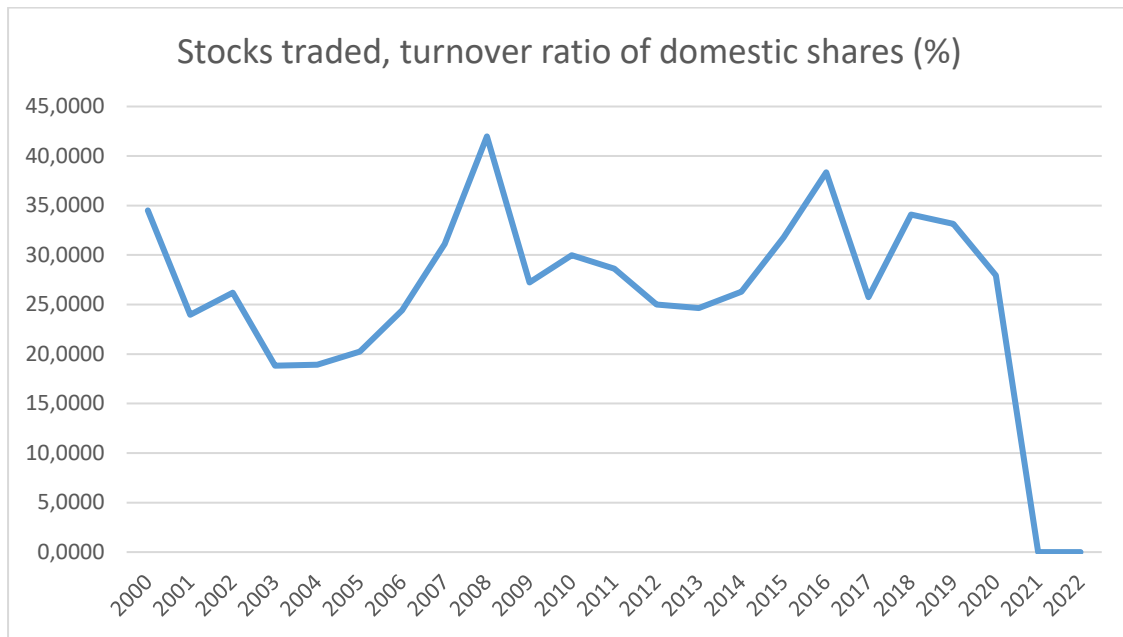


Source: The Worldbank (2023)



Furthermore, the turnover ratio is examined to further illustrate the liquidity of the South African stock markets. As can be seen from figure 2.8 below, the turnover ratio for South Africa increased from about 35 percent in 2000 to a peak of percent in 2008 and ultimate landed to a high of about 38 percent in 2016 before experiencing a consistent decline which was further fueled by global economic shock caused by the covid-19 pandemic from 2020.

**Figure 2.8: Stocks traded, turnover ratio for South Africa (2000-2022)**



Source: The Worldbank (2023)

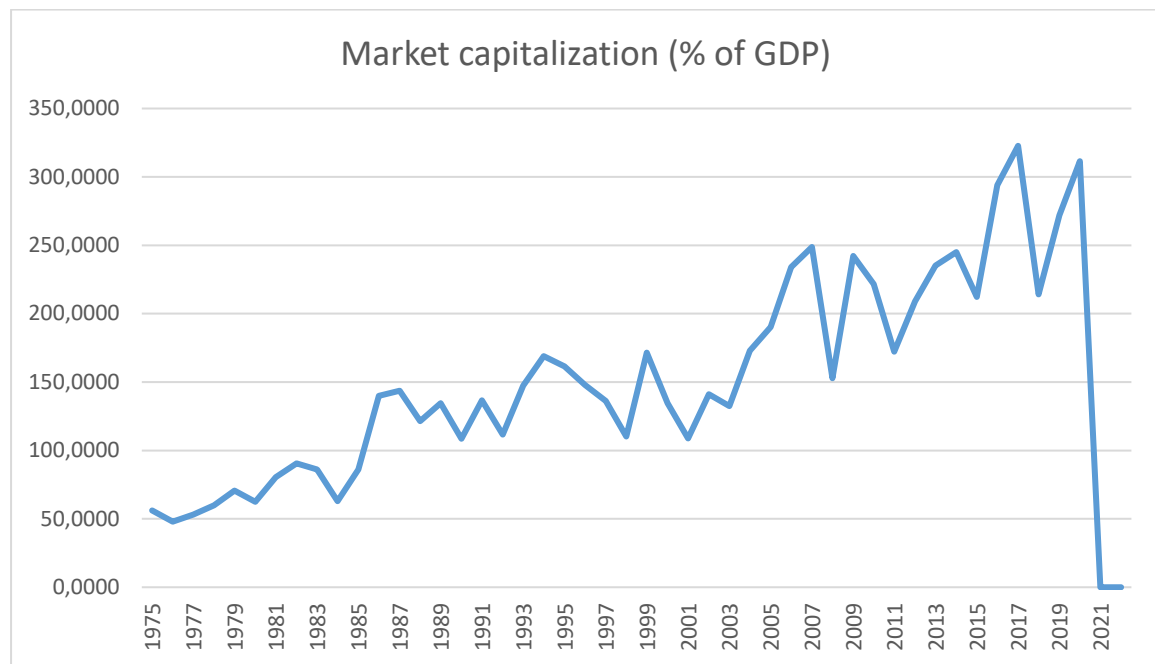
## 2.8 The South African stock markets overtime

The South African stock markets have been performing and growing at quite impressive rates whilst also experiencing declines in market capitalisation in certain years. The market capitalisation of the South African stock market has been showing an upward trend since the 1970s until very recently. This can be shown in the line graph below which illustrates the trends of stock market capitalisation as a percentage of GDP in South Africa from 1975 to 2018.

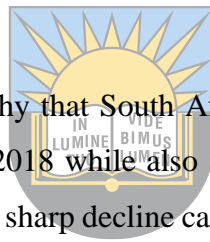


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**Figure 2.9: Stock market performance trend of South Africa (2000-2022)**



Source: Worldbank data (2023)



From figure 2.9 above, it is noteworthy that South Africa experienced sharp declines in the years 2008, 2011 and quite recently 2018 while also sharp increases can be seen during the years 2007, 2009, and 2017. The 2008 sharp decline can be attributed to, amongst other factor, the global financial crisis which negatively impacted most stock markets across the globe. Thus, the decline was not exclusive to the case of South Africa. Further, many stock markets including that of South Africa started recovering, however slowly, from the year 2013.

Therefore, the study will provide contribution in terms of identifying specific macroeconomic factors that contributed to these trends that we observe in South African stock market over a specified period of time. Identifying these macroeconomic variables and their respective impacts will in turn contribute towards financial sector policy making in terms of identifying factors to be prioritised for the positive performance of stock markets for the case of South Africa.

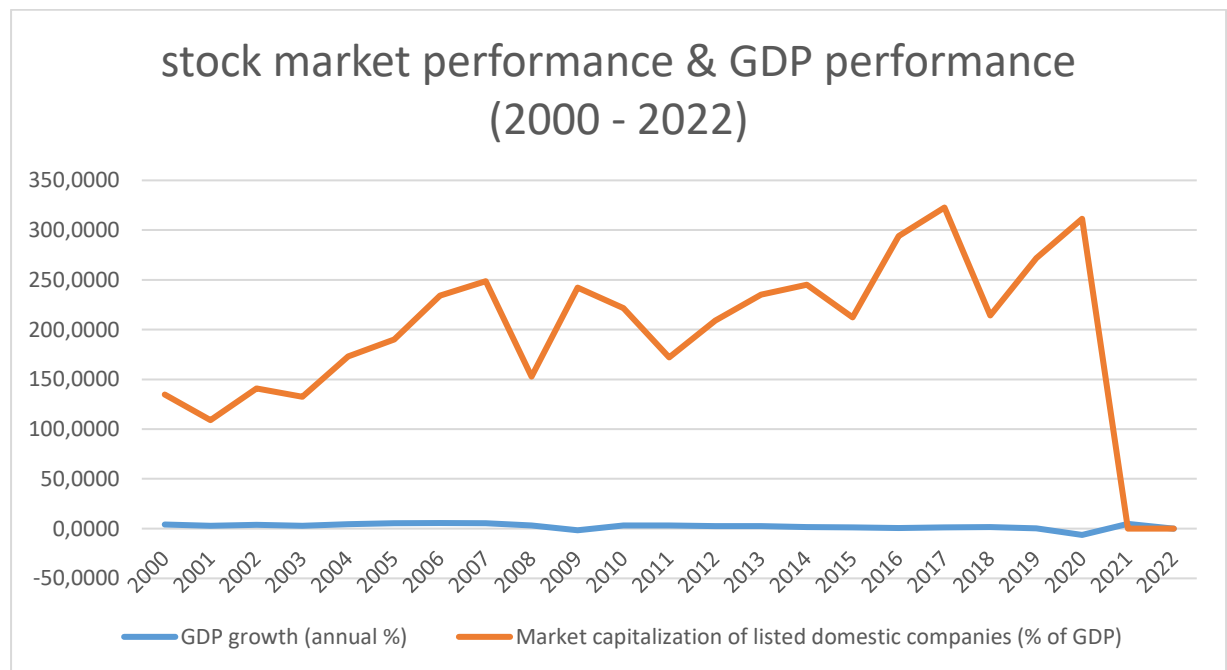
## 2.9 Trends

The common trend that can be drawn is the performance decline in 2008 as a result of the global financial crisis. This decline also coincides with the political uncertainty caused by the abrupt change of presidents in South Africa at the time, which was driven by political motives. We can also observe a correlation between political stability and regulatory quality as shown

by similar movements throughout the selected period. However, while GDP significantly fell in the year 2009, the stock market performance increased significantly from the previous year. Also, political stability and regulatory quality fell during this period, which suggests a correlation between political indicators and economic performance.

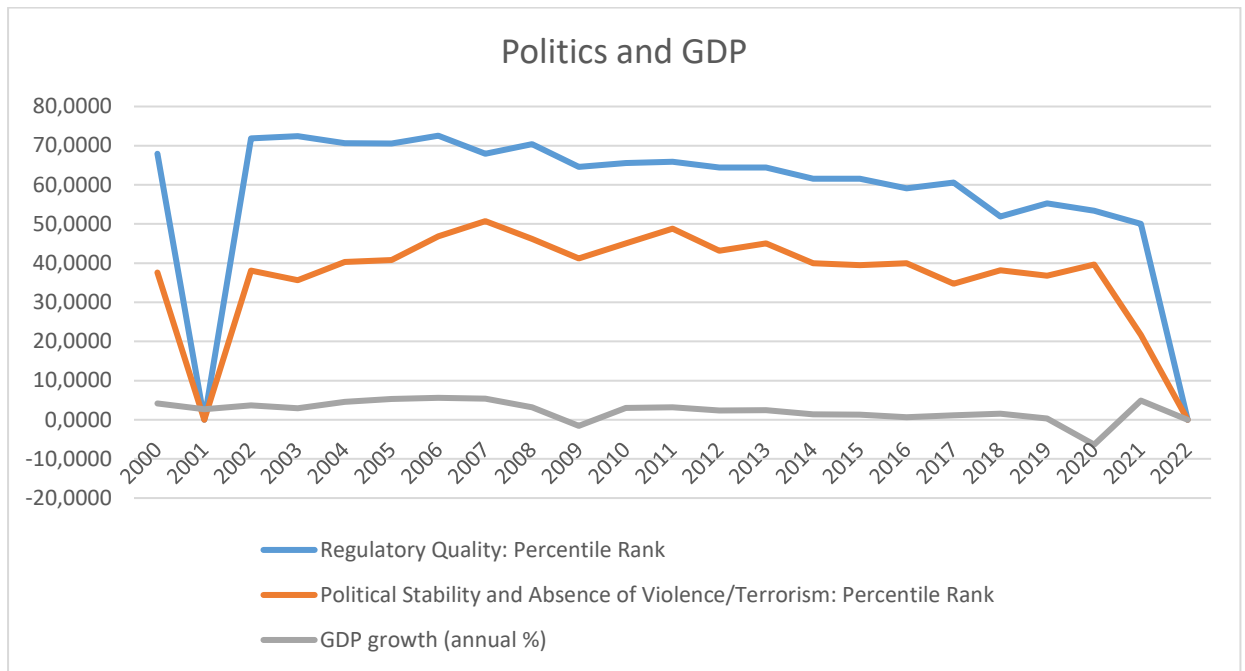
Finally, over and above the trends provided, the study will further provide regression analyses that will be run in order to further explain/examine the relationship between the identified variables. This is provided for in chapter 4 of the dissertation.

**Figure 2.10: GDP and stock market performance (2000-2022)**



*Source: Worldbank data (2023)*

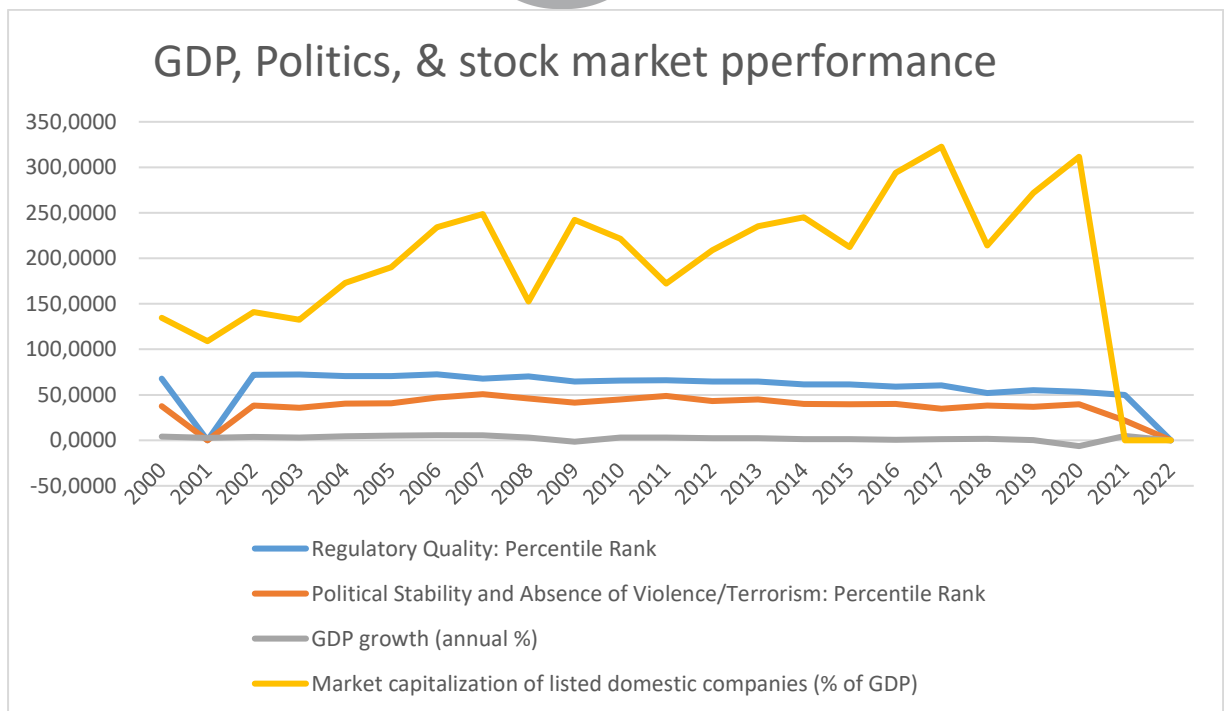
**Figure 2.11: politics and economic performance (2000-2022)**



Source: Worldbank data (2023)

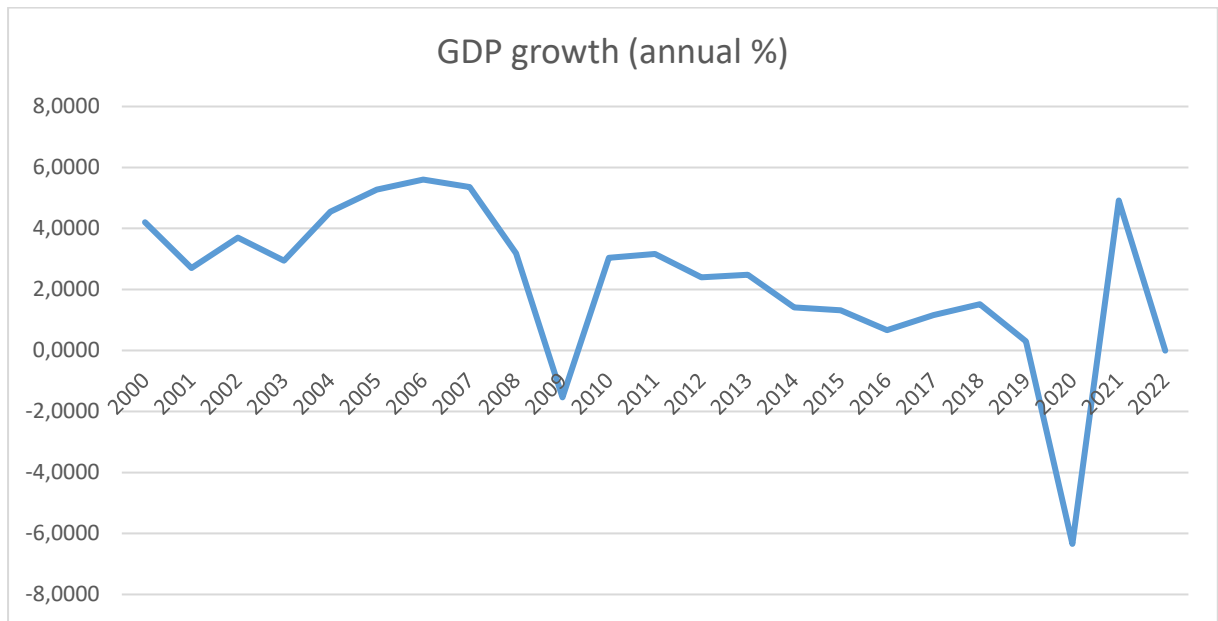


**Figure 2.12: GDP, politics, and stock market performance (2000-2022)**



Source: Worldbank data (2023)

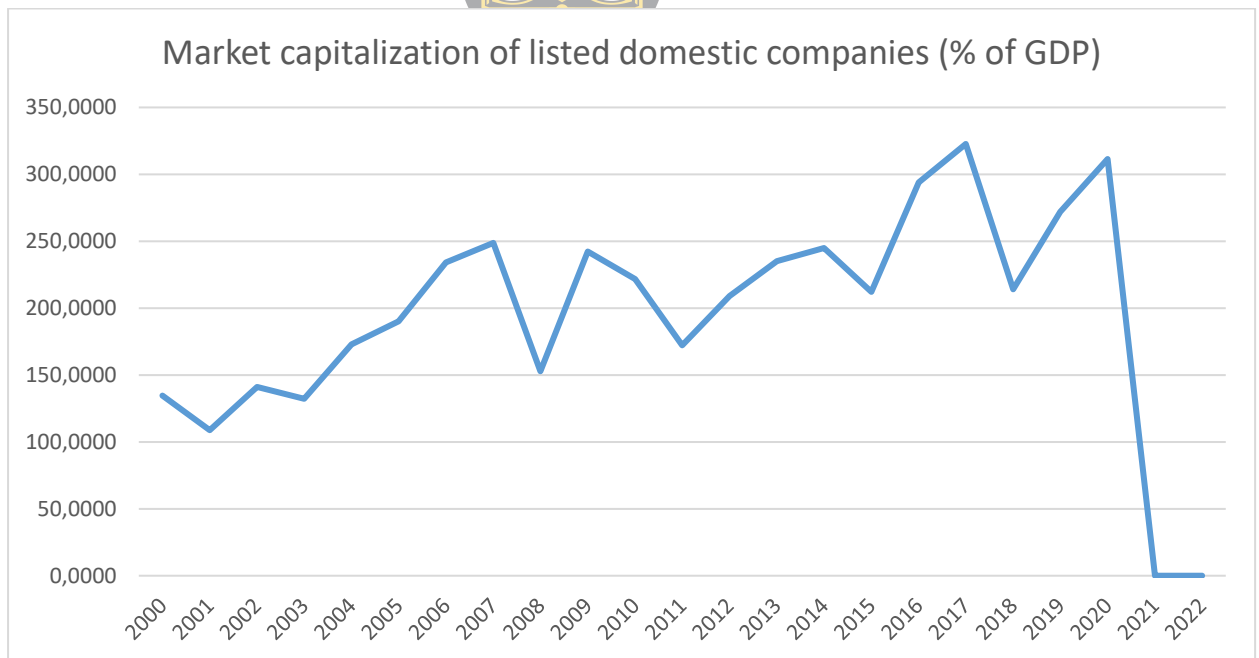
**Figure 2.13: Economic performance for South Africa (2000-2022)**



Source: Worldbank data (2023)

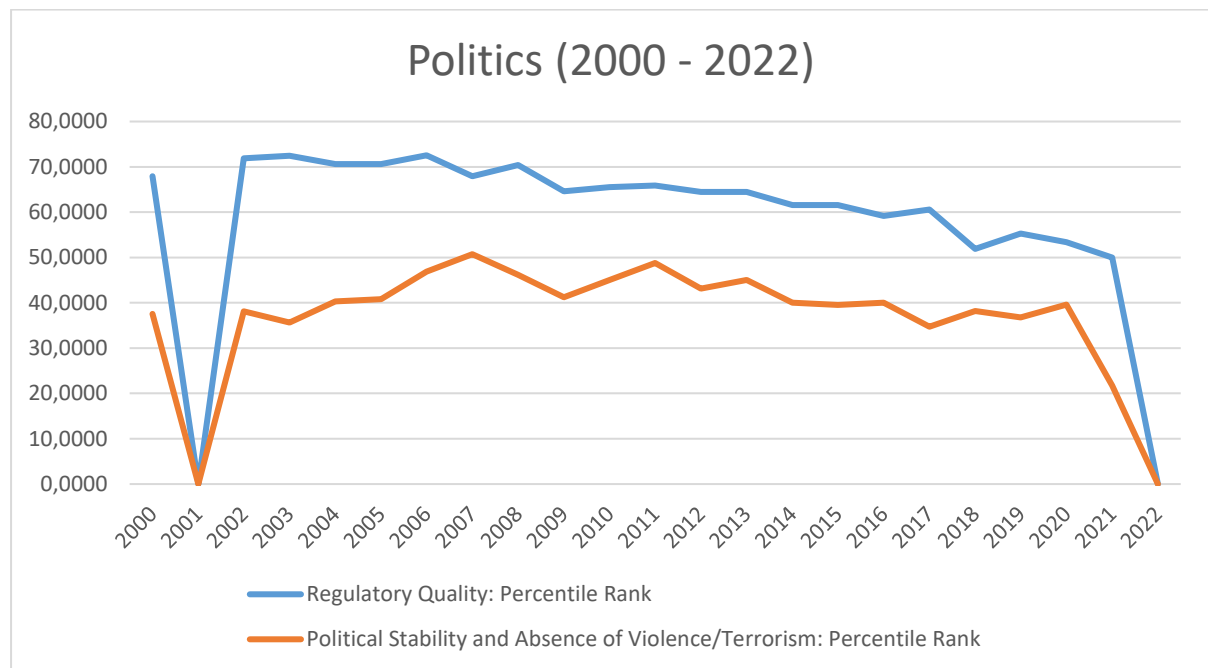


**Figure 2.14: Stock market performance for South Africa (2000-2022)**



Source: Worldbank data (2023)

**Figure 15: Political indicators for South Africa (2000-2022)**



Source: Worldbank data (2023)



## 2.10 Stock Market Development in South Africa:

An overview of the stock, currency, bond, and derivatives markets of South Africa is provided in this section. It is a review of the evolution of the markets and an analysis of how the major markets fare worldwide. Hassan (2013) claims that the value of the stock market is nearly double that of the nation's output, surpassing the size of exchanges in considerably larger countries like Turkey.

### 2.10.1 Equities:

In order to help the new miners and its financiers generate money for the expansion of the budding mining sector, the JSE was established in 1887. All of the listed firms today, nevertheless, are not mining corporations. With an approximate market capitalization value of US\$182, 6 billion and an average monthly traded value of US\$6,399 million, the JSE had 472 listed businesses in 2004. In terms of market capitalization, JSE Limited is by far the biggest exchange in Africa and the 17th largest worldwide.

The bourse's founding and the expansion and advancement of South Africa's financial industry are both attributed to mining. According to Bell, Farrell, and Cassim (1999), mining requires funding for major projects, particularly for deep-level gold, contrary to nations where early economic growth depended on farming or commerce. Moreover, the market capitalization to

GDP ratio of the JSE indicates that the market is around 190% important to the country's economy, according to Hassan (2013).

The market value of a listed organization's shares multiplied by the total number of shares issued determines its capitalization. The market capitalization of an exchange is calculated by adding this figure to the total number of firms listed on that exchange. The economy of South Africa is the third most heavily capitalised in the world. According to Hassan (2013), two other developing nations with high stock market capitalization to GDP ratios are Malaysia (at 160%) and Taiwan (at 126%). Additionally, the New York Stock Exchange, which is by far the biggest stock market in the world, has a similar ratio of 78% (along with 25% from Nasdaq). Money allocated by domestic institutional investors are disproportionately concentrated in stocks as opposed to bonds.



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**Table 2.1: Stock Markets in Selected Advanced and Emerging Economies:**

<i>Bourse</i>	<i>Value</i>	<i>% GDP</i>	<i>Capital</i>	<i>Turnover</i>
Tokyo SE, Japan	3325	57	18.360	16.270
London SE, UK	3266	69	41.224	11.081
Bovespa & BM, Brazil	1228	49	37.619	3.716
Deutsche Börse, Germany	1184	33	3.313	6.812
Korea Exchange	996	86	3.849	8.155
Johannesburg SE	789	187	12.115	1.487
Mexican Exchange	408	35	6.431	0.469
Indonesia SE	390	47	6.946	0.442
Santiago SE, Chile	270	111	3.594	0.219
Colombia SE	201	63	3.798	0.150
Istanbul IMKB, Turkey	197	26	2.366	1.601
Egyptian Exchange	48	21	1.036	0.077

*Source: Hassan (2013).*

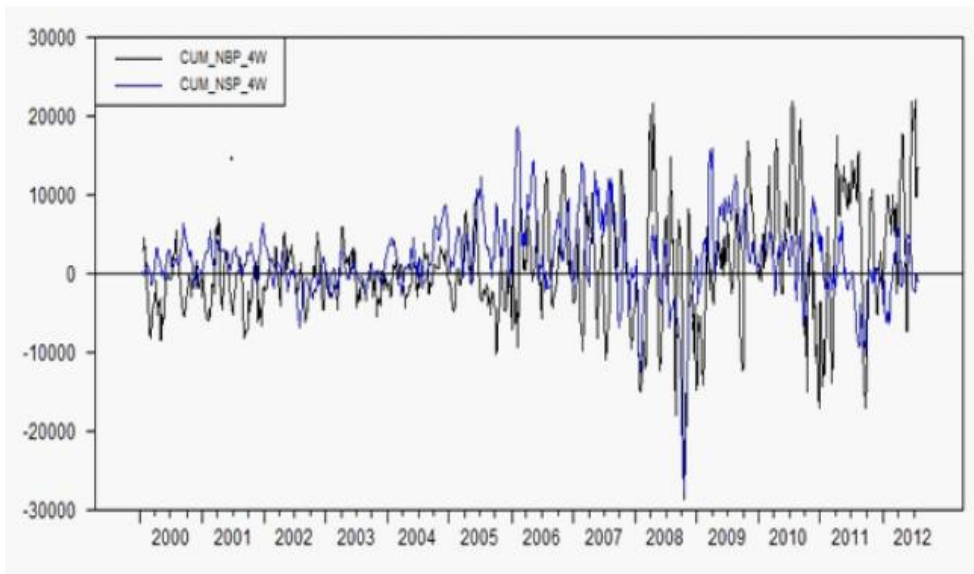


### **2.10.2 Bonds:**

The biggest listed debt market in Africa is governed by the JSE in terms of both market capitalization and liquidity. Since 2009, when it purchased the Bond Exchange of South Africa, it has done this. The JSE estimates that at the close of 2013, it had about 1600 listed debt securities with nominal values exceeding R1.8 trillion. The South African government is the one that lists more than half of the debt on the JSE. State-owned businesses in South Africa, multinational corporations, banks, and other African nations are among the other issuers. When it comes to the quantity of players and their everyday activities, the South African bond market is established and liquid. Every day, almost R25 billion is exchanged. The debt market of the JSE consists of the repo market, corporate bonds, and government bonds.

Hassan (2013) reports that there has been a significant increase in non-resident trading of domestic assets, particularly in the fixed income market, which has a prevalence of foreign ownership for government bonds. According to Hassan (2013), the following figure 2.16 depicts the degree of the rise in non-resident engagement in the South African securities market. Notable in particular is the rise in bond trading.

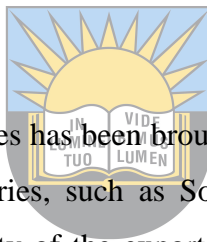
**Figure 16: Net Purchases of Domestic Securities by Non-Residents:**



Source: adapted from Hassan (2013).

### 2.10.3 Foreign Exchange Market:

The issue of appreciating currency rates has been brought to the attention of policymakers by significant capital inflows into countries, such as South Africa, in recent years. This has prompted worries over the profitability of the export sectors (Mminele, 2012). In addition, Hassan (2013) reports that the South African rand remains in the top twenty currencies traded globally, with an average daily turnover of 21 billion US dollars in foreign exchange, with local trade accounting for about 34 percent of spot, whilst forward is at 48 percent, and at 35 percent of the swap deals. Cross-border trade accounts for the remaining 65 percent of total rand spot, forward, and swap volume. Furthermore, the primary currency pairings are constituted by the US dollar and the Japanese yen, which contribute for 51 and 4 billion US dollars of average daily activity, respectively.



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**Table 2.2: Foreign exchange turnover:**

<i>Rank</i>	<i>Currency</i>	<i>Total</i>	<i>Spot</i>	<i>Domestic</i>	<i>Offshore %<sup>12</sup></i>
3	Japanese	1231	612	374	70
5	Australian	462	196	182	61
6	Swiss	275	84	216	21
7	Canadian	244	93	65	73
8	Mexican	135	57	32	76
10	New Zealand	105	39	12	89
16	Turkish	70	16	27	61
17	South Korean	64	19	48	25
18	<b>South African</b>	<b>60</b>	<b>19</b>	<b>21</b>	<b>65</b>
19	Brazilian	59	11	17	71
20	Indian	53	15	31	42

*Source: adapted from Hassan (2013).*

Hassan (2013) provides an explanation of the above table and notes that, of the heavily traded currencies from emerging nations with comparable average turnover during the same period, only the Turkish lira (27 %) and the Brazilian real (20%) surpassed the standard deviation of the rand-dollar rate by approximately 16%.

Table 2.3 below presents a comparison of the stock returns from a forward market version of the carry trade, which is a popular speculative strategy, using the Japanese yen as the financing currency and the rand as well as the Australian and New Zealand currencies as objects.

**Table 2.3: Currency Speculation (Forward Carry) Returns:**

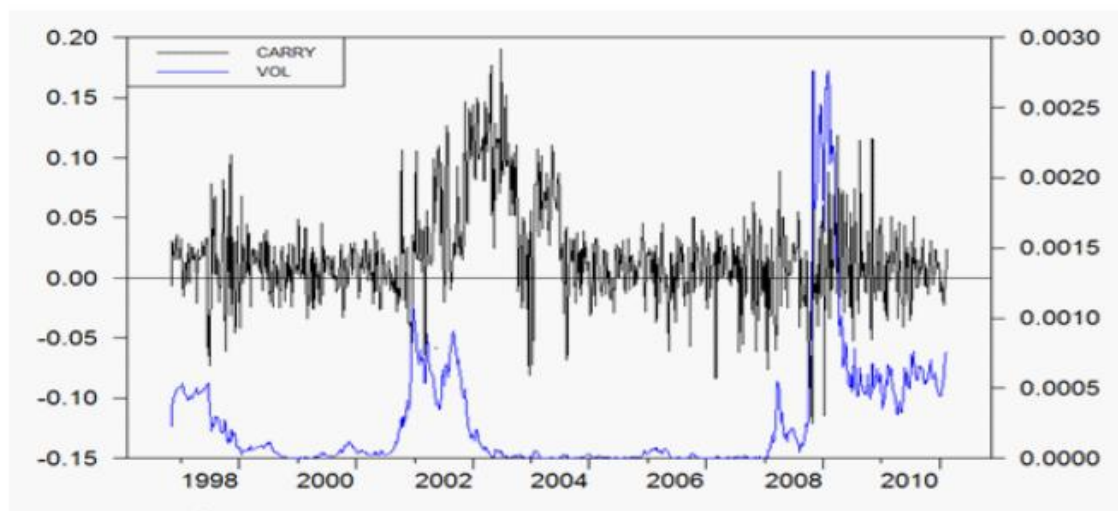
<i>Target</i>	<i>Mean Return</i>	<i>Standard Deviation</i>	<i>Sharpe Ratio</i>
Australian dollar	0.40	2.44	0.164
New Zealand dollar	0.41	2.51	0.164
South African rand	1.18	3.72	0.316

*Source: Hassan (2013).*

According to Hassan (2013), there were currency crises in 1996, 1998, and 2001 before the subprime crisis of 2008. Hassan and Smith (2011) establish that carry strategies have an

appealing risk-return profile, which may be partially explained by the cumulative gains from rand-targeting speculation that is started following such falls. These benefits can be swiftly undermined by subsequent spikes in volatility. Figure 2.17 below illustrates the correlation between significant carry trade losses and exchange rate volatility peaks, as well as the enormous and enduring gains that follow the extended period of low volatility and appreciation following the 2001 disaster.

**Figure 2.17: Rand-Targeting Speculative Returns and Exchange Rate Volatility:**



Source: adapted from Hassan (2013).

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#### 2.10.4 Derivatives:

Adelegan (2009) states that the establishment of South Africa's derivatives market was driven by a desire to advance financial system growth, control risk, and increase liquidity in the face of challenges brought about by globalisation. The only derivatives market in Sub-Saharan Africa (SSA) is in South Africa. Like other nascent derivatives markets, it arose from the country's desire to "self-insure" against capital flow volatility as well as control financial risk associated with asset price volatility.

Options and futures make up the bulk of South Africa's derivatives market, which has shown significant growth over the years, according to Adelegan (2009). Although the growth has helped with private inflows and allowed the participants in the market to price, isolate, and also transfer risk, Adelegan (2009) notes that there is now greater danger that it may be exploited. Additionally, several derivative products are traded with different institutional arrangements on regulated exchanges and over-the-counter marketplaces. To discourage taking on too much risk, insurance and pension funds are also subject to strict laws regarding asset allocations. The

potential advantages that these laws might have on the regional derivatives market may be limited. Derivatives provide advantages that cannot be overlooked, despite the fact that abuse can intensify volatility, speed up capital outflows, and trigger a financial catastrophe.

Furthermore, Hassan (2013) provides an explanation of the evolution of South Africa's derivatives market(s) by pointing out that, similar to the spot markets for the primary underlying securities, South Africa is regarded as is one of the more significant emerging markets, despite its inherent small size in relation to the world's major financial centres. According to Hassan (2013), it grew by around 60% between 2007 and 2010 and by more than three times between 2010 and 2013 as revealed by table 2.4.

**Table 2.4: Interest Rate Derivatives Turnover, OTC:**

<i>Rank</i>	<i>Currency</i>	<i>2004</i>	<i>2007</i>	<i>2010</i>	<i>2013</i>
4	Australian	12	19	37	76
5	Japanese	46	137	124	70
7	Canadian	8	15	48	30
8	<b>South African</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>16</b>
8	Brazilian	1	2	3	16
10	Swiss	10	19	20	14
11	South Korean	0	5	16	12
12	Mexican	2	5	5	10
15	Indian	0	3	2	6
16	New Zealand	2	7	4	5

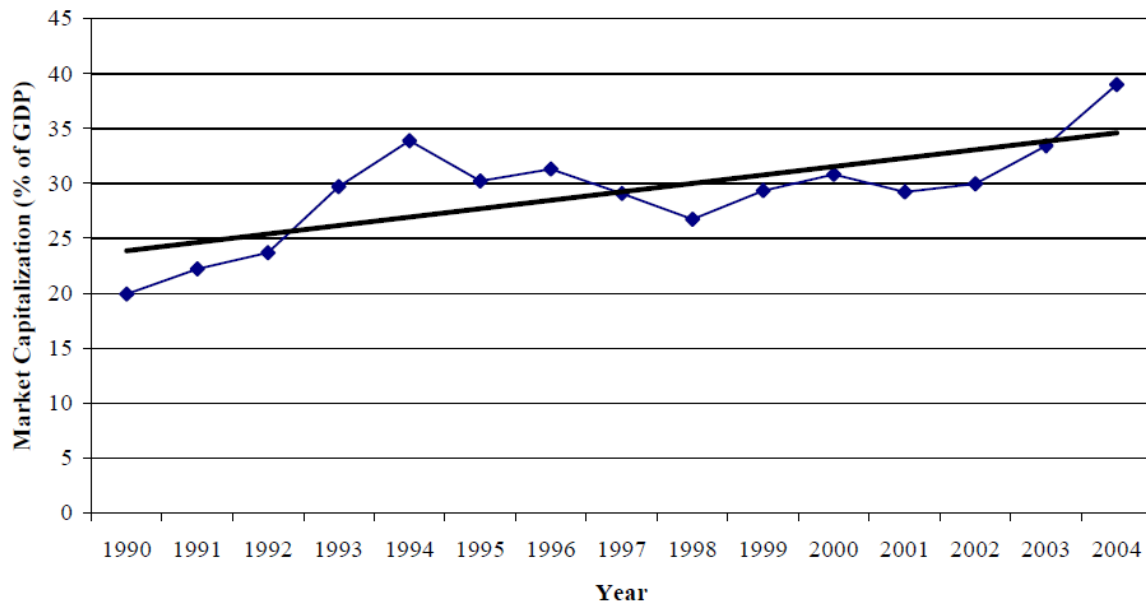
*Source: adapted from Hassan (2013).*

### **2.11 Stock Market Development in emerging countries**

Looking at the early developmental stages of stock markets as well as financial markets in the emerging economies, early studies in the financial sector traced the development back to the early 1990s, with Standard and Poor (2005) showing that the stock market capitalization for emerging economies increased by more than 100% over the period 1995 to 2005. Standard and Poor (2005) valued this growth in the stock market capitalization figures of emerging economies over this period to have grown from less than \$2 trillion in the year 1995 to approximately \$5 trillion in the year 2005. Further, Standard and Poor (2005) estimated the

emerging economies' stock market valuation to have been at 12% of the world and steadily growing in the year 2005. Moreover, Yartey (2008) added to this study by illustrating a picture of the movement of stock market capitalization of a select emerging markets over the period 1990-2004. The illustration is shown in figure 7 below as adapted from Yartey (2008).

**Figure 2.18: Stock market development in emerging markets, 1990-2004**



Source: adapted from Yartey (2008)

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Moreover, the illustration in figure 7 above is from the data shown in figure 8 below, which also shows other measures of stock market performance for the 42 selected emerging markets by Yartey (2008). According to this figure 8, the top performing countries in terms of stock market capitalization include South Africa, Thailand, Jordan, Chile and Malaysia.

**Table 2.5: Indicators of stock market development for the period 1990-2004**

Country	Number of Listed Companies	Market Capitalization (% of GDP)	Value Traded (% of GDP)	Turnover Ratio (%)	GDP Per Capita (\$)
Argentina	139	31	4	23	7193
Bangladesh	194	3	1	44	327
Bolivia	19	10	0.1	1	967
Botswana	14	14	1	3	2739
Brazil	497	27	13	46	3324
Bulgaria	349	4	0.6	15	1585
Chile	259	84	8	9	4443
China	723	20	25	156	793
Colombia	127	14	1	8	2002
Costa Rica	70	12	1	7	3735
Czech	488	20	9	46	5228
Ecuador	53	8	0.4	7	1344
Egypt	817	20	4	24	1375
Ghana	20	15	1	3	240
Hungary	45	17	11	53	4236
India	4811	30	34	81	406
Indonesia	250	20	8	49	791
Jamaica	45	46	3	4	3150
Jordan	131	71	3	4	3150
Kenya	55	15	1	3	423
Malaysia	636	170	81	41	3538
Mexico	185	27	10	35	5433
Morocco	55	22	3	14	1189
Nigeria	179	9	1	5	363
Pakistan	698	15	23	168	514
Panama	21	19	1	2	3642
Paraguay	45	3	0.2	6	1462
Peru	238	18	4	22	1936
Philippines	206	46	13	25	958
Poland	136	10	4	69	3764
Romania	3251	4	1	36	1749
S. Arabia	69	41	25	59	8908
Slovak	450	7	5	96	3557
Slovenia	41	12	3	24	8666
South Africa	604	147	35	31	3039
Sri Lanka	222	14	2	13	757
Thailand	383	50	40	85	1944
Tunisia	33	11	2	9	1854
Turkey	230	22	32	134	2777
Uruguay	19	1	0.1	1.05	5774
Venezuela	80	10	2	19	4901
Zimbabwe	67	38	5	12	596

Sources: World Development indicators; and author's calculations.

Source: adapted from Yartey (2008)

## 2.12 Stock market development and African economies

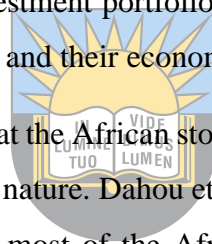
A study by Dahou et al. (2009) outlines and examines the African financial markets, including the challenges and barriers that they face in their development for the purposes of policy contributions. Dahou et al. (2009) show that many African countries face challenges such as inadequate regulatory frameworks which delay the development of the banking sector, banking

sectors that do not fulfil their role of efficient financial intermediation, underdeveloped stock market stricken by illiquidity and narrowness and thus limiting access to long-term investments, and lack of innovation in terms of financial instruments particularly for the development of small and medium businesses that make up the majority of the still developing countries. Thus, Dahou et al. (2009) argue and recommend that the development of stock markets in African markets, among other remedies, is required in order to enhance and promote long-term investments and consequently economic development.

In terms of the nature of the African stock markets, Dahou et al. (2009) provide a few characteristics that describe a majority of the African economies in terms of their capital markets. Dahou et al. (2009) explain that many African stock markets narrow and illiquid in traditional nature due to a combination of factors such as low institutional quality, scarcity of human capital and financial structure, low income levels, exposure to external shocks, and ineffective collateral registration systems. Dahou et al. (2009) add that lack of foreign investments coupled with narrow investment portfolio options hampers the development and growth of most African stock markets and their economies.

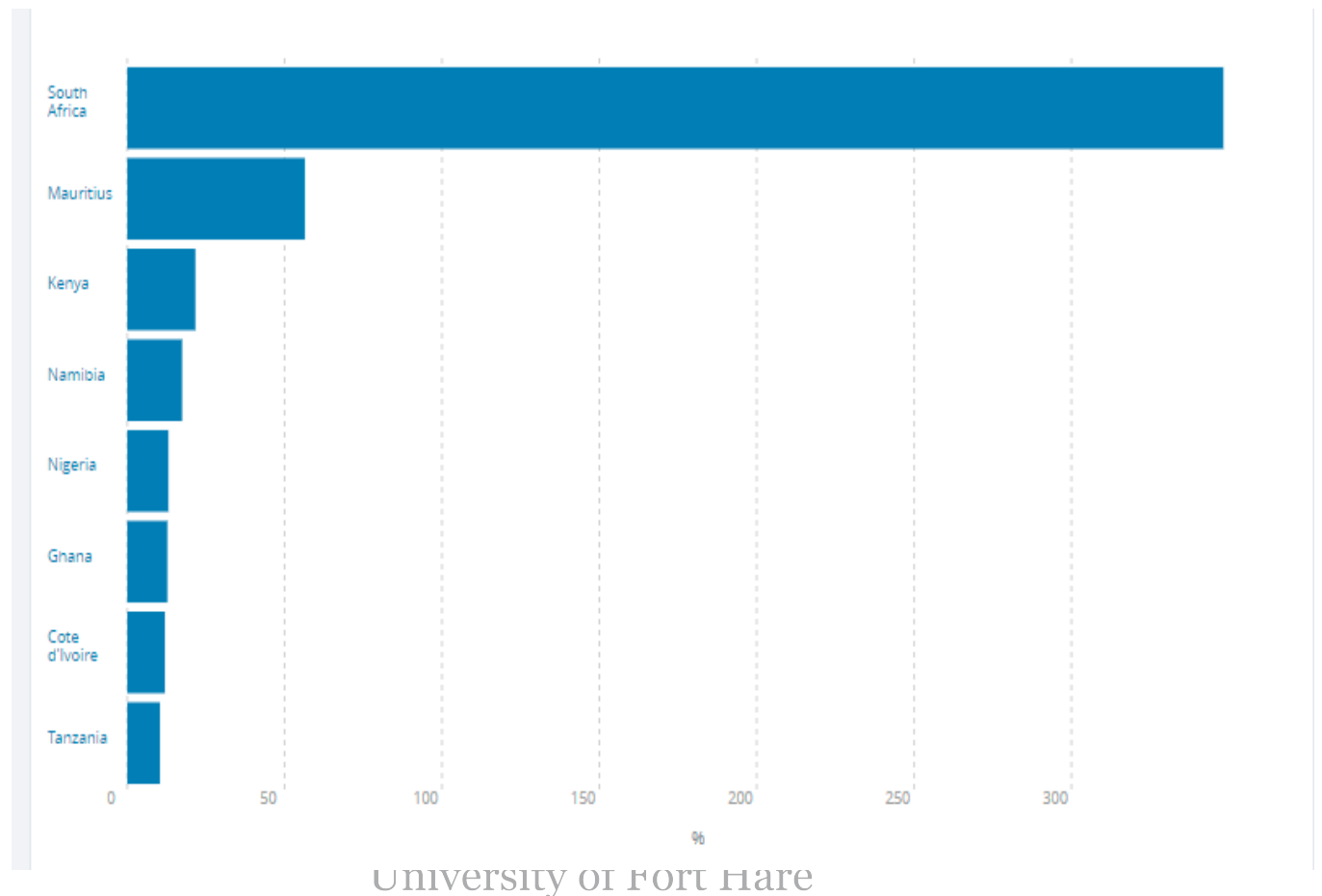
However, Dahou et al. (2009) notes that the African stock markets continue to develop steadily regardless of their narrow and illiquid nature. Dahou et al. (2009) further highlights that South Africa is an obvious exception from most of the African economies as it characterised by significantly more developed stock markets and general financial sector. This can be confirmed by Yartey (2008) who notes that the development of the South African needed an examination with particular focus on the role of certain macroeconomic and institutional factors that may have played a significant role in this development.

The figures 19 to 23 below illustrate the stock market capitalisation, value traded, the number of listed companies, turnover ratio, and GDP for the select number of the Sub-Saharan African countries, including South Africa and other high income Sub-Saharan African countries for the year 2020.



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**Figure 2.19: Stock market capitalisation - South Africa, Botswana, Cote d'Ivoire, Eswatini, Ghana, Kenya, Mauritius, Namibia, Nigeria, Rwanda, Seychelles, Tanzania, Zambia, and Zimbabwe.**

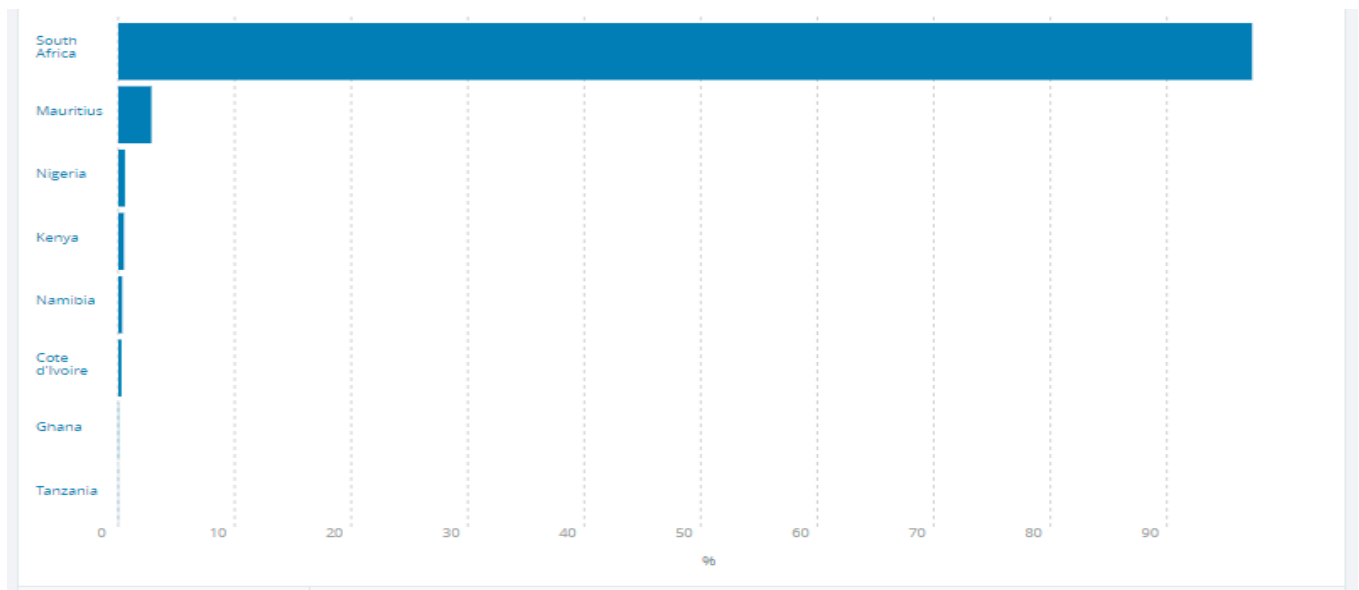


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Source: World Bank and OECD (2021)

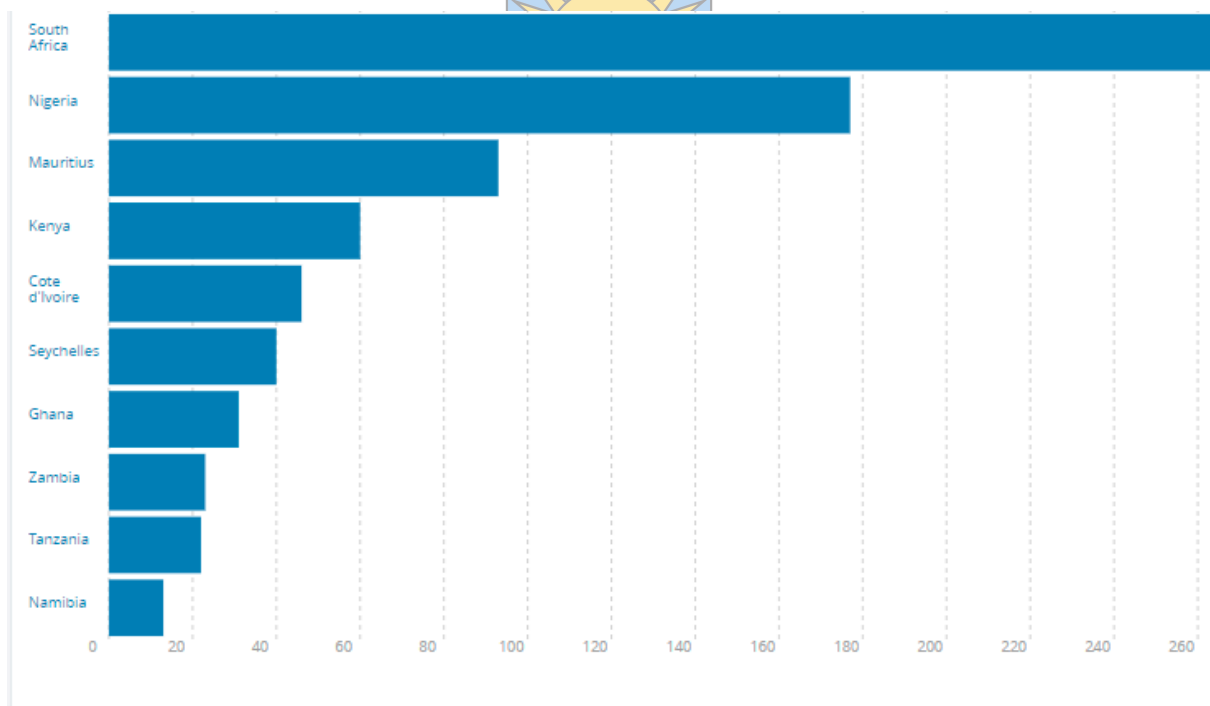
As seen in figure 24 above, South Africa has the largest stock market capitalisation ratio of the select Sub-Saharan African countries followed by Mauritius, Kenya, Namibia, and Nigeria as top five countries in the region. However, when it comes to value traded South Africa and Mauritius are the only two countries of the group to show significant performance. This is observed in figure 25 below, where South Africa is clearly an exception from the group of Sub-Saharan African countries in terms of comparison.

**Figure 2.20: Value/stocks traded - Selected Sub-Saharan African countries**



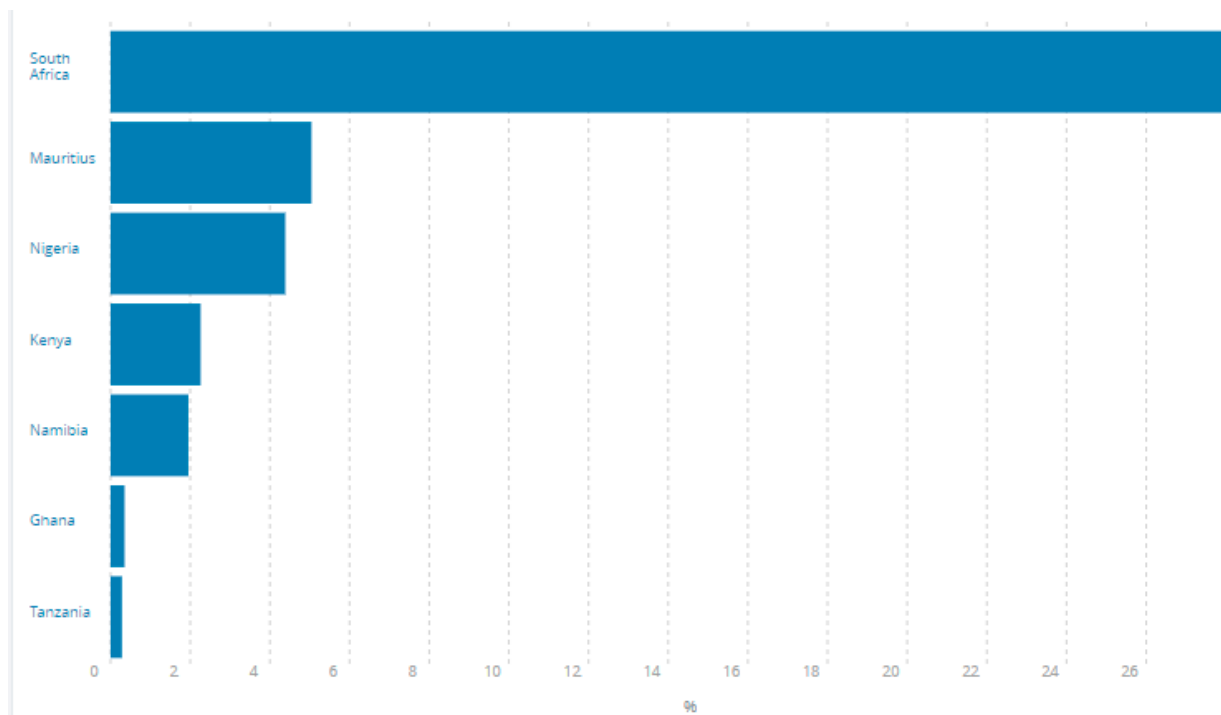
Source: World Bank and OECD (2021)

**Figure 2.21: listed domestic companies, total - Selected Sub-Saharan African countries**



Source: World Bank national accounts data, and OECD national accounts data files (2021)

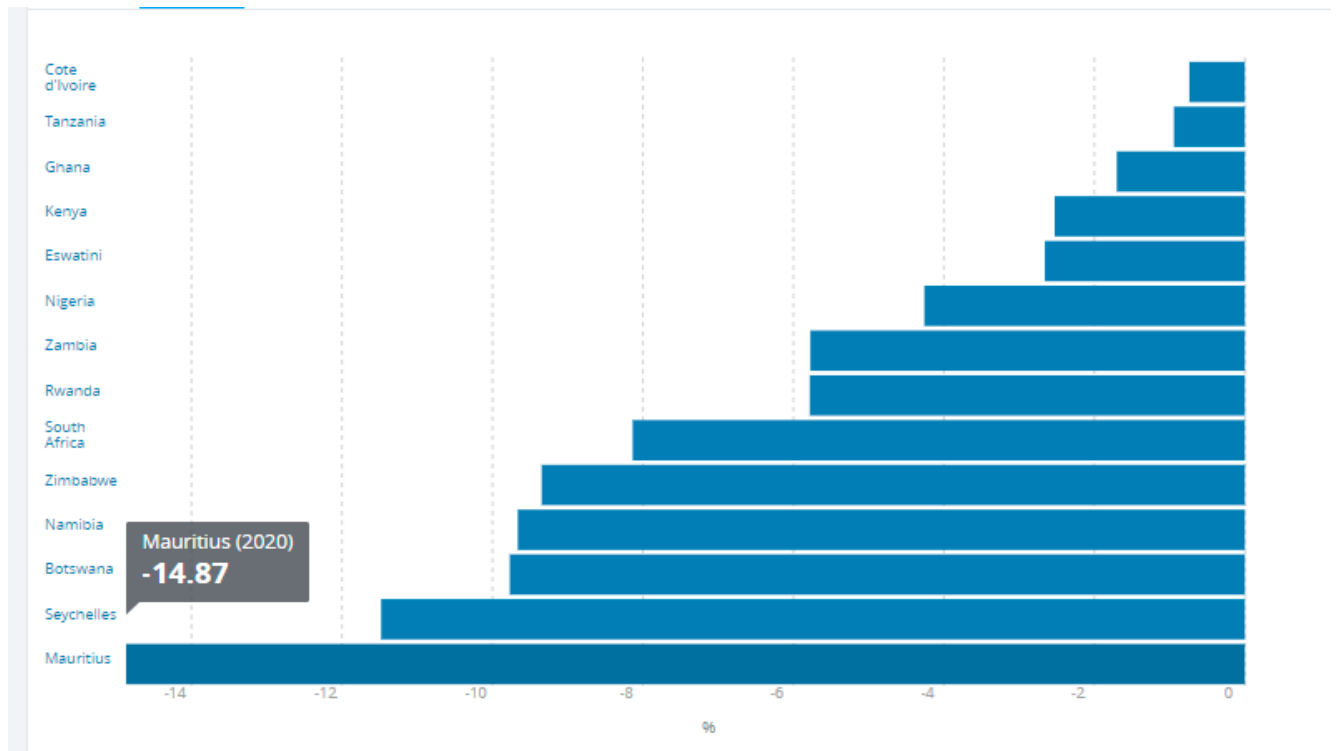
**Figure 22.22: Turnover ratio - Selected Sub-Saharan African countries**



Source: World Bank and OECD (2021)

The number of listed companies, turnover ratio, and GDP per capita growth show a totally different contrast compared to the stock market capitalisation ratio and value traded, where the three variables -namely, number of listed companies, turnover ratio, and GDP per capita growth – show more countries performing well compared to when one looks at the indicators like the stock market capitalisation ratio and value traded. The case of the GDP per capita growth performing well where countries have relatively very low or close to non-existent stock market capitalisation ratio may contribute to discussion around whether or not economic growth translates to positive stock market performance. For examples, several earlier literature attribute the expansion and progress of the stock markets to improved and efficient economic performance. Such earlier research includes, among others, Demirguc-Kunt and Levine (1996), Yartey (2008), Levine and Zervos (1998), Claessens et al. (2006), Yartey and Adjasi (2007), and Akinlo and Akinlo (2009).

**Figure 23.23: GDP per capita growth – South Africa, Botswana, Cote d’Ivoire, Eswatini, Ghana, Kenya, Mauritius, Namibia, Nigeria, Rwanda, Seychelles, Tanzania, Zambia, and Zimbabwe.**

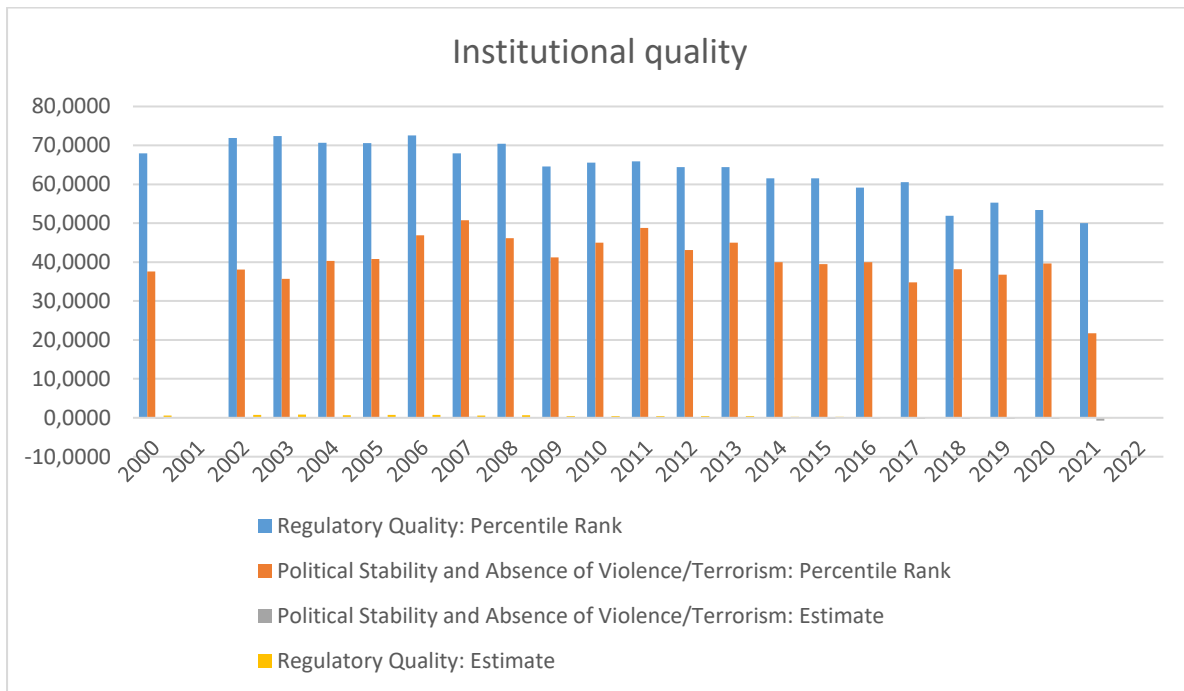
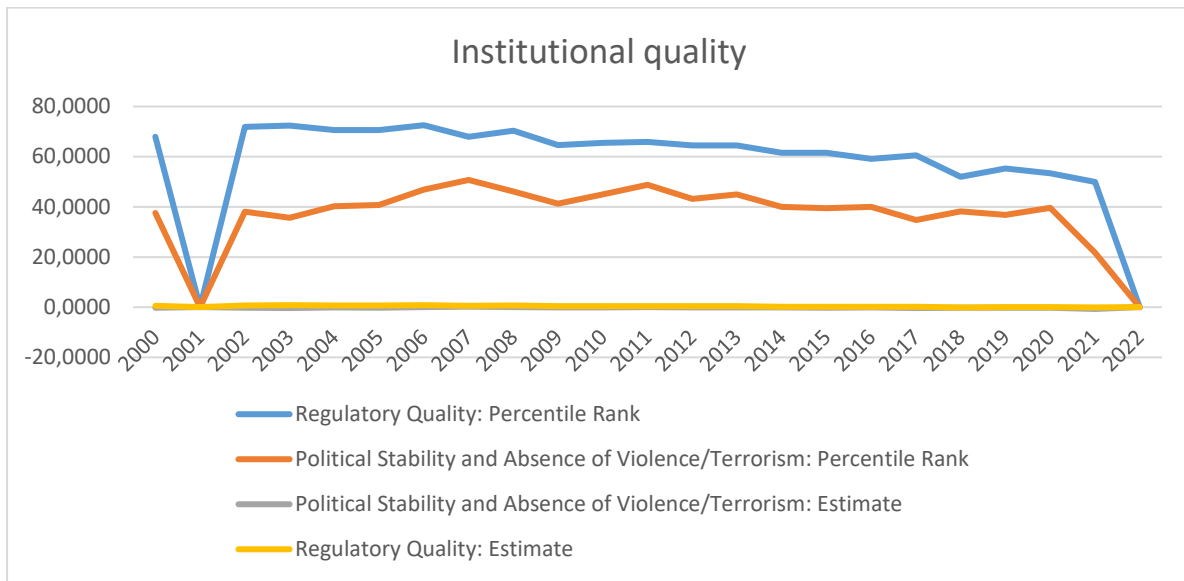


Source: World Bank national accounts data, and OECD national accounts data files (2021)

### 2.13 Institutional quality/politics

Since responsible and effective organisations often have a greater attraction to and trust in equity investment, institutional quality is another crucial component in the growth of the stock market. Therefore, when political risk is mitigated over time, equity ownership increasingly becomes more appealing. Consequently, the growth of high-calibre institutions may influence equity investment attractiveness and stimulate the stock market.

**Figure 2.24: Indicators for institutional quality – South Africa, 2000-2022**



*Source: World Governance Indicators (2023)*

The indicators for institutional quality that are used in this section are: political stability and regulatory quality (estimate and percentile rank).

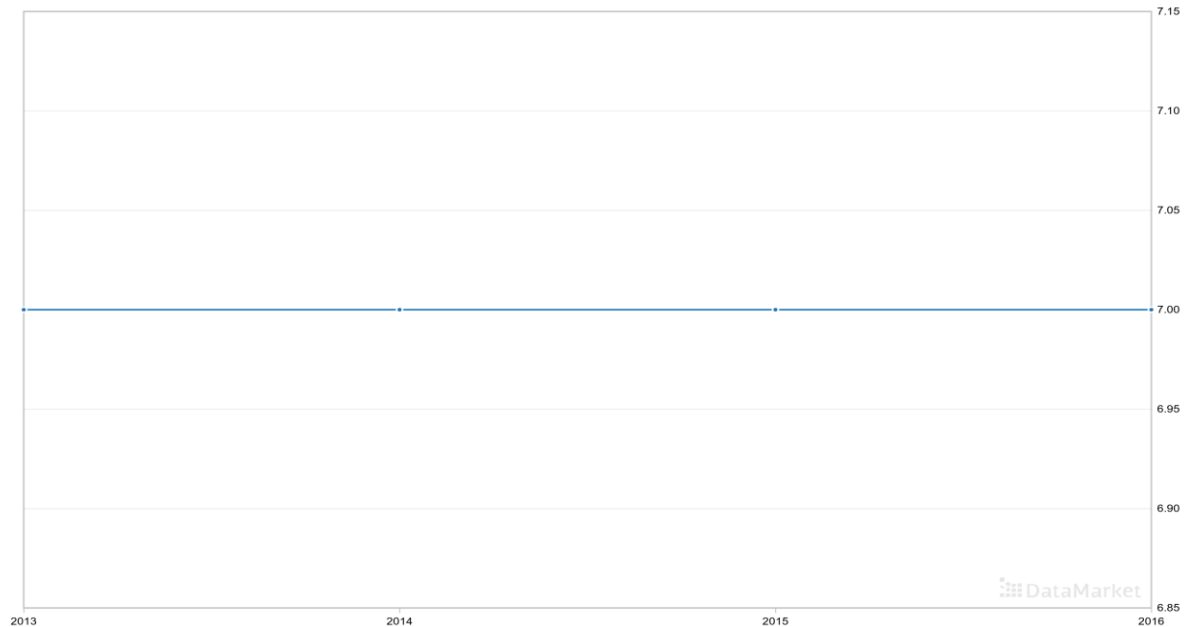
According to Shleifer and Vishny (1997), one important institutional quality element influencing the growth of the stock markets is the degree of protection for shareholders offered by the listed corporations, as outlined in securities or company regulations. Strong shareholder protection makes stock market development possible since investors are less afraid about

expropriation. Furthermore, a market with this kind of liquidity can benefit from reasonably distributed ownership.

**Figure 2.25: Shareholder protection indicator – South Africa, 2013-2016.**

**Strength of investor protection index (0 to 10)**

Country: South Africa Units: 0 to 10



Source: World Bank

To look into the level of investor protection, the Strength of Investor Protection Index is employed as illustrated in figure 2.25. It is worth a note that this index is only available as from the year 2013 to 2016. However, it gives a good indication of where South Africa stands as measured from 0 being the weakest to 10 being the highest strength. In terms of South Africa, this index has been constant since 2013, sitting at 7 throughout 2016. This indicates that investors in South African stock market are protected.

### 2.14 Conclusion

The above data confirms South Africa's steady development and growth in its stock market, which can be strongly linked to its well-operating economy. Further, the stock market of South African, namely the Johannesburg Stock Exchange, has been performing well in the past decade even though it reached a concerning decline of 26738.91 in August 2010, it recovered, climbing up to 55188.34 in April 2015. Recently, as of the month of May, the JALSH-All Share increased by 0.96% to 54211 on the 9th of May 2017 from 53696 in the previous trading session. (Trading Economics, 2017). This shows that the stock markets may perform well regardless of the political stability/risk status of the country, specifically because South Africa

has been facing a lot of instability when it comes to political changes. This notion can also be supported by the fact that most of the literature on this topic did not use political stability alone to measure institutional quality, but rather used a combination of, inter alia, effective law enforcement, institutional quality, the degree of freedom as well as political risk/stability. This can be seen on studies by, amongst others, Yartey (2008), Girma and Shortland (2008) and Aduda et al. (2012) which use these indicators to measure institutional quality.



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## CHAPTER THREE

### LITERATURE REVIEW

#### 3.1 Introduction

This chapter reveals both the theoretical and empirical literature on the political and macroeconomic factors impacting the stock market performance in the South African economy. The theoretical literature reviews various financial theories in literature that explore related relationships including, the link between stock market performance and economic expansion. The chapter also provides a variety of empirical literature on the subject of important political and some of the macroeconomic factors with significant effect on stock markets.

#### 3.2 Theoretical literature review

The theoretical literature includes a review of theoretical models, which include the Capital Asset Pricing Model (CAPM), Calderon-Rossell Behavioural Model, the Stock Markets and Stock Valuation Methods, and the Supply-leading versus the Demand-leading hypotheses of financial deepening and economic growth.

##### 3.2.1 The Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) is employed to theoretically establish whether a correlation exists between risk and the expected return for an asset traded in stock markets. It was extended from the work by Markowitz (1959). According to Perold (2004), the CAPM assists in examining the various risks that are associated with expected returns on investments, whether by firms or individuals. Therefore, for one to be able to calculate an expected return on a specific investment, a risk premium associated with that investment must be known. Perold (2004) provides a formula relevant for the calculation of an expected return, considering a risk premium.

The formula is shown below:

$$E_S = r_f + \beta(E_M - r_f) \dots \dots \dots 3.1$$

Where  $E_M - r_f$  represents the risk premium of the overall equity market. Therefore, the CAPM can theoretically assist in examining investors' behaviour when making investment decisions in the stock markets, which also has an impact on the stock market's performance.

Acheampong and Agalega (2013) further argues that their finding(s) is in support or rather in alliance with those by Abu et al. (2008) who concluded that the standard CAPM model accompanied by a constant beta is insignificant. Moreover, earlier literature exists which is against the CAPM model. For example, Roberta (2017) shows that a study by Fama and French (2004) was showing the failure of the model, both theoretically and empirically by asserting that the empirical record of the CAPM is not great and thus cannot be applied in confidence. Roberta (2017) further shows that a study by Lumby and Jones (2003) argued that the CAPM assumptions are not realistic as market efficiencies are a result of many factors, including government intervention, protectionist rules and other external factors. Additionally, Roberta (2017) shows that a study by Dempsey (2013) argued that the CAPM model got to a point where its use should have stopped.

Moreover, Wu et al. (2017) apply the CAPM in the Pakistan Stock Exchange in order to examine its validity, using a sample of 306 companies as well as 18 industrial portfolios. Wu et al. (2017) conducted the study due to persistent varying results of literature where one part indicates that the CAPM is valid and useful for the valuation of stock markets while the other part critiques the CAPM by arguing that it is a single risk factor model which cannot be used in generalising the overall stock markets. Wu et al. (2017) therefore apply two pass regression and show that the CAPM is not a valid model for technical analysis in the stock market of Pakistan, arguing that investors need to employ other types of factor models which include other economic and non-economic variables for valuing stocks.

However, there also exist a number of literatures in favour of the CAPM model. For instance, Roberta (2017) illustrates how a study by Brown and Walter (2013) presented counter argument against the findings of Dempsey (2013). In their study, Brown and Walter (2013) explain the issues raised with Dempsey (2013)'s preceding assertion against the CAPM by presuming that the reservation against its validity is backed by the support of empirical evidence rather than within the CAPM model itself (Roberta, 2017).

Moreover, Pacho (2014) studies the validity and testability of the CAPM and concludes that there exists more supportive literature than critical literature when it comes to the usefulness of the CAPM in the stock market analysis. Pacho (2014) shows that the CAPM remains useful and stands firm against critics until a better model is presented, which will prove to more significant among the financial management toolkits. In support of this conclusion, Pacho (2014) argues that the CAPM is still the best in terms of analysing the risk types for determining

premiums and returns that are to be expected from assets and/or stocks. Pacho (2014) also acknowledges that, just like other theoretical models, the CAPM is also an abstract representation of reality and will have imperfections and/or deviations from reality.

### **3.2.2 The Fundamental Analysis Method (Stock Markets and Stock Valuation Methods)**

There are various individual stocks that make up the stock market. Thus, whatever impacts the companies individually also impact the returns wholly (Johansson and Kongstad, 2013). The Fundamental Analysis measures the actual value of the company in the stock market. A study by Baresa et al. (2012) states that the Fundamental Analysis method of stock valuation is one of the most commonly used methods when conducting price estimations in terms of movements of stocks in order to ultimately predict the effects of economic indicators on the business life of firms, as well as future effects of economic and financial indicators and events in the economy. Further, Baresa et al. (2012) show that there are two approaches that can be used to analyse securities in the stock markets, namely, 1) the top down approach and 2) the bottom up approach. The top down approach, according to Baresa et al. (2012), is based on a strategy of analysing the general company and then analysing the sectors and companies inside. In the bottom up approach, Baresa et al. (2012) states that the investment strategy is to first focus on measuring a particular company before also examining the business model and growth prospects.

Furthermore, The Nippon Technical Analysts Association (2018) in their handbook on Technical Analysis explains that there are various methods to technical analysis, including Candlestick Charts – which record stock prices which indicate current events in the stock markets at all times, Trendlines – which are methods used in order to better understand trends of stock prices in the stock markets, and Moving Averages – are used to analyse major changes in the stock prices along with the Trendlines. Additionally, the Nippon Technical Analysts Association (2018) shows that through these methods, Technical Analysis constitutes one of the very significant and useful approaches of improving investment activity in stock markets.

Finally, with regards to Macroeconomic Analysis, Baresa et al. (2012) purports that Fundamental Analysis should also consider the business environment within which the companies operate since their success mostly depends on the broader economic scale. Further, Baresa et al. (2012) cites literature such as Hondroyiannis and Papapetrou (2001), Protopapadakis (2002), and Shiblee (2009) to confirm the assertion that certain macroeconomic variables represent strong risk factor when it comes to stock market performance, particularly

regarding the conditions of equity returns and stock price behaviours. According to Baresa et al. (2012), the significant macroeconomic variables include, among others, GDP, inflation, interest rates, budget deficit and unemployment rates. The notion behind these macroeconomic variables can be confirmed by studies such as Baker and Wurgler (2003), Zheng (2010), and Gonzalo and Taamouti (2011).

Thus, the theoretical framework can prove useful in interrogating other determinants of stock market performance from an individualised view of firms that significantly participate therein.

### **3.2.3 The Efficient Markets Hypothesis**

Poshakwale (1996) attributes the importance of stock markets' efficiency for emerging economies and/or markets to the increasing trend of investments. The positive trend is also attributed to effective regulatory reforms as well as the reduction of some of the barriers facing international equity investors. Thus, the appropriate model to measure of a stock market's efficiency is the Efficient Market Hypothesis (EMH), which is also widely known as the Random Walk Theory.

In terms of defining an efficient stock market, Clarke et al. (2001) show that a market is considered as efficient if the price adjustment to new information is quick and without bias. Thus, prices adjust before market participants can trade on and profit from new information. Moreover, theoretical literature differentiates among three various types of efficiency in markets, namely, weak form, semi-strong form, as well as strong form. According to Roberts (1967), a market falls under the weak-form spectrum of efficiency if the current price incorporates returns on an asset as well as all the past prices. Additionally, Roberts (1967) describes the case of a semi-strong form efficient market as one where the price fully incorporates all the publicly available information about an asset. Moreover, Roberts (1967) shows that a market is strong form efficient a price incorporates both public and private information about an asset.

Several theoretical literatures apply the Efficient Market Hypothesis to various stock markets. For example, Thompson and Ward (1995) in their practical study empirically tested the EMH on South Africa's Johannesburg Stock Exchange (JSE) and found that it was operationally efficient. Moreover, Claessens et al (1995) asserts that the stock prices in the 19 sampled emerging markets violate weak form of the EMH. Similarly, Harvey (1995) conducted a study on emerging markets from the continents of Asia, Europe, Africa, as well as South America.

Harvey (1995) found the existence of a robust serial relationship between the stock market returns and stock prices, thus making the stock prices in such markets more predictable.

### **3.2.4 The Supply-Leading versus the Demand-Leading Hypotheses**

The supply-leading hypothesis from the theory of financial and economic expansion addresses a hypothesis of whether or not the deepening of a financial system is a determinant of economic growth whereas the demand-leading hypothesis focuses on the hypothesis that economic growth causes a financial system deepening. A study by Karimo and Ogbonna (2017) will be employed to explore these two hypotheses further for the better understanding in terms of the relationship amongst politics, economic performance and stock markets. According to Karimo and Ogbonna (2017), the supply-leading hypothesis purports that financial deepening positively impacts economic growth, while the demand-leading hypothesis purports that changes in the real sector influence changes in the financial system. Therefore, these hypotheses are useful in studying the link between stock markets as a feature of the financial system as well as the economic development in the case of South Africa.

#### **3.2.4.1 Supply-Leading Hypothesis**

According to Adeyeye et al. (2015), the supply-leading hypothesis is also known as a finance-led growth hypothesis wherein the argument is that the experienced economic expansion is heavily impacted by financial sector development. It is a hypothesis claiming the financial-economic growth nexus. The causal direction from financial growth to economic development is resultant from the efficient capital investment and/or increasing savings' rate and investment rate (Karimo and Ogbonna, 2017).

There exist a wide range of empirical literature, from old to recent, which used the supply-leading hypothesis to explain the cointegration between financial growth and economic growth. Such literature includes studies by Agu and Chukwu (2008), Calderon and Liu (2003), and King and Levine (1993), amongst others. However, Robinson (1952) provided a contradicting view to that of supply-leading hypothesis, asserting that financial sector developed is determined by economic development. This view is known as a demand-leading hypothesis and is discussed below.

#### **3.2.4.2 Demand-Leading Hypothesis**

Contrary to the supply-leading hypothesis as explained above, this hypothesis posits that the causality goes from the direction of economic expansion to financial development, whereby the progression or growth of an economy increases the demand for financial services and in

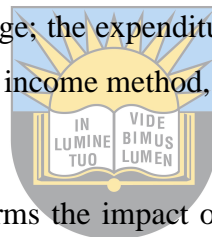
turn deepens the financial sector (Adeyeye et al., 2015). Further, this hypothesis is also known as the growth-led finance hypothesis. Further literature on the demand-leading hypothesis includes Singh (1999), Onayemi (2013), Karimo and Ogbonna (2017), and Chiawa and Abur (2013).

Therefore, the results from this study's empirical findings will determine specifically whether politics as well as economic performance have any kind of impact on the performance of stock markets for South Africa.

### **3.3 Macroeconomic and economic performance variables:**

#### **3.3.1 Economic development and Growth domestic product (GDP)**

According to Callen (2020), GDP is widely used in reference to state of the national and/or global economies. It depicts the value of a country's final goods and/or services produced within a particular period using monetary terms. Callen (2020) further provides three different ways in which GDP can be viewed, namely, the production method, which provides the total value-added of production at each stage; the expenditure method, which provides the sum of purchases via end-consumers; and the income method, which generates the total revenue from production processes.



Theoretical literature exists that confirms the impact of real income growth on stock market performance and development, which incorporates financial market development. Some older theoretical literature such as Greenwood and Jovanovic (1990), Greenwood and Smith (1997), and Boyd and Smith (1998) study the link between economic expansion and the cost effectiveness of financial markets, using models that assume an association between the formation of financial intermediaries and fixed costs. Thus, these studies argue that economic development reduces the cost associated with financial markets and consequently stock markets. Further, these studies confirm that economic growth is accompanied by increased stock market activity. A more recent theoretical paper is by Sezgin and Atakan (2015) show that real economic development has a positive influence on the performance and development of equity markets.

With regards to GDP and its role as an index of economic performance on the performance of the stock market, a number of literature record both unidirectional and bidirectional causality between GDP and stock market performance. For instance, Brambila-Macias and Massa (2011) find unidirectional causality that goes from the stock market growth to economic development through the level of investment in the case of Egypt. To get to this finding, Brambila-Macias

and Massa (2011) developed a simplified endogenous model for growth and estimated multivariate vector autoregressive models.

### **3.3.2 Macroeconomic stability**

Literature indicates that macroeconomic stability is one of the most important determinants of stock market development globally. The usual expectation is that the more prevalent macroeconomic stability, the more the stock markets attract the participation of firms and investors. Similarly, Yartey (2008) argues that changes in variables such as monetary, fiscal, and exchange rate policies can affect corporate profitability. Therefore, it is expected that the stock markets in countries that have macroeconomic stability will be more advanced.

Although the macroeconomic stability variable is often found to affect the stock market performance, there is no consensus on the nature of its impact. Hence, the section takes a further look into literature exploring the existence of the confirmed nature of the impact. First, Nacuer et al. (2007) find a significantly negative connection between inflation and the stock price and/or return performance. Second, Kemboi and Tarus (2012) assert that even though there is a lack of a clear conclusion regarding the nature of the correlation among macroeconomic stability or inflation and stock market expansion, the greater the stability the higher the investor confidence in the stock markets. This is mainly due to the predictability of the investment environment. Moreover, Kemboi and Tarus (2012) support the notion of macroeconomic stability influencing profitability as it is likely to exert an increase in stock market prices.

### **3.4 Stock market liquidity**

One common definition of liquidity is the speed and convenience with which market participants may purchase and sell stocks. The influence of stock market liquidity on stock market development has garnered significant attention (Yartey, 2007). When it comes to liquidity of stock markets, Yartey (2008) argues that when a stock market is liquid the investors gain an advantage of not losing access to their savings during the investment period. This is possible as such; liquidity provides investors with the ability to swiftly sell their stocks in an affordable manner. Thus, the more liquid the stock markets are the easier it is to facilitate long term investments, consequently growth in the long run.

### **3.5 Political (institutional quality) variables**

The variables of institutional quality have a substantial impact when it comes to the stock markets across the globe. Yartey (2008) outlines three broad indicators used to measure institutional quality. First, the quality of governance in a country, including factors such as the

efficiency of the public sector, the level of corruption, political risk, as well as regulatory burden. Second, the level security and perceived efficient law enforcement. Lastly, the level of accountability and responsibility on institutional leaders.

An additional indicator of institutional quality is the protection level for shareholders investing in listed firms, and it is in accordance with the trading or company laws of the country (Shleifer and Vishny, 1997). Further, the development of stock markets is more possible in countries where strong shareholder protection laws are present and prioritised because investors have confidence in their markets. Studies by La Porta et al (1999) and La Porta et al (1997) confirm this and argue that low levels of institutional quality are directly correlated with underdeveloped stock markets, with firms that have highly concentrated ownerships. Demirguc-Kunt and Maksimovic (1998) provide another confirmation in a study, which finds that effective legal systems result in faster growth as they rely more on external finance, which is essential for their growth.

In terms of the specific indicators of politics/institutional quality, various empirical literature varies on which indicator or variables to employ. For instance, Law and Habibullah (2009) use variables such as bureaucratic quality, law and order status, and corruption as well as investment profiles in order to examine the level of institutional quality of a country. On the other hand, Yartey (2007, 2008) as well as Girma and Shortland (2008) also include democratic quality to the indices of institutional quality. Moreover, Gazdar and Cherif (2015)'s composite index measure for institutional quality includes bureaucracy quality, the level of law and order, corruption, democratic quality, and investment profile. These institutional quality variables employed by Gazdar and Cherif (2015) are what the study will add on when assessing the effects of politics as measures of the effects caused by institutional quality in the stock markets and on the economic performance.

### **3.7 Empirical Literature review**

Levine (2005) studies the possibility of a correlation between the financial and economic development by reviewing both the theoretical and empirical evidence. Levine (2005) shows that a significant amount of evidence suggests an important effect of financial intermediaries and stock markets on economic development. Since economic development and growth is measured by various macroeconomic and institutional factors, it is worth a look at the empirical literature studying the influence of these factors on the stock markets. For example, Ben Naceur, Ghazouani, and Omran (2007) find that economic growth is a significant factor in the

development of stock markets for countries with quite developed economies as they have developed and large stock markets. Additionally, Ben Naceur, Ghazouani, and Omran (2007) highlight the positive effects of macroeconomic stability and trade openness on the stock markets' performance. Moreover, Ghazouani and Omran (2007) found macroeconomic variables such as liquidity, financial intermediaries, the saving rate, as well as economic stability to play a significant role in the expansion of stock markets.

A study by Yartey and Adjasi (2007) on the development of stock markets in Sub-Saharan Africa shows that, the challenge facing African stock exchanges is integration and that these stock markets or institutions require improved technical and institutional development in order to improve liquidity. Yartey and Adjasi (2007) adds that the stock exchanges in Sub-Saharan Africa need to develop their private sector evaluation capabilities, legal and accounting framework, as well as their public sector's regulatory framework in order to advance their stock markets.

Yartey (2008) studies the determinants of stock market development in emerging economies with specific interest to the South African economy. Yartey (2008) finds that the macroeconomic determinants such as domestic investment, the private capital flows, income level, the banking sector development, and liquidity of stock markets, amongst others, are significant factors of stock market development. Further, on examining institutional factors of stock market expansion, Girma and Shortland (2008) show that political stability and democratic freedom play a substantial role in determining the speed of financial sector development.

Another recent study is that of Cherif and Gazdar (2010), which found institutional factors to have no substantial impact on a country's stock market capitalization. However, Cherif and Gazdar (2010) show that macroeconomic factors such as income level, saving rate, stock market liquidity, and interest rates have an influence on the performance of stock markets. Cherif and Gazdar (2010) also found a correlation between stock markets and the banking sector. Additionally, Kurach (2010) shows a complementary relationship between the banking sector and the stock market. Kurach (2010) also confirms a positive impact of fiscal balance, GDP growth and EU membership on stock market development as measured by stock market capitalisation.

Moreover, other studies pursuing the role of the select macroeconomic factors on the progress of stock markets include, amongst others, Mansor (2011), which studies the correlation amongst the macroeconomic elements as well as stock market development in Thailand and

discovers a long run correlation among the real GDP, the capitalization ratio of a market, investment share, and the aggregate price level. In addition, Mishal (2011) confirms the multi-directional causality between the stock market expansion and macroeconomic elements such as, inter alia, banking sector growth, GDP growth and investment ratios.

Furthermore, Kemboi and Tarus (2012) also confirmed, macroeconomic variables play in the development of stock markets. However, in agreement with Yartey (2007), Kemboi and Tarus (2012) found macroeconomic stability to have no significant impact on the progression of the stock markets. Further, Aduda et al. (2012) examined the determining factors of stock market growth in Kenya over the 2005 to 2009 period. In this regard, Aduda et al. (2012) show that institutional quality, i.e., corruption index and the level of organizational quality, and macroeconomic factors such as income per capita, liquidity of stock markets), the banking sector expansion are significant determining factors of stock market development in the Nairobi Stock Exchange.

Pradhan et al. (2013) indicate that there exists a long-run correlation between the development of stock markets and economic indicators such as inflation and economic expansion for 16 Asian countries over the 1988 to 2012 period. Furthermore, Sezgin and Atakan (2015) employ the Calderon-Rossell model for the period 2003 to 2013 to study the determining factors of the stock market growth. Sezgin and Atakan (2015) conduct this study on five countries that they identify as fragile with the common factor that is their current account deficit. Sezgin and Atakan (2015) find that macro-economic indicators such as the FDI (foreign investment), economic growth, gross national savings, as well as turnover ratio have a substantial and affirmative impact on stock market development.

Furthermore, when it comes to the influence of certain macro-economic indicators on the stock markets, Ifionu and Ibe (2015)'s results show that the stock market performance is affected either positively or negatively by indicators such as economic performance, GDP, inflation, and interest rates. This is attributed to the long-term nature of investing in stock markets making it vulnerable to such macroeconomic variables. In addition, Tandelilin (2010) argues that investors observe key economic indicators such as the GDP, the interest as well as the exchange rates, and inflationary rate in order to predict what will happen in stock markets and consequently make investment decisions based on such predictions. Moreover, according to Thobarry (2009), macroeconomics variables as GDP, interest rates, exchange rates, and

inflation impact the demand and supply of products by a particular firm and therefore the development of a company's activity affects the observable return for investors.

With the specific emphasis on the economic determining variables for stock market performance, Rakhil (2015) studies the specific role of macroeconomic variables such as the interest rates, money supply, and exchange rates and finds that the supply of money impacts the stock markets in a positive manner while the exchange and interest rates have a negative influence. Furthermore, Kotha and Sahu (2015) study both the short- and long-run relationships between selected macro-economic variables and returns in Indian stock markets. Kotha and Sahu (2015) conduct this study using the cointegration and error correction models and find a long-run relationship amongst India's BSE Sensex and the selected macroeconomic factors, namely, T-bill rates, exchange rates, the wholesale price index, and the M3. In this study, Kotha and Sahu (2015) use the BSE Sensex as the benchmark stock index for the Indian equity market while also asserting that GDP, amongst other variables of economic performance, is the most substantial indicator of economic activity.

Moreover, Ayuba et al. (2018) study the effects of (macro)economic factor on the stock market returns in the case of Nigeria with an objective of examining whether or stock returns in Nigeria respond differently to the effects of certain macroeconomic indicators for the specific period of 2007 to 2016. Employing panel regression in their study, Ayuba et al. (2018) found that there exist significant negative influences of the interest rates and inflationary rates on stock market returns. Another empirical examination of the relations between (macro)economic factors and the stock market performance is on by Sin-Yu (2017), which zooms into the case of Malaysia. Sin-Yu (2017) finds that for the long run, trade openness as well as economic growth have a positive impact on the stock market development while in the short run, banking sector development has a positive impact on the stock market development whereas inflation has a negative impact.

There also exist earlier empirical evidence on the influence of inflation on the stock markets. A study by Boyd et al. (2001) examines this influence and finds a negative and strong correlation among these variables. This study further finds that in environments with relatively low inflation rates, a negative correlation exists among inflation and equity returns whilst a positive one exists among the equity returns and positive inflationary changes in environments with high inflation rates. However, in contrast there are studies that find no form of correlation between these variables, including a study by Kutan and Aksoy (2003) in the case of Turkey.

There also exist theoretical as well as empirical evidence documenting the effect of and role of institutional quality (a universal measure of politics) in stock market development. Theoretical literature employs different measures of institutional quality in order to study its role in the development of stock markets. Further, a study by Yartey (2007a) uses the law and order index, level of accountability and governmental quality as measures of institutional quality. Yartey (2007a) finds these measures of institutional quality have an important role in the performance of stock markets. Additionally, Yartey (2008) employs the political risk index as an indicator of institutional quality and argues that the greater the value of this index the lesser the rate of corruption.

Furthermore, Gazdar and Cherif (2014) study the relationship among the indicators of institutional quality and those of financial expansion in MENA member countries and find that some aspects of institutional quality matter more than others. For example, corruption and investment profile have a higher level of significance on the banking sector development than law and order (Gazdar and Cherif, 2014). Moreover, Aljazeera et al. (2016) show that the required discussions around the role of perceived corruption on stock market performance consists of varying views and findings. While other arguments link the impact of corruption, as a measure of institution quality, on stock market performance to a country's economic performance, others find that political risk of a country does not have a significant impact on its stock market performance at all.

Additionally, Khan et al. (2018) examines the role of the indicators of institutional quality/framework on those of the stock market' growth. This examination is conducted by exploring the four possibilities: 1) corruption having adverse effects on the indicators of stock market growth; 2) political stability having a positive effect on the indicators of stock market growth; 3) the effectiveness of the government having a positive influence on the indicators of stock market expansion; and 4) effective regulatory quality having a positive contribution towards stock market growth. Khan et al. (2018) then concludes these four possible effects of institutional quality with the support of literature such as, amongst others, Cherif and Gazdar (2010), Lehkonen and Heimonen (2015), Pistor *et al.* (2009), Hooper et al. (2009), Tiwari et al. (2015), and Asongu (2012).

There are other variables that are used in literature to examine the influence of politics on the stock markets. For instance, Kabiru et al. (2015) looks into the impact of general elections on the stock returns in the case of Nairobi over the periods 1997, 2002, 2007 and 2013 wherein

the general elections were undertaken and recorded for Kenya. Employing secondary data, Kabiru et al. (2015) adopted the event-study approach in order to conduct this study, and the results show inconsistencies in terms of the nature of the impact of general elections, i.e., it was not clear where the impact is negative or positive. However, Kabiru et al. (2015) assert that their analysis of the cumulative abnormal returns indicates an insignificant impact of the general elections for the 2002 and 2013 general election dates whereas they have a significant impact for the 1997 and 2007 general election dates. Although the results of Kabiru et al. (2015) are inconsistent, they argue for the substantial correlation between general elections and stock market returns.

Additionally, regarding the developing and/or emerging economies, Balaji et al. (2017) examine the impact of national elections at the general level on the Indian stock market returns in both pre- and post-elections, amongst other objectives. Highlighting the examination of volatility, average returns, and general elections, Balaji et al. (2017) employ the t-test and f-test to analyse the dataset for the 1998-2014 election period and find that the general elections to be more impactful in the short run; less impactful in the medium term; and a lot less impactful in the long run, particularly after the announcement of election results. This adds to Kabiru et al. (2015)'s argument of a proven correlation between the general elections and stock market growth.

Furthermore, Irshad (2017) investigates the correlation among political stability and the stock prices exploring significant relationship possibilities. Irshad (2017) used the ARDL Co-integration specification method in order to study the long-run correlation between the index of the stock market and political instability. Moreover, Irshad (2017) used the Error Correction Model (ECM) in order to test the short-run correlation between the two variables. Therefore, ARDL Co-integration finds a negative correlation among the two indicators and further shows that political instability has a negative impact on stock prices, thus leading to their decline. Moreover, Irshad (2017) shows that a study by Gul et al. (2013) proved a significant impact of political instability on stock prices. Gul et al. (2013) in Irshad (2017) employed an Event Study Methodology in order to examine the relationship between stock prices and political instability. Irshad (2017) shows that despite the existence of political instability in the USA during the time period of the study, the 2008 global financial crisis contributed significantly to the bad performance of the stock market through severe effects on the stock prices at the time.

Moreover, Siregar and Diana (2019) study the effects of political risk and macroeconomic factors on the stock returns at the Indonesia Stock Exchange using the arbitrage pricing theory approach. The study by Siregar and Diana (2019) used both the time-series and cross-section data for the 2007-17 period and show that political risk is one of the factors that need to be considered along with the macroeconomic and market risk factors when determining the stock return. Siregar and Diana (2019) also argue that during the periods when there was no political crisis the stock return was either positively impacted or not impacted at all by the political risk of Indonesia. In addition, Siregar and Diana (2019) asserts that studies such as those by Pastor et. al (2012), Brogaard and Detzel (2012), and Cermeno and Suleman (2014) support the notion that unstable political conditions in a particular country will lead to sluggish investment activities.

More on the impact of politics, Lausegger (2019) examines the impact of elections on stock markets' performance and argues that they do in fact have considerable effects on the fragmentation, credibility, and predictability of electoral information, influencing levels of uncertainty resolved by elections and leading to distinct stock market reactions. To supplement this argument, Lausegger (2019) provides three assertions. First, elections that are held in majoritarian electoral systems result in abnormal stock returns in a cumulative manner compared to those that are held in proportional representation systems. Second, the weaker the institutionalised party system the larger the cumulative abnormal returns around the elections period. And third, the elections and stock markets interact.

In terms of the literature with regards to the specific role of economic performance in the stock markets, various studies such as Wild and Lebdaoui (2014), Castillo-Ponce et al. (2015), and Sin-Yu and Bernard (2016) explore the relationship between economic performance, particularly economic growth as measured by countries' GDP. However, the literature studying the relationship from the direction of economic performance impacting the stock market is not vast for the lack of claiming the limited nature of such studies.

Wild and Lebdaoui (2014) examine whether a relationship exists between stock markets and economic development for Morocco, zooming into the 2000-2013 quarterly period. In terms of the variables for examining this relationship, Wild and Lebdaoui (2014) opt for GDP growth as a measure of economic performance. Further, Wild and Lebdaoui (2014) employ the cointegration tests, vector error correction model, as well as the Granger-causality tests to analyse the dynamic interactions between the selected variables. Wild and Lebdaoui (2014)

find that the existence of a relationship between economic growth and stock markets' performance in the long run.

In terms of literature confirming the conclusions by Wild and Lebdaoui (2014), a study by Kolapo et al. (2012) in Wild and Lebdaoui (2014) shows the existence of cointegration between a country's economic performance and the stock market performance for the case of Nigeria during the 1990-2010 period. Kolapo et al. (2012) in Wild and Lebdaoui (2014) further show bidirectional causality among GDP growth and transaction value in the stock markets of Nigeria. Moreover, Osuala et al. (2013) in Wild and Lebdaoui (2014) also shows that there is indeed cointegration between economic performance and stock markets' performance.

Contrary to Wild and Lebdaoui (2014) and Castillo-Ponce et al. (2015), the study by Sin-Yu and Bernard (2016) finds that the economic performance and stock market performance stimulate each other. Sin-Yu and Bernard (2016) studies this link employing an augmented VAR causality test with a quarterly data of the 1986Q2-2014Q4 period. Further, a recent study by Chikwira and Mohammed (2023) studies the impact of the performance of stock markets and liquidity on economic growth and find a positive significant relationship between stock markets and economic growth, particularly for the case of Zimbabwe.

On the broader literature, some studies combine examinations of the interactions between politics, economic performance, and the stock markets. For example, Hoque et al. (2018) study whether endogeneity exists among the macroeconomic indicators (such as foreign direct investment, economic growth, and stock market development), and political instability as a proxy for politics using the economy of Bangladesh. Employing the auto regressive distributed lag (ARDL) for the 1993-2016 period, Hoque et al. (2018) shows a bidirectional short-run correlation between the indicators of positive economic performance and stock market performance. Sambo and Sadiki (2024) examine the influence of political ideologies on financial policies in South Africa and find that there is no clear implementation of the financial policies associated with the majority political party, the African National Congress (ANC), and thus no clear impact. This is confirmed by Chornovol et al. (2020), which finds political instability to have a negative impact on a country's public finance.

### **3.8 Conclusion**

Theoretical literature supports the idea that there is a direct relationship between economic growth, the development of the financial sector, the quality of institutions as a measure of political stability, and the development of the stock market. Several previous research that

provides evidence for this theoretical perspective include Atje and Jovanovich (1993), Levine and Zervos (1998), and Beck and Levine (2004), among others. Additionally, the early theoretical literature on stock market expansion includes the works of Calderon-Rossell (1990) and Calderon-Rossell (1991). They constructed a broad partial equilibrium model employing a dataset from 42 nations spanning the years 1980 to 1987. Their aim was to gain insights into the conceptual basis of financial theory as it relates to the development of stock markets. The research identified stock market liquidity and domestic economic development as the factors that determine the growth of the stock market. In addition, the implementation of institutional and regulatory measures, such as standards for disclosing accurate information and regulatory changes aimed at boosting investor trust, may lead to increased market participation and thus promote the expansion of the stock market (Pagano, 1993). This reinforces the correlation between politics as an indicator of institutional quality and the success of the stock market.

Furthermore, Garcia and Lin (1999) conducted a study on the data from Latin America and Asia and recognised that macroeconomic elements, such as GDP play a crucial role in the development of stock markets. In research conducted by Yartey (2008), it was discovered that several macroeconomic and institutional factors contribute to the growth of the stock market. These factors include earnings, investment, banking sector advancement, stock market liquidity, political risk amongst others. Hence, literature, including both theoretical and empirical studies, has consistently highlighted the influence of macroeconomic and institutional (political) factors on the growth and functioning of stock markets in both emerging and established economies. Yartey (2008) confirms that the same factors/determinants identified in the literature also apply to the rapidly developing South African stock markets in recent years. As a result, macroeconomic elements and institutional factors have a significant role in determining stock market growth in developing nations, such as South Africa.

## CHAPTER FOUR

### METHODOLOGY

#### 4.1 Introduction

This chapter outlines the econometric model to be estimated empirically to establish the effects of politics using institutional quality, and economic performance on the stock market for the case of South Africa. Specifically, the chapter comprises sections outlining the model specification; definitions of variables and a priori expectations; estimation technique; diagnostics checks and the last section which is the conclusion.

#### 4.2 Model Specification

The study is underpinned by the theoretical framework of supply-leading and demand-leading hypotheses. The supply-leading hypothesis of the theory addresses the theory of whether or not the deepening of a financial system including the stock markets is a determining factor of economic development whereas the demand-leading hypothesis focuses on the hypothesis that economic growth causes a financial system deepening including stock market development. According to Emmanuel and Ibenta (2017), financial deepening describes a case of financial institutions effectively facilitating financial intermediation; creating and developing financial services; and rendering these financial services at affordable amounts in an economy to facilitate growth in economic activity.

The study adopts and modifies the model by Nyasha et. al (2015) by making the dependent variable SMC, and explanatory variables PSI, GDP, GDPOL, control of corruption, remittances and inflation. The model is therefore specified as follows:

$$\begin{aligned} \Delta SMC_t = & \alpha_0 \sum_{i=1}^n \alpha_{1i} \Delta PSI_{t-i} + \sum_{i=0}^n \alpha_{2i} \Delta GDP_{t-i} + \sum_{i=0}^n \alpha_{3i} \Delta GDPOL_{t-i} + \\ & \sum_{i=0}^n \alpha_{4i} \Delta \text{controlofcorruption}_{t-i} + \sum_{i=1}^n \alpha_{5i} \Delta \text{remittances}_{t-i} + \\ & \sum_{i=1}^n \alpha_{6i} \Delta \text{inflation}_{t-i} + \sigma_{1i} PSI_{t-i} + \sigma_{2i} GDP_{t-i} + \sigma_{3i} GDPOL_{t-i} + \\ & \sigma_{4i} \text{controlofcorruption}_{t-i} + \sigma_{5i} \text{remittances}_{t-i} + \sigma_{6i} \text{inflation}_{t-i} + \varepsilon_{1t} \end{aligned} \quad (4.1)$$

Where SMC is the stock market capitalisation, which is a proxy for stock markets' performance; PSI is the political stability index, a proxy for politics; GDP is the gross domestic product, a proxy for economic performance; GDPOL is the joint variable for politics and GDP; control of corruption is a control variable for politics; and inflation and remittances are control variables for economic performance. Further,  $\alpha_0$  is a constant and  $\alpha_1 - \alpha_6$  and  $\sigma_1 - \sigma_6$  are regression coefficients.

### **4.3 Dependent Variable: stock market performance:**

The dependent variable is stock market performance. Stock market development is quantified by assessing the market capitalization as a percentage of the GDP. This statistic is calculated by dividing the total value of listed shares by the Gross Domestic Product (GDP). The underlying premise of this indicator is that the total market size is directly linked to the capacity to raise money and spread out risk throughout the whole economy.

### **4.4 Independent Variables:**

#### **4.4.1 GDP:**

The GDP is the value of final goods which are domestically produced in the country, i.e., South Africa over a specific period of time whereas GDP per capita is the average economic output per person for a particular country over a specific period (Adam and Alzuman, 2024). To support the a priori expectation of the effect of economic performance as measured by GDP per capita, the dissertation acknowledges that GDP is largely regarded as the most accurate measure of economic performance by literature, but this study opts for GDP per capita for its complexity advantage; hence the study employs its effect on stock market performance. The study expects GDP per capita to have a positive impact on stock market performance. This expectation is supported by studies such as Boyd and Smith (1998) as well as Greenwood and Smith (1990), amongst others. For more accuracy and coverage, the study employs data for GDP per capita to explore the possible correlation. The choice of opting for the GDP per capita data instead of the real GDP stems from the former's representation advantages as it takes into account the country's population and thus offering a complex view of the economic performance (Adam and Alzuman, 2024).

#### **4.4.2 Inflation Rate:**

In terms of the inflation rate, a considerable amount of literature associates higher inflation rates with smaller stock markets which are less liquid. This can be confirmed by, amongst others, Boyd et al. (2001). Moreover, a study by Boyd et al. (2001) purports that higher inflation rates result in reduced return on investments which consequently reduces the incentive to invest and thus negatively affecting the stock market performance in the long run. Therefore, the study expects a high inflation rate to have a negative impact while a lower inflation rate is expected to have a positive impact on the stock market performance.

#### **4.4.3 Control of corruption**

Control of corruption refers to the extent or ways in which the government minimise risk of corruption in the economy system. As the corruption index number increases, the amount of corruption decreases (Zhou et al., 2015 and Okunnu et al., 2015). It is worth a note that control of corruption does not have a proxy as it is a control variable for politics, with its own data values as sourced from the World Bank DataBank.

#### **4.4.4 Political stability**

Political stability generally refers to stable political conditions in a particular country. It is measured through the political stability index (PSI), which, according to World Bank (2023), measures perceived probability of political instability. It is expected that political stability will significantly affect the performance of stock markets in South Africa in a positive manner. This is supported by, among others, Mai et. al (2023) by asserting that stock markets are positively impacted by political stability whilst negatively impacted by political instability.

#### **4.4.5 Remittances**

Remittances are funds remitted from one person, usually an immigrant, from one country to a person in another country. Remittances are regarded as stable sources of foreign financial inflows, particularly for developing countries in Africa (Biller, 2007, and Ratha et al., 2011). Thus, it is expected that a positive relationship exists between remittances and stock markets and Alajekwu (2012) who asserts the existence of a positive theoretical relationship between the two variables supports this. Njoroge (2017) also finds a positive and significant relationship between remittances and stock market performance. The inclusion of remittances is particularly significant for its use as a control variable for economic performance. This is due to its significant role in the level of activity of various economic indicators such as the GDP, investment, consumption, and gross capital formation, among others (Njoroge, 2017).

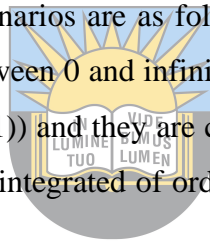
#### **4.5 Data sources**

The approach to be taken in this paper is to model the effects of macroeconomic and institutional quality factors on the stock market of South Africa, as an emerging market. Macroeconomic elements are GDP, inflation and remittances. Institutional quality element comprises of political stability and control corruption. The nature of data employed is the time series data for the period 2000 to 2022. The variables will be taken from the World Bank's DataBank national accounts data.

#### 4.6 Estimation technique

This study will employ the Autoregressive distributed lag (ARDL) model, first proposed and revised by Pesaran and Shin (1998) and subsequently enhanced by Pesaran et al. (2001). ARDL models are linear time series models that include the relationship between the dependent and independent variables not only at the same moment, but also throughout past values. The ARDL model is widely utilised in econometric literature because it is believed to have benefits over other standard econometric approaches for analysing cointegration and/or short/long-run interactions.

Giles (2017) states that econometric experts contend that ARDL models have a distinct benefit in their capacity to effectively manage cointegration, while also being resilient to errors in specifying the integration orders of key variables. Empirical studies, such as Pesaran and Shin (1998) and Pesaran, Shin, and Smith (2001), provide evidence that supports this claim. Giles (2017) states that literature identifies three noteworthy scenarios that highlight the distinct benefits of ADRL models. These scenarios are as follows: 1) all variables are integrated of order  $d$  ( $I(d)$ ) for some value of  $d$  between 0 and infinity, and they are not cointegrated; 2) all variables are integrated of order 1 ( $I(1)$ ) and they are cointegrated; and 3) some variables are integrated of order 0 ( $I(0)$ ), some are integrated of order 1 ( $I(1)$ ), and among the latter, some are cointegrated.



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The classic cointegration approaches of Engle-Granger (1987), Phillips and Ouliaris (1990), and Johansen (1995) are often criticised for their inability to handle cases when variables have different orders of integration, generally  $I(1)$ . Prior to analysis, it is necessary to do pre-tests to see whether there is a unit root in each of the variables being examined. However, it is important to note that these tests may result in misclassification. In contrast, the PSS (2001) limits test for cointegration is not affected by these restrictions and effectively handles the complexities of the third scenario. The test is a parameter significance test on the long-run variables in the ECM of the underlying vector autoregression (VAR) model. It may be used when all or some variables are stationary ( $I(0)$ ), integrated of order 1 ( $I(1)$ ), or even mutually cointegrated. The existence of a one-to-one correspondence between an Error Correction Model (ECM) of a Vector Autoregressive (VAR) model and an Autoregressive Distributed Lag (ARDL) model, according to (Banerjee et. al., 1993), implies that ARDL models, which are estimated and interpreted using conventional least squares techniques, are the preferred

choice for estimation when uncertainty remains regarding the integration orders of the underlying variables.

Moreover, Haq and Larsson (2016) outline that, in addition to the above stated advantages, the ARDL model incorporates the short-run effects of the selected variables with a long-run equilibrium using an error correction term without dropping long-run information. Consequently, it enables the assessment of the short-run and long run relationship between the selected variables concurrently. Further, in contrast to traditional cointegration tests, the ARDL model makes it possible to determine different lags for each variable in the model, which makes it more flexible. This is confirmed by Pesaran et al. (2001), amongst others, who claim that most cointegration techniques are sensitive to the sample size while the ARDL model provides robust and consistent results for small sample sizes. Studies by Pesaran & Shin (1998), Pesaran et al. (2001), and Adom et al. (2012) support this claim and argue it render the ARDL model very good for the studies with smaller sample sizes ranging.

Specifically, if  $y_t$  is the dependent variable and  $x_1, \dots, x_k$  are  $k$  explanatory variables, a general ARDL ( $p, q_1, \dots, q_k$ ) model is given by:

$$y_t = a_0 + a_1 t + \sum_{i=1}^p \varphi_i y_{t-1} + \sum_{j=1}^k \sum_{l=0}^{q_j} \beta_{j,l} x_{j,t-l} + \epsilon_t \quad (4.2)$$

where  $\epsilon_t$  are the usual innovations,  $a_0$  is a constant term, and  $a_1$ ,  $\varphi_i$ , and  $\beta_{j,l}$  are respectively the coefficients associated with a linear trend, lags of  $y_t$ , and lags of the  $k$  regressors  $x_{j,t}$  for  $j = 1, \dots, k = 1$ .

#### 4.8 Diagnostics checks:

To test whether the model to be employed contains stochastic properties, including, inter alia, normality, autocorrelation, and heteroscedasticity, the diagnostic checking will be implemented. The diagnostic tests are important for this study because they confirm parameter estimation outcomes resulting from the estimated model used to study what determines the development of stock markets.

##### 4.8.1 Heteroscedasticity:

The heteroscedasticity test will be run because of its significance in terms of possessing numerous assumptions regarding the regressions run; among these assumptions is the standard linearity. Among the various number of statistical tests for heteroscedasticity, this study opts for the white test, which according to Brooks (2008) hypothesises for homoscedasticity.

Therefore, should we reject the null hypothesis that there is homoscedasticity then there is heteroscedasticity. Further, according to Mukherjee et al. (1998), the white test of heteroscedasticity checks for a possible systematic relationship between the explanatory variables and the squared residuals.

#### **4.8.2 Residual normality test:**

This test is employed for the purposes of comparing the third and the fourth moments of the residuals to those from the normal distribution. This test checks whether the random variable is normally distributed and, in the case where it is not the residuals are not used in random distribution tests like F-tests and the chi-square (Brooks, 2008).

#### **4.8.3 Autocorrelation Lagrange Multiplier tests:**

According to Brooks (2008), the Lagrange Multiplier test is based on the value of the R-squared. Therefore, the equation used is  $[(TR)]^2 \approx X^2(m)$ , where  $m$  shows how many regressors are in the auxiliary regression. These regressors are similar to the number of limitations under the F-tests approach. If the R-squared value is low, then there is no significance in the variables.



### **4.9 Conclusion**

This chapter described the models and deliberated on the methodologies used to empirically examine the effects of politics and economic performance on the stock market performance in South Africa, which is the second objective of this study. All variables were explained, and the pre-established expectations were shown. As previously stated, the research finds that the ARDL approach should be used for the study due to its predicted ability to provide satisfactory findings. The ARDL approach was chosen because it only needs a single form equation, whereas the VAR model requires many equations. It is sufficiently adaptable to handle smaller samples and can be used irrespective of whether variables are stationary at the level series or at first difference. The suitable diagnostic and stability tests for this investigation were also discussed. The following chapter presents and examines the outcomes derived from using the ARDL approach on the data set.

## CHAPTER FIVE

### EMPIRICAL FINDINGS AND ANALYSIS

#### 5.1 Introduction

This chapter outlines the results from the specification of the econometric model detailed in the previous chapter, namely, the Autoregressive Distributed Lag (ARDL) model, which was employed to examine the effects of politics and economic performance on stock markets. The results are outlined through five sections presenting that is 1) descriptive statistics; 2) correlation matrix; 3) the Bounds test; 4) the long run relationship; and 5) the short run relationship.

#### 5.2 Descriptive statistics for data

The descriptive statistics for the data are presented in Table 5.1 below. The summary for the specific data includes market capitalisation as a percentage of GDP, GDP per capita, political stability, inflation rate, remittances, and control of corruption. Table 5.1 shows that the average (mean) for market capitalisation is 5.35064; 5.71947 for GDP per capita; and -0.12400 for political stability. Moreover, the average inflation rate is 5.2, whilst the average is 0.23150 for remittances; and 0.12 for the control of corruption measure. Further, turning the focus onto the dependent variable, Table 5.1 shows that the market capitalisation minimum that has ever been attained for the period under review is 4.88545 and the maximum is 5.77675. The standard deviation, which measures variability from the mean, for market capitalisation for the period under review is 0.26. the data is symmetric as indicated by the mean and median values that are similar or relatively close.

**Table 5.1: Descriptive statistics**

	MARKET_ CAP (LSMC)	GDP	Political stability	Inflation	Remittances	Control of corruption
<b>Mean</b>	5.35064	5.71947	-0.12400	5.17000	0.23150	0.11650
<b>Median</b>	5.38375	5.75752	-0.14500	5.25000	0.23500	0.05500
<b>Maximum</b>	5.77675	5.88471	0.22000	10.1000	0.26000	0.55000
<b>Minimum</b>	4.88545	5.40133	-0.31000	-0.70000	0.18000	-0.18000
<b>Std. Dev.</b>	0.26417	0.14708	0.13589	3.43403	0.02019	0.216959
<b>Observations</b>	80	80	80	80	80	80

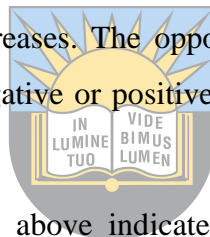
### 5.3 Correlation matrix

**Table 5.2: correlation matrix results**

	LSMC	PSI	Control of corruption	GDPOL	LGDP	Inflation	Remittances
LSMC	1	0,0466	-0,5772	0,6066	0,7752	-0,1891	0,4381
PSI	0,0466	1	0,0033	0,5077	0,0665	0,1311	0,45423
Control of corruption	-0,5772	0,0033	1	-0,3553	-0,8909	-0,1934	-0,6332
GDPOL	0,6066	0,5077	-0,3553	1	0,4785	0,0135	0,5722
LGDP	0,7752	0,0665	-0,8908	0,4785	1	0,0237	0,6376
Inflation	-0,1891	0,1311	-0,1934	0,0134	0,0237	1	0,4136
Remittances	0,4381	0,4543	-0,6332	0,5722	0,6376	0,4136	1

*Author's own EViews computation*

It is worth highlighting the meaning of a negative correlation as of a positive correlation in the context of the interpretation of the results provided in this section. A negative correlation implies the existence of a negative relationship, usually between two variables, whereby when one variable increases the other decreases. The opposite is true for the case of a positive correlation. The significance of a negative or positive correlation is indicated by the size or value of the coefficient.



The correlation matrix in Table 5.2 above indicates that the indicator for stock market performance (SMC) is significantly and positively correlated with explanatory variables such as GDP, remittances, and trade openness whereas it is significantly and negatively correlated with control of corruption and inflation. Further, there is very little association between SMC and the political risk index (PSI), which can thus be interpreted as no correlation. All variables have weak correlations with each other except the correlation between LGDP and SMC.

For instance, in the case of the significant and positive correlations stated above, Table 5.2 indicates that a percentage increase in stock market performance is likely to result in a 0.78% increase in GDP and a 0.44% increase in remittances and vice versa. Further, regarding the negative correlations indicated, Table 5.2 shows that a percentage increase in stock market performance is likely as a result of a 0.58% decrease in the control of corruption and would possibly lead to a 0.19% decrease in inflation.

## 5.4 Unit root tests

**Table 5.3: Results of the unit root test**

Variables	Augmented Dickey Fuller			Phillips Peron		
	Intercept	Trend and intercept	None	Intercept	Trend and intercept	None
LSMC	-9.00900***	-8.95247***	-9.000***	-9.0090***	-8.95246***	-9.00000***
PSI	-9.22142***	-.480662***	-9.21954***	-.221419***	-.495717***	-9.21954***
Control of corruption	-9.32965***	-.474839***	9.219544**	-9.329663**	-9.479998***	-9.219544***
Inflation	-9.165538**	-9.111270***	-9.219544**	-9.165538**	-9.111270***	-9.219544***
GDP	-3.305296**	-3.840134**	-2.464183**	-10.25766**	-13.93971***	-9.219544***
LGDP	-8.71207***	-8.75905***	-8.769947**	-9.1868***	-9.292445***	-9.219544***
Remittances	-9.168828**	-9.220081***	-9.219544**	-9.168828**	-9.220065***	-9.219544***

*Author's own EViews computation Together in Excellence*

*Significance at \*10%; \*\*5%; \*\*\*1%*

The ARDL requires that there should not be any variables that are integrated of order two of the unit root test. In line with this requirement, Table 5.3 above shows that there are no variables in this study that are integrated of order two of the unit root test, and the variables are stationary at level series. Therefore, it can be concluded that the ARDL model is suitable.

## 5.5. ARDL technique

### 5.5.1 ARDL Bounds Test

In order to test for cointegration, the Bounds test was employed, and the result are shown in Table 5.4 below. Because the null hypothesis is that there is no cointegration, the results of an F-statistic being greater than all the upper and lower bounds at 4.56 indicates that the null

hypothesis can be rejected. Therefore, there is cointegration between the variables. The result is supported by Hossain et al. (2013), Yartey (2007,2008), and Ifionu and Ibe (2015).

**Table 5.4: Bounds Test**

<i>Null hypothesis: No levels relationship</i>	
<b>Test statistic</b>	<b>Value</b>
<b>F-statistics</b>	4.564765

**Bounds critical values**

	10%		5%		1%	
Sample size	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
70	2.100	3.121	2.451	3.559	3.180	4.596
75	2.103	3.111	2.449	3.550	3.219	4.526
Asymptotic	1.990	2.940	2.270	3.280	2.880	3.990

\*I(0) and I(1) are respectively the stationary and non-stationary bounds

*Author's own EViews computation*

**5.5.2 Long run relationship**

Table 5.5 below illustrates the results of the long run ARDL test between the dependent variable (stock market performance) and independent variables, namely, GDP, GDPOL, control of corruption, the political stability index, inflation and remittances.

There is a negative relationship between political stability and stock market performance. This is because a 1% rise in political stability causes a 0.272 decrease in stock market performance. This relationship is significant at 10%. The result on the negative impact of political stability is in contradiction with the a priori expectations of a positive impact of political stability. For example, Mai et. al (2023) presents an opposing result by asserting that stock markets are positively impacted by political stability whilst negatively impacted by political instability.

Additionally, there is a negative relationship between remittances and stock market performance, inflation and stock market performance. Hence, a 1% increase in remittances and inflation causes a 0.784 and 0.007 decrease in stock market performance respectively. Also, these relationships are not significant. The negative link between remittances and stock market performance does not agree with Njoroge (2017) found a positive and significant relationship between remittances and stock market performance. Moreover, a study by Boyd et al. (2001) purports that higher inflation rates result in reduced return on investments which

consequently reduces the incentive to invest and thus negatively affecting the stock market performance in the long run.

In terms of economic performance, the results show the existence of a positive relationship between GDP and stock markets' performance at 1% level of significance. Specifically, a 1% increase in GDP would increase the level of stock market performance by 2.46% in the long run. A study by Abushammala et al. (2015), which finds that the positive performance of stock returns has no effect on the economic performance, but economic growth does in fact have an impact on the performance of stock returns, support these results.

A 1% increase in control of corruption increases the level of stock market performance by 0.725. The relationship is statistically significant at 1%. The findings on the positive impact of the control of corruption is in line with the a priori expectation and is supported by Zhou et al. (2015) and Okunnu et al. (2015) with their findings of control of corruption positively affecting stock market performance.

Moreover, the results in Table 5.5 also indicate the existence of a positive joint impact of politics and economic performance (GDPOL) on the performance of stock markets. According to the result, a 1% increase in GDPOL would lead to a 0.074 increase in stock market performance. It is worth a note that this result does not reflect the individual effects of GDP and political stability as the former has been found to have a positive impact whilst the latter exhibited a negative impact on stock market performance. Thus, it could be assumed that GDP has more influence (positive) than political stability on the stock markets. Additionally, the result of a joint positive impact of GDP and political stability on stock markets confirms the notion that a country that performs well economically is characterised by a good institutional environment and consequently positive performance in stock market. Therefore, it can be concluded that politics and economic performance do affect the performance of the stock market, separately and jointly.

**Table 5.5: long run ARDL test results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PSI	-0.271636	0.154426	-1.759006	0.0833
Remittances	-0.784284	1.373605	-0.570967	0.5700
Inflation	-0.007853	0.009251	-0.848867	0.3991
Control of corruption	0.724987	0.182740	3.967319	0.0002

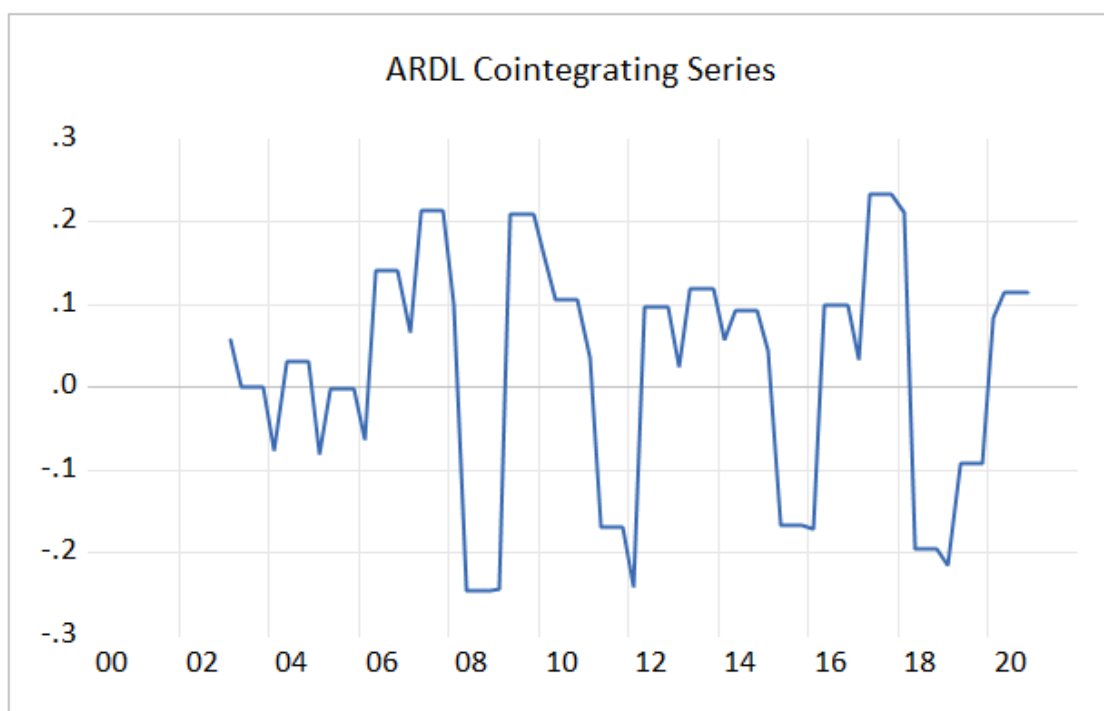
LGDP	2.455231	0.318282	7.714019	0.0000
GDPOL(-1)	0.074321	0.036380	2.042889	0.0451
C	-8.619258	1.782067	-4.836662	0.0000
CE = LSMC(-1) - (-0.271636*PSI - 0.784284*REMMITANCES -0.007853*INFLATION +0724987*CONTROL OF CORRUPTION+2.455231*LGDP+0.074321*GDPOL-8.619258				

*Author's own EViews computation*

### 5.5.3 Cointegration series

**Figure 5.26: graph of cointegrating series**

#### ☐ Cointegrating Series



*Author's own EViews computation*

### 5.5.4 Error correction model (ECM)

The error correction model is most suitable in determining the existence of a long run equilibrium relationship between the variables of a particular study such as this one. It establishes that in a case where the error correlation coefficient is negative, it follows that the t-statistic is also negative and statistically significant at 1% and thus there is a long run equilibrium relationship between the variables. The ECM results are outlined in Table 5.6 below.

**Table 5.6: ECM results**

ECM(-1)	-0.764232	0,119112	-6.416064	0.0000
R-squared	0.55455	Mean dependent var.		0.011008
Adjusted R-squared	0.48989	S.D. dependent var.		0.123202
S.E. of regression	0.08799	Akaike info criterion		-1.894861
Sum Squared Resid.	0.48006	Schwarz criterion		-1.578657
Log Likelihood	78.21500	Hannan-Quinn criterion		-1.768979
Durbin-Watson Stat	1.694378			
* p-value incompatible with t-Bounds distribution <sup>2</sup> .				

*Author's own EViews computation*

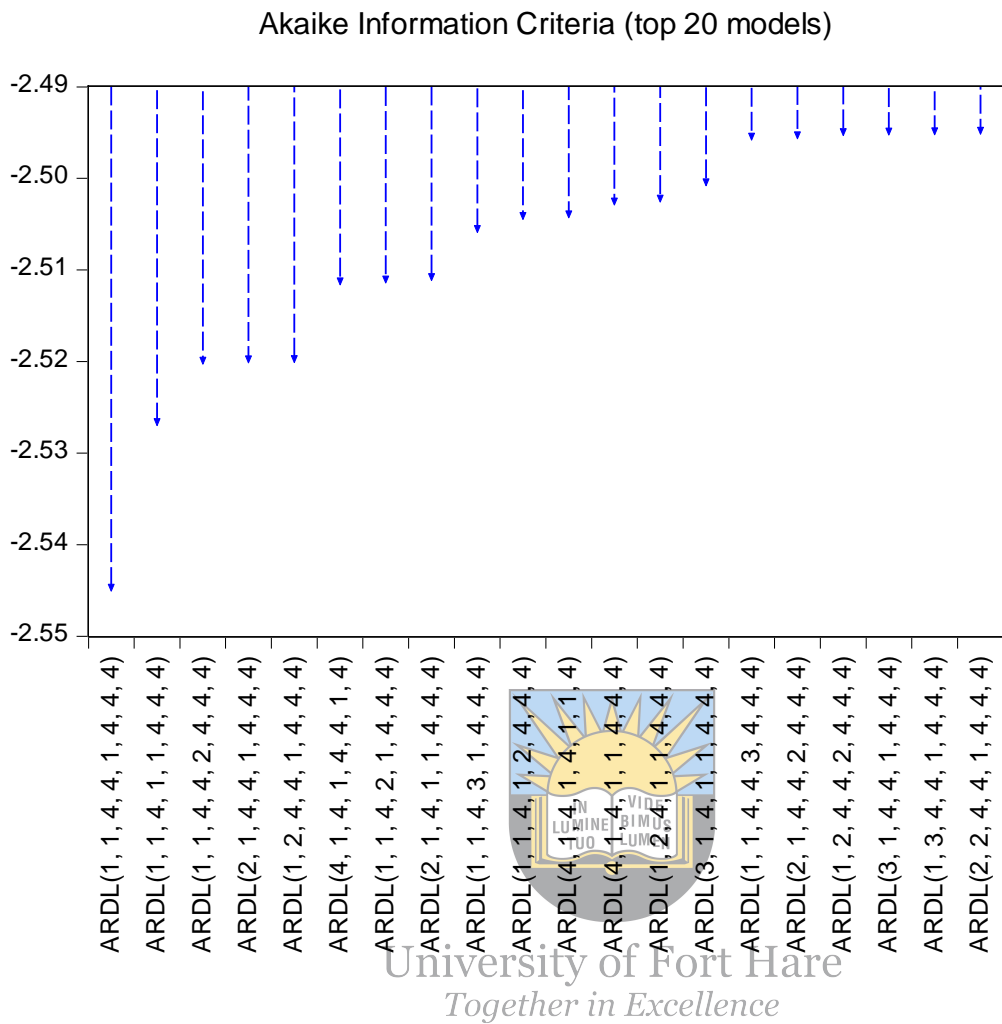
As outlined in Table 5.6 above, the Error correlation coefficient of -0.764232 is negative and the t-statistic value, which is 0.0000, is statistically significant at 1% level of significance. Therefore, a long-run equilibrium relationship exists between the variables. Moreover, the model has a 76% speed of adjustment. Should it occur that the variables move out of equilibrium, they will revert to the long-run equilibrium.

### 5.6 Diagnostics tests

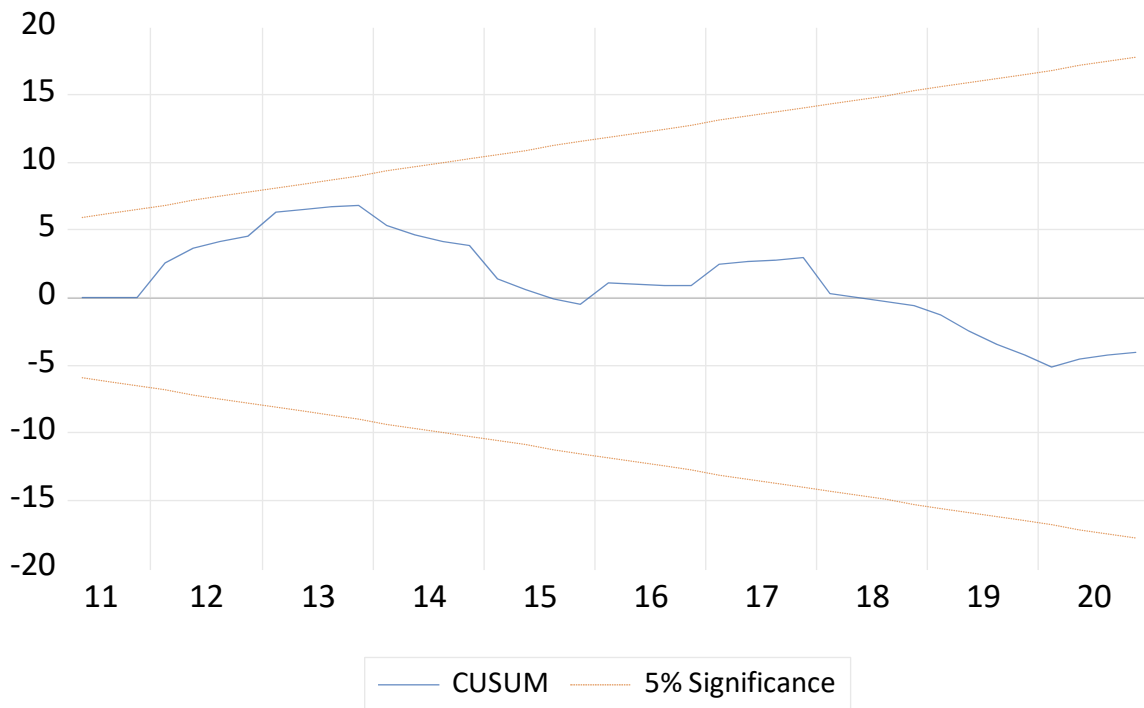
Further, figure 5.27 illustrates the use of Akaike's Information Criteria (AIC) to identify the most suitable ARDL model choice of the top 20 models, which is ARDL(1, 1, 4, 4, 1, 4, 4, 4). In addition, figures 5.28 and 5.29 below illustrate the results of the stability test, which indicate that the plots for the stability test are between critical boundaries at 5% significance level. This means that there exists no instability of the coefficients as the plots of the CUSUM and CUSUMSQ statistics all inside the critical boundaries of the 5% confidence level, i.e., there exists stability in the coefficients over the period under consideration.

<sup>2</sup> This refers to the fact that the limiting distribution of the t-stat is not a t-distribution but is rather of the Dickey-Fuller (functional of Brownian motion) type. Thus, the DF critical values should be used.

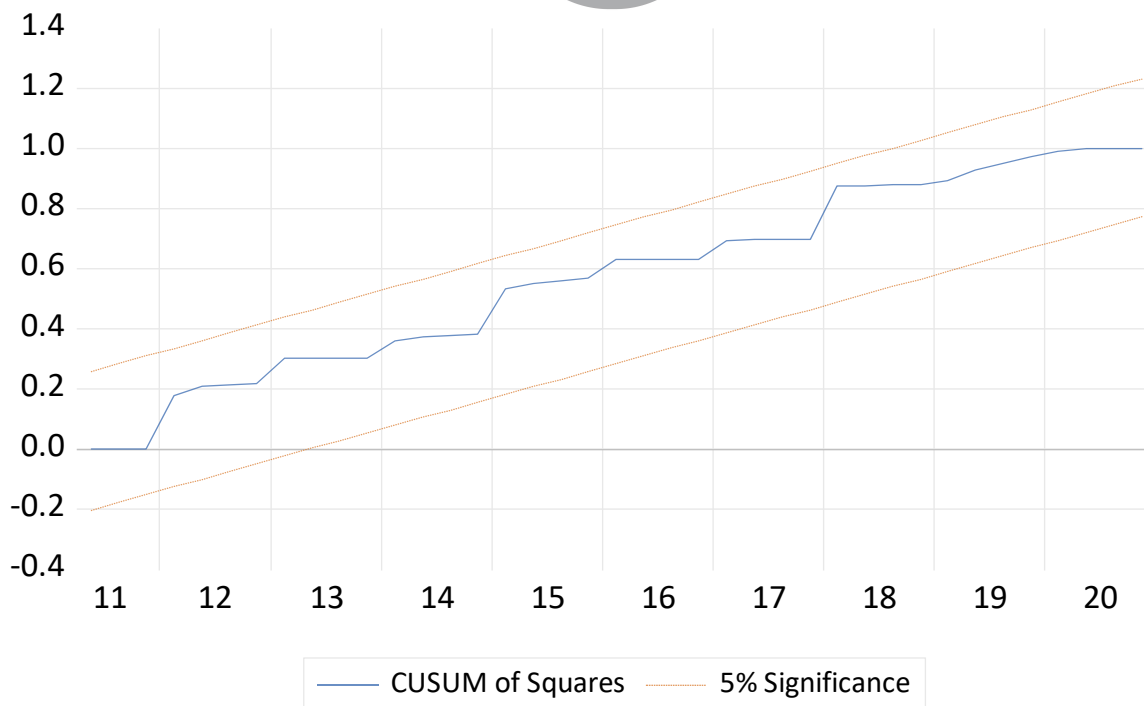
**Figure 5.27: diagnostics – criteria graph**



**Figure 5.28: diagnostics – CUM test**



**Figure 5.29: CUSUM of squares**



## 5.7 Conclusion

The econometric model in this chapter, namely, the Autoregressive Distributed Lag, was employed to study the relationship between the stock market performance and the independent variables representing economic performance and institutional quality/politics. The results of ARDL reveals that remittances, inflation and political stability have negative effects on stock market performance, however, control of corruption, GDP and the joint relationship of GDP and political stability have positive impact on stock market performances. Furthermore, the results show that economic performance as represented by GDP per capita has a significant long run impact on the stock market capitalisation as a measure of stock market performance in South Africa. Further, the results show that control of corruption, political stability, GDP and joint relationship of GDP and political stability have a statistically significant impact on market capitalization. Therefore, the methodology confirms the long run impact of economic performance on stock market performance in South Africa for the specified period albeit at specific indicators. The policy formulators have to place specific focus on the economic development programs and policy of South Africa in order to aid in the development of the stock market in South Africa.



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## CHAPTER SIX

### CONCLUSIONS AND POLICY RECOMMENDATIONS

#### 6.1 Introduction

The section provides a conclusion of the dissertation, which studied the effects of politics and economic performance on stock markets in South Africa. The focus of the thesis was mainly because there has been significant growth and development in the stock markets around the world as well as in South Africa. There have also been several recent years of discussions around the prevalent corruption in the country and its potential impact on economic performance. Thus, raising the question of how exactly the politics and economic performance of SA impact the stock market.

#### 6.2 Summary and conclusions of the study

This research investigated the effect of politics and economic expansion on the stock market performance in South Africa. Chapter 1 provided an introduction of the study's context and addressed the research problem. This chapter addressed the problem statement, research objectives, hypothesis, and the purpose of doing this analysis. Chapter 2 presents a comprehensive overview of politics, economic performance, and stock markets. The study also included a comprehensive analysis of the performance patterns of the chosen variables in South Africa across time. The chapter supports the association between South Africa's robust economic performance and its continual progress and expansion in the stock market. In addition, the Johannesburg Stock Exchange (JSE), which is the primary stock market in South Africa, has shown strong performance over the last ten years. Despite experiencing a significant decrease to a frightening level of 26738.91 in August 2010, it subsequently rebounded and achieved a value of 55188.34 in April 2015. This indicates that the performance of the stock markets may remain positive irrespective of the political stability or risk level in the nation. This observation is particularly relevant in the context of South Africa, which has been experiencing significant political turmoil.

Chapter 3 focused on the literature review. The thesis examined various theoretical models, including the Capital Asset Pricing Model (CAPM), Calderon-Rossell Behavioural Model, Stock Markets and Stock Valuation Methods, and the supply-leading versus demand-leading hypotheses of financial deepening and economic growth. Theoretical literature has also examined the connections between many factors such as economic expansions and stock

markets, politics indicated by institutional quality and stock markets, and the direction of these relationships.

The study used the Capital Asset Pricing Model (CAPM) as the initial theoretical framework. This model is applied to analyze investors' decision-making behavior in the stock markets and its subsequent influence on the performance of the stock market. The thesis used the Calderon-Rossell behavioural model as its second theoretical framework. This model is a structural representation of stock market development that considers economic growth and stock market liquidity as the primary factors influencing such development (Yartey, 2008). Prominent research conducted by Kemboi and Tarus (2012) utilized the Calderon-Rossell behavioral structural model to investigate the performance of stock markets. Specifically, the study focused on analyzing the macroeconomic factors that influence the growth of the stock market in Kenya. Kemboi and Tarus (2012) discover that macroeconomic variables, such as earnings, banking sector growth, and stock market liquidity, significantly influence the progress of the Nairobi Stock Market. The thesis also demonstrated the presence of further theoretical literature that investigates finance theory about stock markets and the valuation of stocks. Theoretical literature, including studies by Baresa et al. (2012), Johansson and Kongstad (2013), and the Nippon Technical Analysts Association (2018), demonstrated that the stock market is composed of multiple individual stocks. Consequently, any factors affecting individual organizations will also have an effect on the overall stock market return. Also, literature contends that macroeconomic factors, such as the interest rate, have an influence on the whole stock market. Furthermore, the Efficient Market Hypothesis (EMH), a theoretical model previously examined by Poshakwale (1996), attributes the significance of stock market efficiency in emerging markets to the growing trend of investments due to regulatory reforms and the elimination of barriers for international equity investments.

Onayemi (2013), Chiawa and Abur (2013), Adeyeye et al. (2015), and Karimo and Ogbonna (2017) examine the relationship between financial deepening, economic development, and the supply-leading vs demand-side theories in theoretical finance literature. The supply-leading theory of financial deepening and economic development examines whether the expansion of a financial system leads to economic growth, whereas the demand-leading hypothesis focuses on the idea that economic growth drives the expansion of a financial system. The aforementioned theoretical literature indicates that the supply-leading hypothesis suggests a favorable effect of financial depth on economic development, whereas the demand-leading theory suggests that changes in the real sector affect changes in the financial system.

Regarding the empirical literature, several research were undertaken worldwide, yielding diverse conclusions on the impact of politics and economic performance on stock market performances. Nevertheless, much of the empirical research indicates that politics and economic performance significantly influence the success of stock markets in both established and developing nations.

After examining the literature, Chapter 4 outlined the specific ARDL model used in this research. The data series underwent a stationarity check. Stationarity tests were conducted using both the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test. The ARDL technique was explained as well as the long run and the short-term dynamics. The research also explained several diagnostic tests, however only the ones suitable for this investigation were used. Finally, the stability test used to assess the accuracy and reliability of the model using CUSUM and CUSUMQ plots were explained.

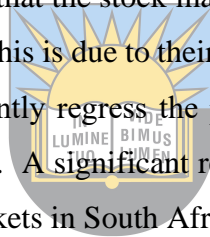
Chapter 5 revealed and examined the empirical findings of this investigation. The chapter started with examining the time series characteristics of the data via the use of ADF and PP unit root checks. This research only focused on the results obtained from the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests, since they are recognized as formal statistical tests. A cointegration was achieved by the implementation of an ARDL F-bounds test. After cointegration was determined, the long-run model was calculated. The ARDL analysis indicates that remittances, inflation, and political stability have a negative impact on stock market performance. On the other hand, control of corruption, GDP, and the combined effect of GDP and political stability have a favorable impact on stock market performance. Moreover, the findings indicate that the economic performance, as measured by GDP per capita, has a substantial and lasting influence on the stock market capitalization, which serves as an indicator of the stock market performance in South Africa.

Moreover, the findings indicate that the management of corruption, political stability, gross domestic product (GDP), and the combined influence of GDP and political stability have a statistically significant effect on market capitalization. Hence, the technique verifies the enduring influence of economic performance on stock market performance in South Africa throughout the stipulated time, although with indicators. The ECM and short run association test reveals a negative error correlation coefficient of -0.764232, indicating an inverse connection. Additionally, the t-statistic value of 0.0000 is statistically significant at a 1% level of significance. Hence, there is a stable and balanced connection between the variables in the

long term. In addition, the model has a speed of adjustment of 76%. If the variables deviate from equilibrium, they will return to the long-term equilibrium. The diagnostic tests used consist of the Akaike's Information Criteria (AIC) to choose the most appropriate ARDL model from a selection of the top 20 models, as well as the stability (CUSUM) test. The AIC determined that the most appropriate option among the top 20 models is ARDL (1, 1, 4, 4, 1, 4, 4, 4). Additionally, the stability test shows that the plots for the test fall inside the critical bounds at a significance level of 5%.

### **6.3 Conclusions and policy implications**

It can therefore be concluded that both the politics and economic performance have significant effects on the stock market in South Africa, albeit at specific indicators. The results show that economic performance as indicated by GDP per capita, as well as politics as indicated by control of corruption and political stability have significant effects on the South African stock market. Therefore, policy makers and the government in general need to develop and implement policy measures to ensure that the stock market and the state of politics are treated with the significance that they have. This is due to their ability to affect the general state of the economic performance and consequently regress the progress and strides that the country's stock market has made over the years. A significant relationship does exist between politics, economic performance and stock markets in South Africa.



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The logo of the University of Fort Hare, featuring a shield with a sunburst at the top, a book in the center, and the motto 'IN LUMINE VERITATIS BIVMUS' below it. The text 'University of Fort Hare' and 'Together in Excellence' is positioned to the right of the logo.  
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## Appendices



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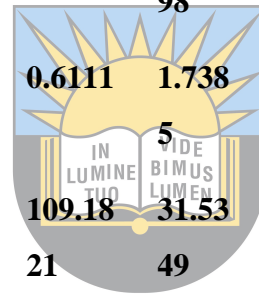
**Table 1: Descriptive statistics**

	<b>MARKET_</b> <b>CAP</b>	<b>GDP</b> <b>per cap</b>	<b>Political</b> <b>stability</b>	<b>Inflatio</b> <b>n</b>	<b>GDS</b>	<b>FDI</b>	<b>GCF</b>	<b>Regulat</b> <b>ory</b> <b>quality</b>	<b>Rule</b> <b>of law</b>	<b>Voice &amp;</b> <b>of</b> <b>accounta</b> <b>bility</b>	<b>Governm</b> <b>ent</b> <b>effectiven</b> <b>ess</b>	<b>Control of</b> <b>corruption</b>
<b>Mean</b>	235.133432	0.7783	-0.1145	5.1991	19.558	1.576	18.80	0.4320	0.1035	0.6383	0.4631	0.1889
<b>Median</b>	234.958902	1.3398	-0.1415	5.3389	19.787	1.224	19.16	0.4075	0.1162	0.6490	0.4383	0.1315
<b>Maximum</b>	352.156399	4.2777	0.2158	10.055	21.326	5.983	23.15	0.8042	0.2550	0.7462	0.7290	0.6253
<b>Minimum</b>	121.361102	-8.1368	-0.3117	-0.6920	17.555	0.229	12.42	0.1298	-0.1027	0.5705	0.2886	-0.1156
<b>Std. Dev.</b>	65.5242659	2.7719	0.1363	2.3119	1.0107	1.356	2.373	0.1962	0.0894	0.0495	0.1454	0.2252



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Skewness	0.08365104	-1.5298	0.6696	-0.1917	-0.0802	1.830	-	0.2755	-0.9659	0.4035	0.5715	0.4877
						2	0.750					
							1					
Kurtosis	2.19299526	6.1897	2.8762	4.1443	1.9513	6.592	3.788	2.0910	3.6014	2.4808	1.9584	2.0797
						4	6					
Jarque-Bera	0.59434080	16.344	1.4320	1.2743	0.9848	21.91	2.513	0.8948	3.2410	0.7289	1.8931	1.4238
		6					98					
Probability	0.74291740	153664	0.4887	0.5287	0.6111	1.738	0.284	0.6393	0.1978	0.6946	0.3880	0.4907
						5						
Sum	4937.80208	16.344	-	593.04	109.18	31.53	395.0	8.2086	1.9667	12.1282	8.7990	3.5899
		6	2.176955	18	21	49						
Sum Sq. Dev.	85868.5884	153.66	0.33445	723.55	106.89	34.94	112.7	0.6927	0.1441	0.0443	0.3804	0.9129
		37		59	79	97						
Observations	21	21	19	21	21	20	21	21	19	19	19	19



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**Table 2: Model Estimation Using Dynamic Ordinary Least Squares.**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP_PER_CAPITA_GROWTH	-40.73641	4.351009	-9.362521	0.0000
POLITICAL_STABILITY	201.7601	41.92072	4.812898	0.0019
C	283.3859	8.413380	33.68277	0.0000
R-squared	0.935837	Mean dependent var		211.3015
Adjusted R-squared	0.862509	S.D. dependent var		50.74647
S.E. of regression	18.81670	Sum squared resid		2478.477
Long-run variance	158.5498			

Employing the dynamic ordinary least squares, Table 2 shows that both the GDP per capita and political stability have a significant relationship with market capitalisation at 5% level, albeit this relationship is negative for the case of GDP per capita. According to table 3, a percentage increase in GDP per capita will lead to a 40.736 decrease in market capitalisation, illustrating a significant negative relationship between the two variables given the negative coefficient. Moreover, table 2 shows a significant positive relationship between political stability and stock market performance, where a percentage increase in political stability will lead to an increase in stock market capitalisation by 201.760.



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**Table 3: Heteroscedasticity Test Using Harvey – GDP per capita and political stability.**

Heteroskedasticity Test: Harvey  
Null hypothesis: Homoskedasticity

F-statistic	0.404427	Prob. F(2,14)	0.6749
Obs*R-squared	0.928534	Prob. Chi-Square(2)	0.6286
Scaled explained SS	1.219615	Prob. Chi-Square(2)	0.5435

According to the null hypothesis, the dataset is homoscedastic, i.e., there is no heteroscedasticity. The P-value Table 3 is greater than 0.05 and thus the null hypothesis cannot be rejected because the tests are not significant. Therefore, it can be concluded that there is little to no presence of heteroscedasticity in the dataset employed for this study.

**Figure 1: histogram normality tests from estimation in table 2**

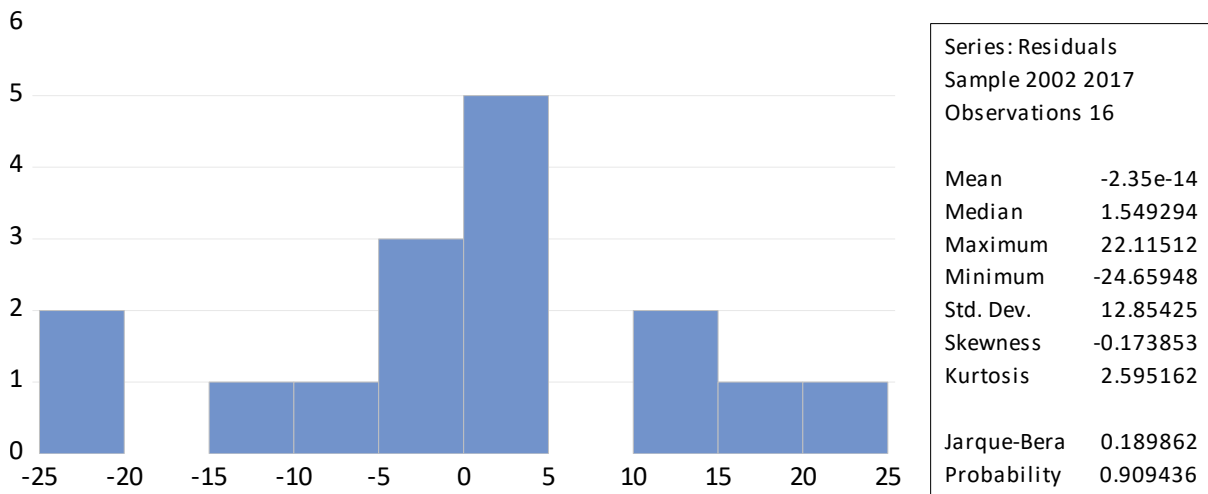
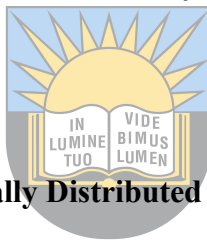
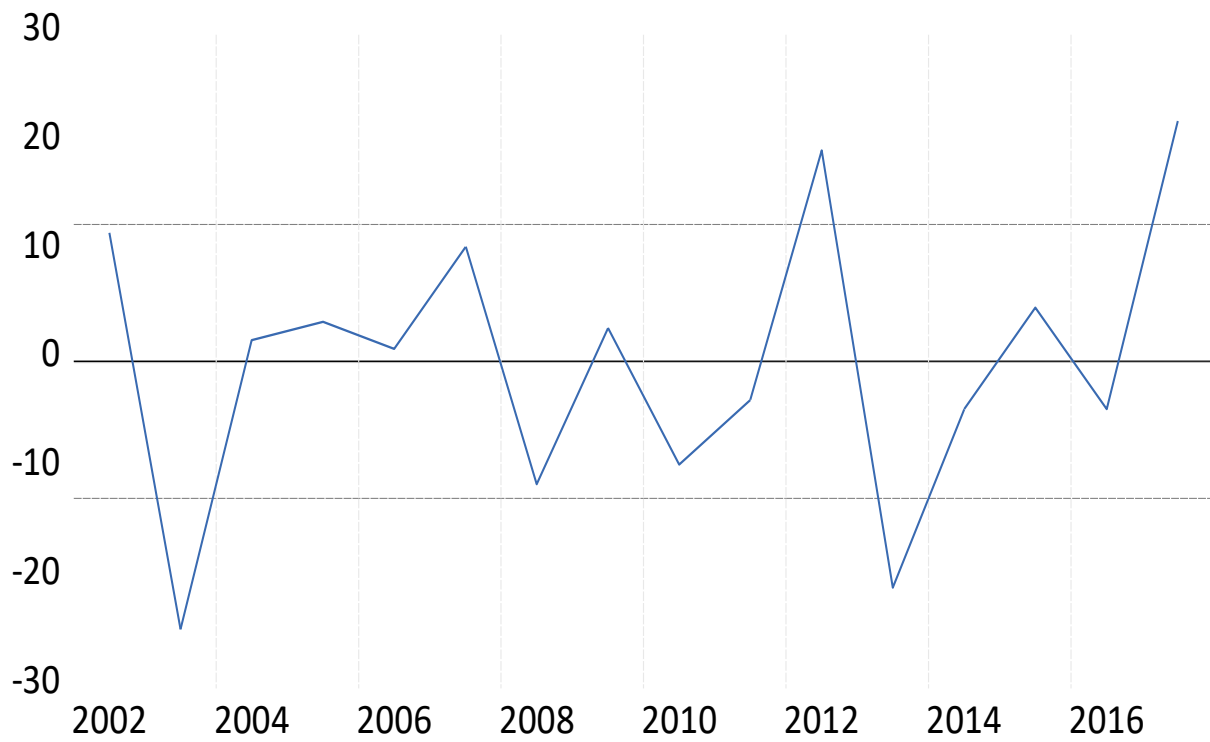


Figure 1 above shows that the mean is -2.35, the standard deviation of 12.85, the coefficient of skewness is -0.174, and the kurtosis is 2.595. Although there are gaps in the histogram, it is normally distributed as shown by the probability value that is greater than 0.05.



**Figure 2: Time Plot Showing Normally Distributed Residual (from table 2's equation).**

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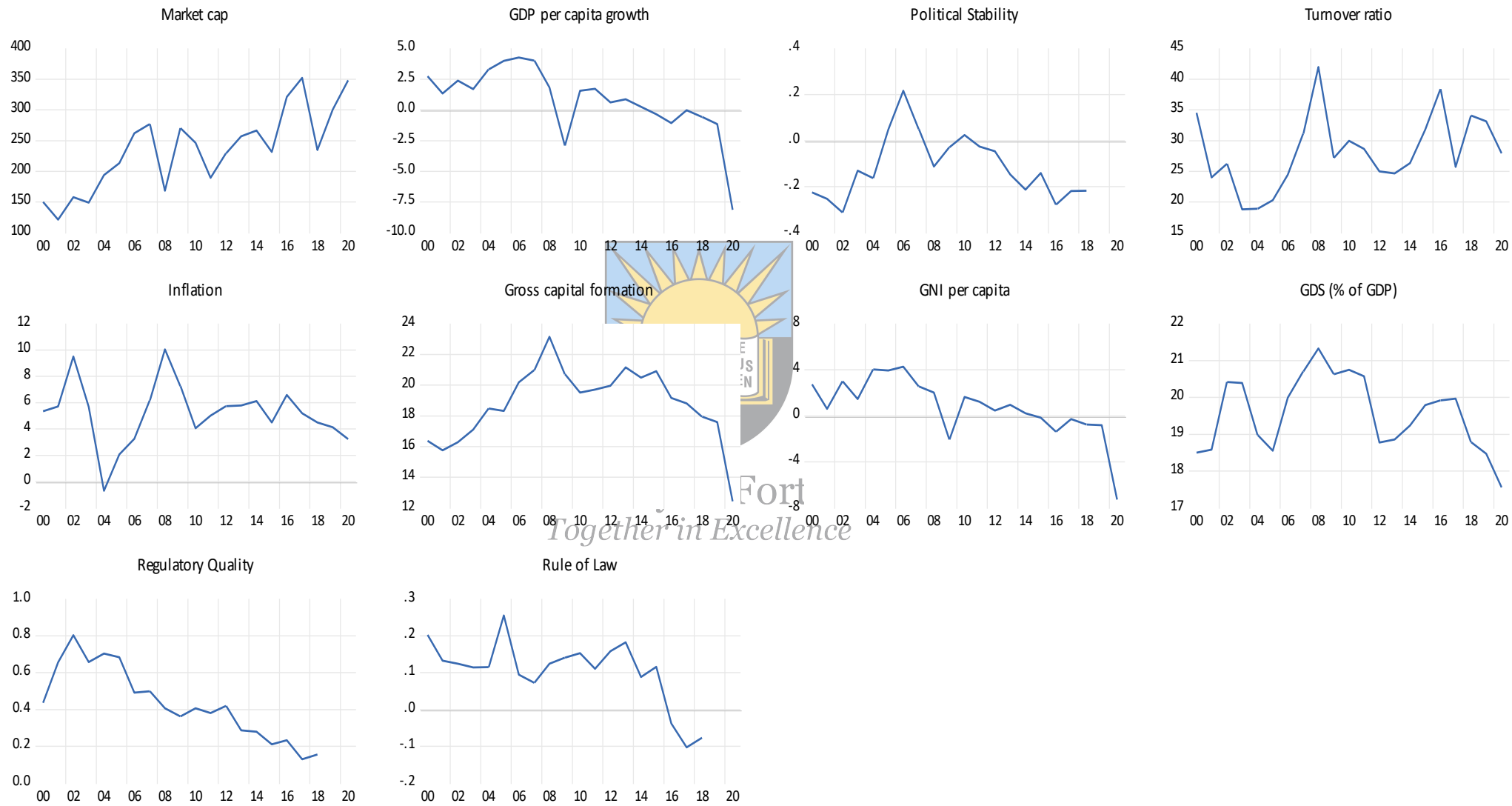
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**Table 4: Data**

	MARKET_CAP	GDP_PER_...	POLITICAL_...	TURNOVER...	INFLATION	GROSS_CA...	GNI_PER_...	GDS___O...	REGULATO...	RULE_OF_...	VOICE_AND...	GOVERNM...	CONTROL_...	FDI
2000	149.8225	2.742098	-0.225485	34.50885	5.338952	16.36533	2.744626	18.50297	0.436383	0.202503	0.746240	0.729057	0.625336	0.710486
2001	121.3611	1.339806	-0.253671	23.97908	5.701905	15.74458	0.605461	18.57851	0.655617	0.132500	0.659822	0.673051	0.354517	5.983101
2002	157.5984	2.397938	-0.311745	26.20153	9.494707	16.27797	2.991025	20.41569	0.804242	0.124147	0.700217	0.692696	0.354515	1.281412
2003	148.7806	1.696812	-0.131361	18.81459	5.679418	17.10588	1.461629	20.38874	0.658264	0.113917	0.715737	0.641220	0.464510	0.446850
2004	193.5866	3.289048	-0.162605	18.92986	-0.692030	18.46660	4.033265	18.97587	0.703134	0.114751	0.649010	0.642373	0.568106	0.306847
2005	213.0987	3.982030	0.048197	20.26418	2.062852	18.31498	3.943487	18.54996	0.683413	0.255048	0.651613	0.444541	0.452249	2.530174
2006	261.8305	4.277760	0.215835	24.42798	3.243902	20.18299	4.255245	19.99386	0.491187	0.094902	0.578765	0.469179	0.248784	0.229456
2007	276.6007	4.008496	0.049733	31.11918	6.177812	20.98552	2.552529	20.70247	0.498898	0.072505	0.575648	0.509499	0.211264	2.199883
2008	168.3231	1.823500	-0.113299	41.98000	10.05528	23.15017	2.010318	21.32700	0.407538	0.123987	0.570503	0.480265	0.182197	3.447016
2009	269.9984	-2.898733	-0.029427	27.22244	7.264562	20.70490	-2.054962	20.62750	0.363410	0.141176	0.602070	0.392141	0.131468	2.576394
2010	246.4389	1.551071	0.024032	29.96991	4.063539	19.51297	1.628790	20.75178	0.406776	0.152451	0.590839	0.405351	0.061732	0.983956
2011	189.4816	1.721528	-0.025387	28.62109	5.017158	19.72094	1.239257	20.57114	0.381753	0.110432	0.582153	0.345631	-0.115579	0.994021
2012	229.0306	0.609713	-0.046295	24.99265	5.723944	19.96597	0.466220	18.77835	0.419976	0.158148	0.600703	0.438293	-0.070049	1.167209
2013	257.0165	0.854081	-0.146389	24.63380	5.776404	21.16356	0.965722	18.85442	0.287686	0.182790	0.642118	0.341089	-0.061535	2.244236
2014	266.1495	0.246658	-0.212993	26.30780	6.136020	20.49949	0.207551	19.23516	0.279379	0.088228	0.650173	0.291809	0.025145	1.650494
2015	231.7058	-0.344982	-0.141504	31.79427	4.509208	20.91796	-0.173726	19.78738	0.211844	0.116231	0.651226	0.306440	0.118392	0.478917
2016	321.0045	-1.067897	-0.277548	38.36802	6.594604	19.16094	-1.375863	19.92065	0.233145	-0.037856	0.632011	0.288611	-0.023005	0.747512
2017	352.1564	-0.012345	-0.219112	25.73785	5.181082	18.80621	-0.285678	19.96616	0.129762	-0.102711	0.658974	0.340379	-0.023047	0.588916
2018	234.9589	-0.578052	-0.217931	34.09257	4.504577	17.94040	-0.741178	18.78640	0.156172	-0.076408	0.670388	0.367380	0.084924	1.512253
2019	300.5823	-1.157079	NA	33.13280	4.124351	17.58901	-0.816738	18.46707	NA	NA	NA	NA	NA	1.455788
2020	348.2763	-8.136829	NA	27.94333	3.223885	12.42640	-7.277991	17.55574	NA	NA	NA	NA	NA	NA

*Source: World Bank Databank, 2021*

**Figure 3: The time plots of data variables**





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