Comparative Impact of Fiscal and Monetary Policies on Stock Market Performance in Nigeria

DECLARATION

This is to certify that this thesis is the result of research undertaken by me, Oluwayemisi Akinkuotu, in the Department of Economics and Statistics, University of Benin, Benin City, Nigeria, in partial fulfillment of the requirements for the award of the degree of Doctor of Philosophy (Ph.D.) in Economics. I declare that no portion of this thesis has been previously submitted for another degree in this University or other institution of higher learning.

Oluwayemisi Akinkuotu

(PG/SSC1120520)

Signature: _____ Date: _____

CERTIFICATION

We certify that Oluwayemisi Akinkuotu carried out this research work in the Department of Economics and Statistics, University of Benin, Benin City, Nigeria in partial fulfilment of the requirements for the award of Doctor of Philosophy degree (Ph.D.) in Economics.

Signature: _____ Date: _____

Prof. Samson Edo

(Chief Supervisor)

Signature: _____ Date: _____

Prof. Monye-Emina

(Supervisor)

Signature: _____ Date: _____

Prof. Monye-Emina

(Head of Department)

DEDICATION

I dedicate this work to my parents, Mr. and Mrs. Ayodele Akinkuotu and my husband Mr. Aderemi Adeleke for their support and encouragement throughout my education; last but not the least are my daughters, Morireoluwa Adeleke who came at the beginning of this program and Mojubaoluwa Adeleke who came at the tail-end of the program.

ACKNOWLEDGEMENTS

To the Almighty God, I give my gratitude for His gift of knowledge, guidance and health without which this research would not have been completed. I wish to also express my sincere appreciation to my amiable supervisors, Professor Samson Edo and Professor Anthony Monye-Emina for their time and effort in guiding me with valuable comments throughout the course of writing this thesis. I will forever be grateful for your guidance. I also want to thank the entire staff of the Department of Economics and Statistics, University of Benin, for their valuable inputs.

I hereby acknowledge the support of the African Economic Research Consortium (AERC) who provided me with sponsorship for the PhD program. Their valuable inputs have boosted my career and future endeavours. Indeed, you made my dream come true. Thank you AERC!! I want to specially appreciate Prof. Festus Egwaikhide of University of Ibadan for good counsel and tutorship, God bless you Sir. To the entire staff of the University of Ibadan, and all my colleagues in the AERC CPP program, I appreciate the interactions we had and the support for each other. It was a blessing meeting each one of you and I wish you all well in your endeavours.

Finally, my heartfelt appreciation to my siblings, Mayowa, Ahmed and Aderayo Akinkuotu and the Ojos family for their love and encouragement. To Osaze Igodan, Eric Arthur, Frank Ogbeide, Abayomi Olakojo, Damilola Arawomo, Babatunde Ekundayo and Modupeola Ojo, thank you for being part of this success. A special thank you to Saidi Atanda and Ibraheem Taofeek for their support. And to all my friends, I say a big thank you all for being there for me. I pray God continues to favour you as He has favoured me.

ABSTRACT

This study empirically examined the effects of anticipated and unanticipated fiscal and monetary policies on the performance of the stock market. In addition, the study examined the relationship between these policies; whether they act as substitutes or complements in affecting stock market performance. The theoretical contention of Keynesian Economics that a mix of fiscal and monetary policy is the best in achieving macroeconomic objectives serves as the motivation for the study. The study has also been motivated by growing empirical evidence, which shows that the stock market plays an important role in enhancing economic growth. This is because the stock market has been recognized as an important sector of the macro economy, as it stands as a key component of financial system and performs crucial roles for the economic development of a country. However, if the stock market is to perform better, government policies need to be formulated and geared towards the better performance of the stock market. However, there has been no consensus both theoretically and empirically on the effect of government policies on stock market performance, and the relationship between fiscal and monetary policies in Nigeria.

The study used quarterly time series data on Nigerian stock market over the period 2000 – 2012. The study proceeded by first testing for Stationarity and cointegration of the variables used in the estimation process, having specified the fiscal and monetary policies vector error correction models, for the first and second objective and the vector autoregressive model for the third objective. The values for the anticipated and unanticipated fiscal and monetary policies obtained thereof were then used in the estimation of a model specified to capture stock market performance, as measured by the value of transaction in the market.

The empirical results obtained showed that both anticipated fiscal policy and monetary policy had a negative relationship with stock market performance in the long run. It was noticed that, anticipated monetary policy causes more variations in the performance of the stock market than the anticipated fiscal policy component. There exists unilateral relationship between anticipated fiscal and stock market performance, anticipated monetary policy and stock market, interest rate and stock market, stock market and exchange rate, anticipated fiscal policy and exchange rate and interest rate and exchange rate. However, unanticipated fiscal policy actions have a positive and not significant relationship with the stock market, whilst an unanticipated monetary policy

action has a minimal positive and significant effect on the stock market. Unanticipated fiscal policy actions have very little impact in its contributions to the stock market, the unanticipated monetary policy also has little impact but it is of a lower magnitude compared to the unanticipated fiscal policy. On the other hand, both unanticipated fiscal and monetary policies did not have a unilateral or bilateral relationship with the stock market performance. Lastly, the study found that fiscal and monetary policies act as complements in their effect on the performance of the stock market. These findings suggest that policy makers need to exercise considerable caution regarding fiscal-monetary policy stance and stock market regulation in Nigeria.

Table of Contents

List of Tables

List of Figures

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The Stock market which is a 'distribution vehicle' acts as an intermediary between the savers and users of funds, and its importance in an economy cannot be overlooked. Its central role of mobilizing funds across units and economic agents cannot be overemphasized in the development of an economy. The stock market acts as a transmission mechanism that facilitates the mobilization and channeling of savings to individual and institutional investors. This is basically the transfer of funds from surplus units to deficit units, which ensures the effective and efficient allocation of scarce financial resources and creates an avenue for investors to participate in the economy for investment purposes. To Anyanwu (1998), the stock market is a market where those who wish to buy or sell shares, stocks, government bonds, debentures, and other securities can do so only through its members (stock brokers).

The fluctuations in the stock market have significant effects on the macroeconomy as they affect investment and consumption decisions of both firms and households. The transmission mechanism effect could be through three different channels. The first channel is through their effect on stock prices which in turn affect investment. Secondly, through their effect on stock prices, which in turn affect a firm's balance sheet and lastly through the consumption-wealth nexus where stock prices affect a household's wealth and liquidity by being directly related to the amount of financial wealth that the household holds. These channels all have spillover effects on the macroeconomy as a whole. This implies that a performing stock market would enhance

the wealth of investors and it would have positive impacts on the economy generally, While a non performing stock market would have an adverse effect on the economy Mishkin (2001).

Furthermore, the spiral effects of the stock market on the macroeconomy can be seen in the case of The Nigerian Stock Exchange (NSE) which has been experiencing steady growth prior to the global recession of 2008 but experienced a downturn which affected all sectors of the Nigerian economy. This is evident in the growth rate of the NSE all-share index in Nigeria from 37.8% in 2006 to 73.56% in 2007, making the NSE one of the most performing stock exchanges in Africa (NSE, 2007). During the financial crisis (which was at its peak in April 2008), the Nigerian stock market witnessed a sharp drop as the growth rate of the all share index declined to 45.8% from 73.56% in 2007. This crisis led to dumping of shares by foreign and domestic investors which further depressed the stock market. There was shortage in capital inflow and foreign portfolio investment withdrawal and withholdings became the norm. Inspite of several reforms by the regulatory authority[1], performance has still been sub-optimal in recent times (2008 till date) as compared to its pre-2008 level; and this could be a combination of regulatory weaknesses, political meddling and capacity inadequacy amongst operators. Thus, the market is still bearish due to lack of confidence by both individual and institutional investors in the market which has led to the continuous downward trend in the performance of the Nigerian Stock market.

Furthermore, during the recession period in 2008, government emphasized the use of both fiscal and monetary policies to address the problem. Several policies were put in place such as the

[1] The Security and Exchange Commission stands as the regulatory body of the Nigerian capital market. The SEC improved regulations in order to encourage the development of the bond market and also promoting collective investment scheme and review of the 2003 corporate governance code.

frequent review of the monetary policy rate[2], major direct intervention in the banking sector[3] and risk management principles. By contrast, emphasis was placed more on fiscal policy in countries of the European Monetary Union because of the positive effects it has on economic activity (Rafael and Ivan, 2010). However, the Nigerian government made use of both fiscal and monetary policy interventions to stabilize the economy. This is because they are both important instruments used in macroeconomic management for the stabilization of an economy, and this can be seen with the increase of both government expenditure from 21% in 2007 to 31% in 2008 and money supply from 35% to 56% in 2008 (CBN, 2008).

Fiscal policy[4] is basically meant for regulation and stabilization of the economy. Its regulatory role covers the effective allocation, distribution, and sustenance of stable income which stimulates aggregate demand and also gives an incentive to major growth spurring activities within the economy. Fiscal policy could be expansionary or contractionary depending on the policy thrust of government. The expansionary phase increases the total money in circulation through increased government expenditure or a reduction in taxes with the ultimate aim of stimulating aggregate demand in the economy. A contractionary measure on the other hand reduces government expenditure or leads to an increase in taxes. Empirical literature has shown that fiscal policy possesses both direct and indirect effects on an economy(Ioannis, David and George,2011). The direct effect emanates from government's ability to influence economic

[2] The Monetary Policy Rate (MPR) affects both the banking public as interest rates on deposits and loans affect the cost of money and the economy because it naturally affects interest rates on both sides which has a spillover effect on the stock market.

[3] Direct intervention by the Central Bank of Nigeria to support the liquidity of banks in Nigeria.

[4]Keynes (1936) advocates for the intervention of government, that is, fiscal measures in the economy during the great depression of 1930s; interested readers may consult "The General theory of employment, interest and money, 1936".

activities which could either be anticipated or unanticipated. The anticipated fiscal policy is not expected to cause distortion in the economy, as economic agents are aware of the policies set forth or announced by government; but the unanticipated fiscal policy causes distortion in the economy, as economic agents are not aware and this has an effect on economic variables, hence this is referred to as the fiscal policy shock[5].

In recession, the government policy could either be to increase government expenditure or reduce taxation in order to boost the performance of the economy in order to bring it out from recession. Thus, according to the Keynesian total expenditure model, an increase in government spending brings about increase in output in the economy both at the business level and the economy in general, which provides a short term stimulus to help reduce recession. Rams (1986) growth model also supports that government expenditure generally affects economic growth and acts as positive externality on growth. All this would thereby lead to a change in investment pattern of economic agents which could lead to a better performing stock market.

Monetary policy is used by the government or the central bank to influence the economy through changes in interest rates or money supply. The Central Bank is the agency which formulates and implements monetary policy on behalf of the government in an attempt to achieve a set of objectives. Such objectives are the achievement of a desired rate of growth in real activity, the attainment of stable exchange rate, stable price level or absence of inflation, the viable balance of payment and full employment. The primary goals of monetary policy are price stability and sustaining rapid economic growth.

[5]A fiscal policy shock is a surprise change in fiscal policy. It is the unexpected or unpredictable exogenous event of policy change that has a positive or negative effect on the economy. (Câmpeanu, Pădurean, 2011, pp. 477). A fiscal shock could be temporary or permanent.

Monetary policy works via its effects on the cost and availability of loans on real activity, and this affects inflation, international capital movements and exchange rate. Monetary policy actions such as changes in the central bank discount rate have indirect effect on macroeconomic variables and considerable lags are involved in the policy transmission mechanism (Ioannidis and Kotonikas, 2007). On monetary policy goals of the Federal Reserve Bank, Bernanke(2005) stated in publications and testimony of Federal Reserve Bank (Fed) officials, that they are "price stability" and "sustainable economic growth". Federal Reserve officials and academic economists have addressed the question of whether, in addition to price level stability, a central bank should also consider the stability of assets' prices.

Monetary policy can be either expansionary or contractionary. An expansionary policy's aim is to increase the total supply of money which leads to a lower interest rate and stimulates the expansion of the economy. While a contractionary policy aims to reduce the supply of money and this leads to a decline in the value of assets. Monetary policy makes use of various instruments which include interest rate, reserve requirements (cash requirements or cash ratio and liquidity ratio), selective credit controls, rediscount rate, treasury bill rate amongst others. The effectiveness of monetary policy depends on its ability to alter the behavior of economic agents which is usually aimed at such important macroeconomic variables as real gross domestic product (GDP), consumption, investment, etc. But the tools available to the monetary authorities have direct effects on interest rates and quantities of money and will only have an impact on the ultimate policy objectives if actually changes in interest rates and money supply alter economic behavior. The sector that monetary policy is believed to be able to influence is the financial sector and specifically the equity market which could be by either altering discount rates or by influencing investor's expectations of future economic activity. Therefore, it is important to

know how government policies (fiscal and monetary) put in place affect the stock market when the policies are being expected and when they are not expected by the investors. The effect of monetary policy on economic agents when not expected is known as the unanticipated monetary policy shock while when expected it is known as the anticipated monetary shock.

Thus, giving the effect of both fiscal and monetary policies in achieving macroeconomic objectives as discussed above, their effects on an economy cannot be overlooked. It is also important to know that fiscal and monetary policies cannot be separated effectively according to the theoretical evidence of the Keynesian paradigm. Thus, a policy mix is desirable, where fiscal and monetary policies are used simultaneously, in other to achieve a stable macroeconomic environment. Also, the IS-LM framework shows that the relation between fiscal and monetary policies' actions on stock market activities cannot be completely independent of both instruments. Thus, a change in either fiscal or monetary policy instruments leads to a change in interest rate instantaneously and thus investors would have to revalue their equity (Laopodis, 2006). A contractionary or expansionary fiscal and monetary policy could have either positive or adverse effect on the earnings of investors, which would in totality affect the performance of the stock market. Due to the contributions of both monetary and fiscal policies in managing the economy during any anticipated or unanticipated events, the study cannot examine fiscal policy effect without considering monetary policy effect as well and vice-versa. Thus, investigating the comparative effects of both fiscal and monetary policies on the Nigerian stock market is of utmost importance.

1.2 Statement of the Research Problem

The stock market is a major segment of the financial market and it plays an important role in the allocation of resources to various sectors in the economy. It also helps in the financial development of any economy because of the liquidity characteristics enjoyed by investors. The extent to which these benefits can be enjoyed depends on the policy direction and regulatory activities of the government. Therefore, a performing stock market is an indication of the economy's financial stability and strength. It is, therefore, of utmost importance to study the effects of fiscal and monetary policies on the performance of the stock market, as the relationship between policies and stock market performance has continued to generate debate both in the academic and policy arena.

In recent years, theoretical literatures have emerged to explain the relationship between fiscal policy, monetary policy and stock market performance. The most persuasive argument in the literatures is presented by the Keynesian paradigm that opines that fiscal and monetary policies cannot be effectively separated. This means that fiscal and monetary tools cannot be used in isolation but must be used together to achieve improvement in the stock market and the macroeconomy as a whole. It has been argued by other authors (Ricardian Equivalence theory and Rational Expectation theory) that irrespective of any policy being undertaken by the government, it has no effect on individuals, stock market and the economy in general. This implies that government policies do not have any effect on private consumption and investment.

In recent years, there have been mixed results from studies examining the relationship between monetary policy and stock market performance both in the developed and developing world. While some are of the opinion that monetary policy has adverse effects on stock market

performance (Francesco, 2008), others believe that there are no adverse effects and even Durham (2003) noticed a zero relationship in his study. Likewise, the few studies that have been done on the effects of fiscal policy and stock market performance were for developed economies and there was no consensus.

Furthermore, the Nigerian Stock Market witnessed steady growth in its performance prior to the recession in 2007, but the rate of growth nosedived sharply during the recession in 2008 (NSE,2008). This made it experience one of its worst crises since its inception in 1960. Several efforts were made by the regulatory body of the stock market and fiscal and monetary authorities over the years with the use of several policy measures and reforms to stabilize the stock market. However, it showed that there has been increase in government expenditure over the years with the exception of year 2000 and 2002. Although, in 2000, there was a sharp drop in government spending while for 2002 there was no significant increase in government expenditure, it did not affect the performance of the stock market as it still exhibited an upward trend for both periods. Meanwhile, money supply and government expenditure before the recession followed an increasing trend which was also the case for the performance of the stock market as reflected in the capitalization of the stock market. The recessionary period, however, witnessed great increase in both government expenditure and money supply but its effect could not be seen on the stock market performance as expected (CBN Bulletin, 2009).

Thus, it is of concern to note that policies put in place during the recession did not transmit to a better performance of the Nigerian stock market, while stock markets in other developed and developing economies have shown a steady recovery after the recession in 2008. Therefore, the study intends to know if policies implemented by the government would have any effect on the

performance of the Nigerian stock market when the policies are being anticipated or unanticipated by economic agents. It will equally try to find out if the Keynesian paradigm which states that fiscal and monetary policies must be used as complements to achieve effectiveness would occur for the Nigerian stock market given the structural rigidities of Nigeria as a developing economy. This is because Bohl and Werner (2007) and Al-jafari, Salameh and Habbash (2011) have raised the issue of the inability of policy makers to achieve the assumed and expected effects of policies in many economies, especially developing countries that are saddled with structural rigidities in both the real and financial sectors. Thus leading to a general feeling of uncertainty among policy makers as to the efficacy of the policies being undertaken by the government. Based on these aforementioned problems, this study aims to answer the following research questions presented in section 1.3.

1.3 Research Questions

Three issues of concern in this study are:

(i) What effects does anticipated fiscal policy and monetary policy shocks have on stock market performance in Nigeria?

(ii) What are the effects of unanticipated fiscal policy and monetary policy shocks on stock market performance in Nigeria?

(iii) Do fiscal and monetary policies complement or substitute each other in their effects on stock market performance in Nigeria?

1.4 Objectives of the Study

The main objective of the study is to evaluate the impact of fiscal and monetary policies on stock market performance in Nigeria. The specific objectives of this study are to:

1. Determine the effects of anticipated fiscal policy and monetary policy shock on stock market performance in Nigeria.

2. Empirically examine the effects of unanticipated fiscal policy and monetary policy shock on stock market performance.

3. Determine whether fiscal and monetary policies are complements or substitutes in their effect on stock market performance in Nigeria.

1.5 Research Hypotheses

In the light of the stated objectives, the following hypotheses are formulated to guide the study:

H_1: Anticipated fiscal and monetary policies have no significant effect on stock market performance.

H_2: Unanticipated fiscal and monetary policies shocks have no significant impact on stock market performance in Nigeria.

H_3: Fiscal and monetary policies are neither complements nor substitutes for stock market performance in Nigeria.

1.6 Justification for the Study

Several theories were discussed in the theoretical review in Section three and it was on this premise that the neoclassical function was used. Thus, the global integrated monetary and fiscal model which has a neoclassical foundation was used. This theory was, however augmented before it was used in the study. The global integrated monetary and fiscal model captured fiscal policy using lump sum tax, fiscal deficit and fiscal surplus measure but in this study, we made use of government expenditure to capture the effects of fiscal policy following the path of the Keynesian theory while the variables used for monetary policy such as the money supply, interest rate and exchange rate was adapted.

Furthermore, several studies have been carried out to determine the effect of shocks arising from monetary and fiscal policies separately on stock market returns in developed economies Rangan, Charl and Kanyane, (2013); Agnello and Sousa, (2011); Dewan (2013), Ioannidis and Kotonikas (2008). However, the attention has recently shifted to examining their impacts in developing economies; although it has been mainly skewed in favour of monetary policy. The results of studies done using monetary policy vary. Some studies found that monetary policy has adverse effect on stock market performance, while other studies have reported that monetary policy has a positive relationship with the performance of the stock market. Some of the cited literatures are (Fama and French, 1989; Thorbecke, 1995; Mishkin, 2001; Rigobon and Sack, 2003; Durham, 2003; Konstantin, Montagnoli, Napolitiano and Siliverstov, 2008; Okpara, 2010; Aliyu, 2011). Few research works have been done on the effects of fiscal policy on stock market performance (Agnello and Sousa, 2010; Afonso and Sousa, 2011; Jose and Rossen, 2003; Goodness, Mehmet, Rangan, Charl, Stephen and Zeynel, 2012). While some found temporary negative response of

fiscal policy shocks to stock prices (Agnello and Sousa, 2010), other studies observed that fiscal policy is relevant for stock market performance (Van Aarle, Garresten and Gobbin, 2003 and Laopodis, 2010). While studies on the effects of both monetary and fiscal shocks on stock market performance (Ioannis, David and George, 2011; Vafa and Matin, 2011; Jinho, 2001) are few and inconclusive. This study therefore intends to do a country based analysis on the effects of monetary and fiscal policies on the performance of stock market in Nigeria, taking into consideration the anticipated and unanticipated components of both fiscal and monetary policies on the stock market.

Lastly, several methodologies have been used to analyse the results of both fiscal and monetary policies on stock market. The various methods include the Structural Vector Auto Regression Model, Bayesian Auto Regressive Model, Event Study, Vector Auto Regressive Model and the Vector Error Correction Model. This study adopts the Vector Error Correction model and Vector Autoregressive model because of their components such as the parameter estimates, impulse response function, Variance decomposition and VEC granger causality that enables us to capture the causal link between the variables of interest. Hence, this study shows the effect of government policies on other agents of the economy and how their reaction determine the performance of the stock market. The study goes further by introducing and finding out the effect of both anticipated policy and unanticipated policy on the performance of the stock market. Therefore, a comprehensive study that would examine the impact of the policy shocks on stock market performance in Nigeria is of utmost importance. The study will be relevant to several organisations, institutions and policy makers and governing bodies regulating the stock market activities in Nigeria.

1.7 Scope of the Study

Essentially, this study analyses the effects of fiscal and monetary shocks on stock market performance and how the policies made by fiscal and monetary authorities affect the stock market in Nigeria. The scope of this study covers the sample period 2000 – 2012 using quarterly data. This study also focuses on the Nigerian stock market due to the recent[6] swings witnessed in the performance of the stock market after the recession which has led to loss of income for the citizens.

1.8 Organization of the Study

This research project consists of six (6) chapters in all. In Chapter One, we present an introduction to the study which consists of statement of research problem, research questions, objectives of the study, hypotheses of the study, justification of the study, scope and structure of the study. Chapter Two consists of a detailed background of the study. Chapter Three gives a detailed analysis of all the literature reviewed both theoretical and empirical and the various postulations and positions and also alternative theories concerning this topic. Chapter four explores the methodology used in this study and explains the techniques used for data analysis and the model on which the research is based. Chapter Five contains Empirical analysis. Chapter Six contains a summary of the study, policy recommendations and conclusion.

[6]By "recent swings" the thesis refers to the skewed dynamics in the Nigerian stock market performance (2008 till date) which have eroded significant portion of investors' confidence.

CHAPTER TWO

BACKGROUND TO THE STUDY

2.1 Overview of Stock Markets in Africa

In order to have a better understanding of the subject matter, which is the performance of the Nigerian stock market with respect to fiscal and monetary policies, it is a necessity to describe the background information with respect to some of the key variables. Therefore, this chapter provides the background to this study by doing an overview of the African stock markets and characterizing the stylized facts on the Nigerian stock market, fiscal policy and monetary policy in Nigeria. The trend analysis of the performance of the stock market and their coordination with fiscal and monetary policies in Nigeria was also considered.

The stock market in Africa remains an underutilized area for international investors, because they have the potential to get high returns and achieve the goal of portfolio diversification. They offer a superior risk/return profile which is not affected by trends in the more developed markets. This can be seen from the fact that two of the top five world best performing stock exchanges come from African markets (United Nations Development Programme, 2003). In Africa, there are 53 diverse countries, but there are only about 20 active stock exchanges, including one of the only regional stock exchanges, (Bourse Regionale des Valoeurs Mobilieres (BRVM)) linking eight French-speaking countries in West Africa. Generally, the African stock markets are described as "frontier markets[7]".

[7] Frontier markets are typically characterised by relatively small capitalization and liquidity levels. Thus, most of these markets are excluded from the main regional equity market indices and as a result attract little Global Emerging Markets (GEM) portfolio funds.

African stock exchanges faced some challenges, such as eliminating existing impediments to institutional development before they could enter a new phase of rapid growth. They had to find a way of disseminating information widely, implement robust electronic trading systems and the adoption of a central depository systems. A number of countries have started implementing necessary changes especially in the area of trading and settlement systems and regulatory regimes. In the 1990's, a number of African governments shifted to free market policies driven by the desire to reduce the burden on government finances and implementing market-friendly reforms. A central component of this process was the privatisation of State-owned companies which led to their being listed on the local exchanges.

Some African governments have taken advantage of the development of the local capital markets to issue stock exchange listed treasury debt instruments. This is the case with Kenya and Ghana, where their governments have been able to issue long-term debt instruments, thus better managing local debt. This has led to improved transparency in the pricing of local bank lending facilities and increased competition within local banking industries. It has also been noticed that African stock markets are almost identical in nature in terms of trading mechanisms, systems and products available in these markets with the exception of South Africa, Zimbabwe, Mauritius, Namibia, Egypt and Morocco. However, their differences are in the form of on-line trading, no restriction to foreign participation, shorter settlement, no tax restrictions and availability of derivatives market. This trading mechanism leads to increase in volume and turnover of the stock markets. In addition, African stock exchanges are gradually adapting to electronic systems, with few countries still using manual trading systems as well as manual clearing and settlement systems as at 2015. This is more efficient as the manual system reduces trading activity and

liquidity, when compared to the automated and electronic system that reduces cost and inefficiencies and speed up operation in the market.

However, African stock markets are still small when compared to stock markets in other emerging markets. The reason being that the African Stock markets have been dominated by a few large firms that represent a high proportion of total market capitalization. The number of listed companies is also small, except in South Africa, Egypt, and to some extent Nigeria. The Johannesburg stock exchange in South Africa dominates the region in terms of market capitalization, but the Cairo and Alexandria Stock Exchange (CASE) have recently been growing rapidly. South Africa and Egypt account for more than 50 percent of all listed companies in the entire African continent. African stock markets are illiquid and there are large gaps between buy and sell orders. Usually, trading occurs in only a few stocks, those that represent the majority of market capitalization (Yartey and Adjasi, 2007). Low liquidity implies more difficulty in supporting a local market with its own trading systems, market analysis, and brokers because business volume is too low. Also, African stock markets suffer from infrastructural bottlenecks. Trading, clearing, and settlement systems are so slow it can take months to execute a single transaction (Senbet, 2008), and few of the exchanges still operate manual systems (Malawi, Swaziland and Zambia). This brings about not up to date information which hampers activity and turnover, and renders financial integration difficult. Similarly, most markets do not have central depository system, and some restrict foreign participation, thus inducing inactivity (Yartey and Adjasi, 2007).

In the period 2000-2007, Sub-Saharan Africa (SSA) enjoyed tremendous growth and increased liquidity which attracted an increasing number of investors in search of high yields. This led to increase in private capital inflows, including Foreign Direct Investment, portfolio equity flows

and debt flows. This enhanced the region's attractiveness for foreign investors in search of high yields. However, in 2007 the financial crisis spread to developing countries and SSA experienced the secondary effects of the crisis. SSA's growth dropped from 6.9% in 2007 to 5.5% in 2008 (International Financial Statistics, 2008). Furthermore, private capital inflows to SSA dropped sharply in 2008, owing to a reduced capability and propensity to invest on the part of foreign investors. This led to a slowdown in portfolio equity flows as there was a sharp fall in stock markets in South Africa, Nigeria, Kenya, Mauritius and Côte d'Ivoire (Senbet and Otchere, 2010).

However, after the global recession in Sub- Saharan Africa (SSA), it was noticed that in 2012, the growth rate of the region was estimated at 4.7%, excluding South Africa, which grew at 5.8%, which was higher than the other developing countries in the region (World Bank, 2013). There was also increased investment flows supporting the region's growth performance, with net private flows increasing by 3.3% in 2012. It was however noticed that foreign and domestic private and public investments have increased, but the flow to Sub-Saharan Africa is still the lowest among developing regions. This could be as a result of political instability and regulatory uncertainty in a number of countries. Overall, the region has grown gradually after the recession of 2008, with it strengthening to 5.2 % by 2015 (World Bank, 2015).

Table 2.1: Automation of African Stock markets as at 2015

Country	CSD	Trading System	Trading Days
Algeria	Electronic	Electronic	1
Botswana	Electronic	Electronic	5
Cote d'ivoire	Electronic	Electronic	5
Egypt	Electronic	Electronic	5
Ghana	Electronic	Electronic	5
Kenya	Electronic	Electronic	5
Malawi	Manual	Manual	5
Mauritius	Electronic	Electronic	5
Morocco	Manual	Electronic	5
Namibia	Manual	Electronic	5
Nigeria	Electronic	Electronic	5
South Africa	Electronic	Electronic	5
Swaziland	Manual	Manual	5
Tanzania	Electronic	Electronic	5
Tunisia	Electronic	Electronic	5
Uganda	Electronic	Electronic	5
Zambia	Electronic	Manual	5
Zimbabwe	Manual	Manual	5
CSD: Central Securities Depository			

Source: International Financial Statistics (2015)

Table 2.1 above shows the automation of some selected African Stock markets as at 2015. The most recent stock exchange to automate its trading system is the Uganda Stock Exchange and the Zimbabwe Stock Exchange, which was done in 2015. The year of automation of each individual countries are Botswana (2012), Cote d'ivoire (1999), Egypt (1992), Ghana (2008), Kenya (2006), Mauritius (2001), Morocco (1997), Namibia (1998), Nigeria (1999), South Africa (1996), Tanzania (2006), Tunisia (1996), Uganda (2015) and Zimbabwe (2015).

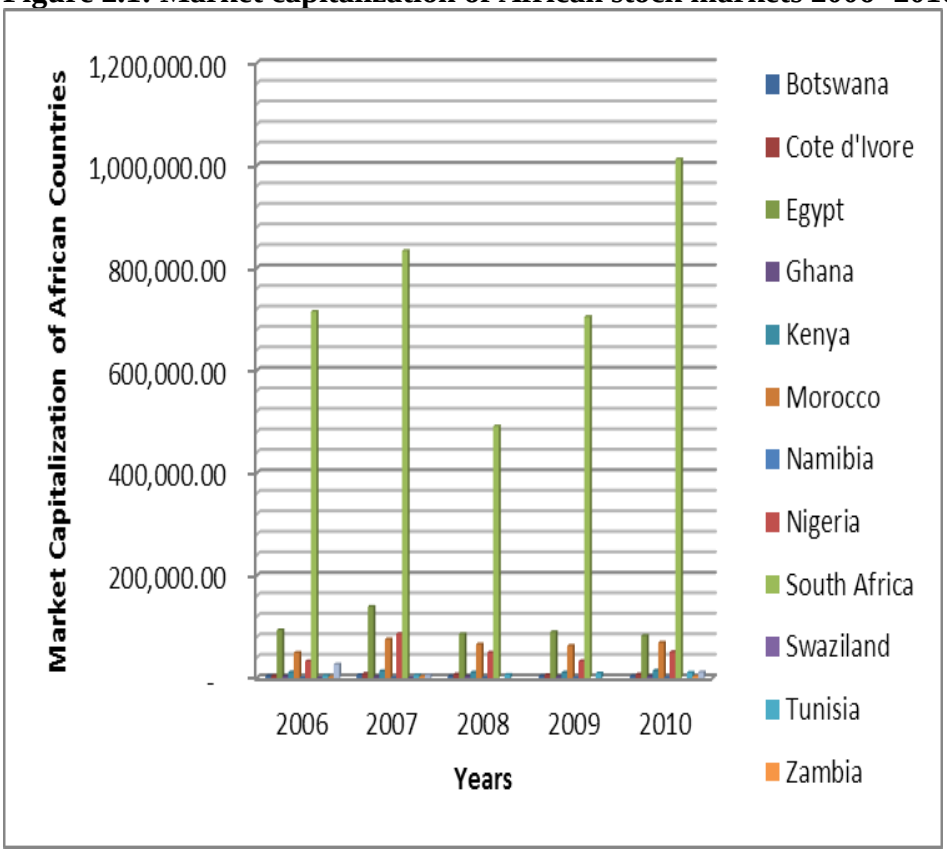
2.2 The Performance of African Stock Markets

The analysis of the performance of stock markets takes into consideration South Africa, Egypt, Nigeria, Ghana, Kenya and Morocco as they account for approximately 90% of stock market activities in Africa (UNDP, 2008). The top ten stock exchanges in Africa by stock capital are, South Africa, Egypt, Morocco, Nigeria, Kenya, Tunisia, BRVM (regional stock exchange of French-speaking countries in West Africa), Mauritius, Botswana and Ghana (World Bank, 2013).

Market Capitalization

As at the end of 2009, African stock markets' capitalization when compared to the global record accounted for just 2% of total capitalization of stock markets (IMF, 2008). In 2008, there was an increase in market capitalization for Ghana, Malawi, Tanzania and Tunisia; and Malawi stock exchange registered the best performance. However, stock market performance improved in 2009 with a majority of stock markets performing positively with the exception of Kenya, Nigeria and Ghana. In 2009, the market capitalization rank was in the following order; South Africa, Egypt, Nigeria, Morocco, Kenya and Ghana. It is important to know that the Market Capitalization figures for Namibia and Botswana only include the Listed Domestic Companies. This is because the two exchanges both have domestic and foreign boards. In this regard, inclusion of the M-Cap of the foreign board will make them rank 2nd and 3rd respectively in Africa. In the period 2013-2015, market capitalization of South Africa, Namibia, Nigeria, Botswana, Egypt and Kenya recorded the highest values in the stock markets in Africa with South Africa recording the highest value followed by Nigeria in 2015 (ASEA, 2015).

Figure 2.1: Market capitalization of African stock markets 2006 -2010



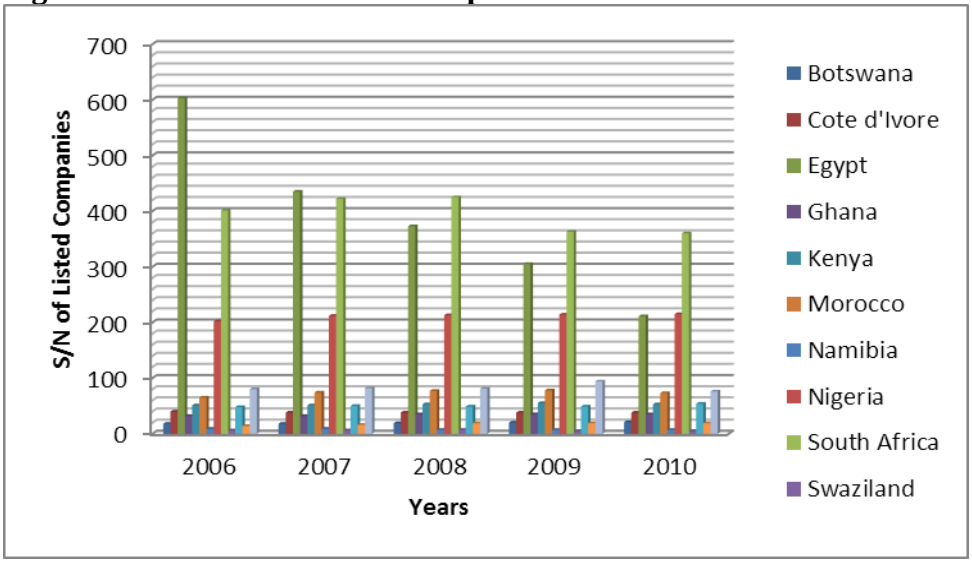
Source: International Financial Statistics (2006-2010)

Number of Listed Companies

When compared to other stock markets globally, the African stock markets accounted for approximately 3% of listed companies as at end of 2009 (African Review, 2013). In this particular year, the net effect of new listings and de-listings was -76 companies. The number of firms listed has declined over the years; even the well established markets of South Africa and Egypt recorded significant drops in the number of firms listed. The South African stock market has the highest number of listings on the continent numbering 396 and accounting for approximately 26% of the total number of listings in African stock exchanges. The Egyptian

Exchange follows with 313 listings (21%) and Nigeria with 216 listings (14%).Therefore, Nigeria ranks 3rd in this indicator of stock market size behind South Africa and Egypt. Consequently, the top six stock exchanges in the Continent, South Africa, Egypt, Nigeria, Morocco and Zimbabwe account for 76% of the total listings on African stock exchanges while the top three exchanges account for 61% of total listings. However, as at 2015, the number of listed companies on the stock exchanges of some of the countries is as follows: South Africa (394), Egypt (251), Nigeria (184), Kenya (64), Namibia (39) and Ghana (38) (ASEA, 2015).

Figure 2.2: Number of Listed companies in African stock markets 2006-2010



Source: International Financial Statistics (2006-2010)

Equity Turnover

In 2008, the most actively traded market in Africa was South Africa because it accounted for over 70% of the entire African stock market turnover. This made it the most liquid stock market in Africa, followed by Egypt, Morocco, Nigeria, Tunisia and Kenya which accounted for 17%, 4%, 3%, 0.5% and 0.2%, respectively. The global equities turnover was approximately USD 113 trillion in 2008 making Africa's contribution to this figure stand at approximately 0.005% (IMF,

2008). In the year 2015, the most liquid stock markets in order of liquidity in Africa were south Africa, Egypt, Nigeria, Kenya and Namibia (ASEA, (2015).

Volume and Turnover ratio

The stock market volume in 2008 was largely dominated by Nigeria which accounted for 61% of total African stock exchanges share volume while South Africa, Egypt and Kenya accounted for 26%, 8% and 1% respectively (IMF). The top four stock markets accounted for approximately 98% of total share volume with the top two accounting for 88% of total share volume. Also, mean turnover ratio was 13.09 % in 2008 (IMF). The markets that registered a higher mean turnover ratio than the African average were: South Africa (55%); Egypt (41%); Morocco (40%); and Nigeria (21%). However, in 2015, the Nigerian stock market was overtaken by the South African stock market, thus, Nigeria became the second stock market that dominated the African stock markets share volume, followed by Egypt, Kenya, Namibia and Ghana (ASEA, 2015).

Profile of African Stock Market

Table 2.2 below shows the operating structures of 18 stock markets in Africa. It can be seen that with the exception of Egypt and Nigeria, all the other stock exchange were established in a single year. For Egypt, 1883 was for Alexandria while 1903 was for Cairo. In the Nigerian case, the Nigerian Stock exchange was established in 1961 and the Abuja Security and Commodity Exchange was established in 2001. From Table 2.2, Egypt was the first stock market in Africa in 1883 followed by South Africa, Morocco, Zimbabwe, Kenya, Nigeria, Mauritius and Botswana was in 1989, Ghana, Namibia, Zambia, Sudan, Malawi and Tanzania in 1996, Mozambique, Uganda and Libya in 2006. It can be seen that all the stock market have regulatory bodies while

the Markets Available ranged from cash, bond, derivatives and equity. It was noticed that different countries traded in different markets. It can be seen that all the markets with the exception of Botswana, Zambia and Mozambique do not operate on cash market basis. The South African market is the only stock market that operates in the derivatives market in the African stock exchange profile while others are just purely cash or cash and bond market. The settlement cycle in the stock market also varied among the countries ranging from T+0 to T+7 with the trading mechanism being of different types which can be seen below.

Table 2.2: Operating Structure of African Stock market

S/N	Exchange	Year Established	Regulator	Markets Available	Settlement	Trading Mechanism
1	SA-BESA	1996	FSB	Cash,Bond and Derivatives	T+3	Short selling and Borrowing(SSB)
2	Botswana-BSE	1989	MOF	Equity and Bond Market	T+4	Day Trading
3	Morocco-CSE	1929	CDVM	Cash and Bond Market	T+3	Online Trading
4	Egypt-CASE	1883 & 1903	CMA	Cash and Bond Market	T+2	Intra-day, Online
5	Ghana-GSE	1990	SEC	Cash and Bond Market	T+3	Intra-day, Online
6	SA-JSE	1887	FSB	Cash and Derivative	T+5	Margin. Intra-day, SSB
7	Sudan-KSE	1994	MOF	Cash Market	T+0	Intra-day
8	Libya-LSM	2006	LSM	Cash Market	T+3	Intra-day
9	Malawi-MSE	1996	RBM	Cash Market	T+5	Intra-day
10	Kenya-NSE	1954	CMA	Cash and Bond Market	T+5	Intra-day
11	Namibia-NSE	1992	NA	Cash and Bond Market	T+5	Intra-day, Margin
12	Nigeria-NSE	1961 & 2001	SEC	Cash and Bond Market	T+3	Intra-day, Online
13	Mauritius-SEM	1989	FSC	Cash and Bond Market	T+3	Intra-day
14	Uganda-USE	1997	CMA	Cash and Bond Market	T+5	Intra-day
15	Zimbabwe-ZSE	1946	ZSE	Cash Market	T+7	Intra-day, SSB
16	Tanzania	1996	CM&SA	Cash and Bond Market	T+5	Online Trading
17	Zambia-LSE	1993	SEC	Bond Market	T+3	Intra-day
18	Mozambique-MSE	1999	MOF	Bond Market	T+3	Online Trading

Source: African Securities Exchange Association Handbook (2015)

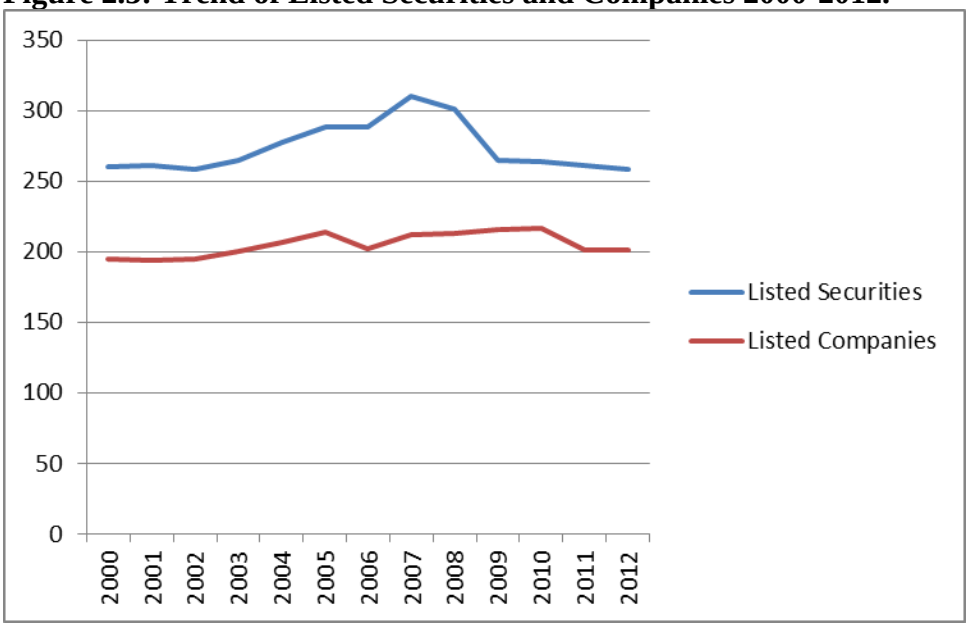
2.3 The Nigerian Stock Market

In this subsection, the performance of the Nigerian stock market is described, focusing on market size, market capitalization, value of stock market transactions and market depth.

2.3.1 Market Size

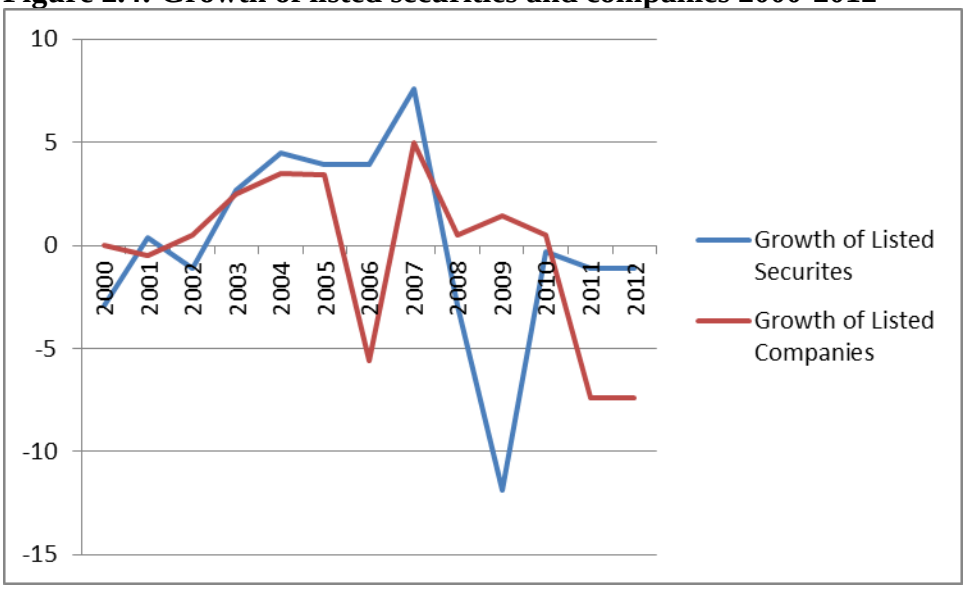
Stock market size is a key determinant and it is very important in measuring stock market performance because of its ability to mobilize funds and diversify investment risk in an economy. The market size could be measured by capturing the number of listed securities, capitalization of both companies and market, market capitalization ratio and their respective growth rates. Observing the trend of the market size of the Nigerian Stock Exchange from the year 2000, it can be seen that in the year 2000, the number of listed companies on the Nigerian stock exchange was 195 and this reduced by 0.5% to 194 companies in 2001. There was an increase to 200, 207, and 214 in 2003, 2004 and 2005 respectively, but declined by 5.6% to 202 in 2006. The listing reached its zenith in the year 2007 when the NSE recorded 309 securities. However, after the global financial crisis, there was a drastic fall which led to a huge decline by 2.9%, 11.9% and 1.1% in 2008, 2009 and 2012, respectively. During the recession, the average number of listed companies on the stock exchange was within the bound 301 and 258. And in 2015, the number of listed companies on the Nigerian stock market was 184. This shows that the market size dropped sharply after the financial crisis and this could be a reason why the performance of the Nigerian Stock Exchange is still below the optimal level.

Figure 2.3: Trend of Listed Securities and Companies 2000-2012.



Source: Nigerian Stock Exchange (2000-2012)

Figure 2.4: Growth of listed securities and companies 2000-2012



Source: Nigerian Stock Exchange(2000-2012)

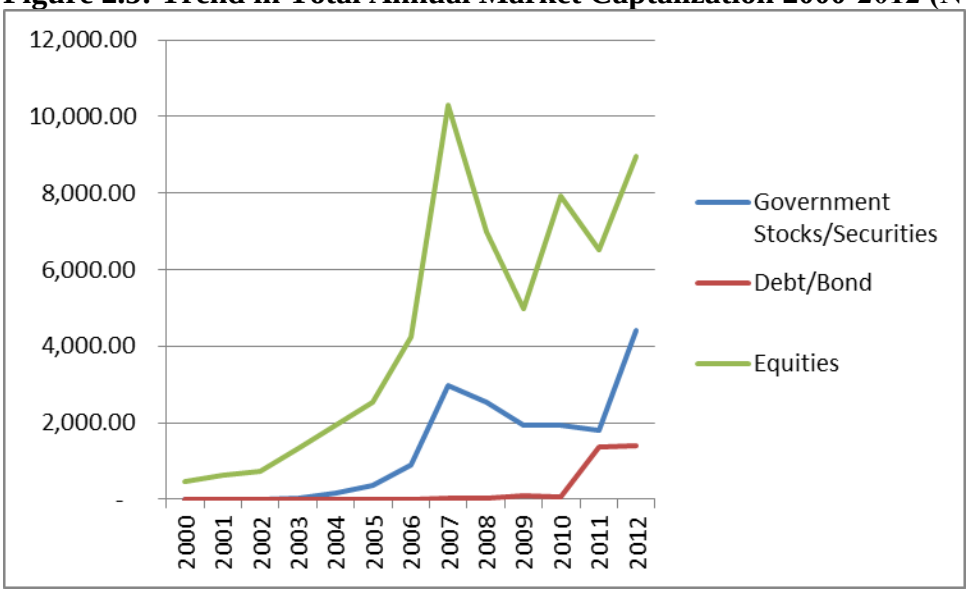
2.3.2 Market Capitalization

Before the global financial crisis, the trend of the market capitalization report showed that it increased from a minimum value of ₦472.30 billion in 2000 to a maximum value of ₦13, 294.60 billion in 2007. Although, as a result of the financial crisis, decline set in from 2008 as the value reduced to ₦ 9,562.99 billion with a negative growth of (28.1%) as against the unprecedented height (159.6%) attained in 2007. Post-financial crisis shows that the values and growth of market capitalization have been on the decline. This can be seen in 2009 where the value of market capitalization dropped to N 7, 030 billion. It, however, picked momentum in 2010 to 2013 growing from N9, 918 billion to N N19, 077 billion with a growth rate of 28.99 % in 2013. It witnessed a negative growth of (12.59%) in 2014 but in 2015, the market capitalization of the Nigerian stock market has started to increase slowly (CBN, 2015). The boom period experienced by the stock exchange was as a result of the bullish attitude of individual and institutional investors and this led to stock price appreciations, making the general public becoming aware of the benefits attached to investments in stocks. In 2016, the confidence of both individual and institutional investors has reduced continually in the stock exchange, and this is a result of economic recession. Other factors that reduced market activities were the flooding of the market with stocks that investors wanted to sell and delisting of dormant companies.

The governing body of the Nigerian stock market intervened in order to strengthen the activities of the market and also to restore investors' confidence and this led to positive changes in market activities in 2010, such as an increase in the All Share index by 18.9%, increase in market capitalization by 58.5% from 2009 to 2010, and trading value increased by 17.0% during the same period. However, at the end of 2011, market capitalization, all Share price index and

trading value declined. In 2015, the Nigerian stock market has witnessed growth, although minimal when compared to its performance before the recession in 2008. From the diagram below, it can be seen that in the Nigerian stock market, equities leads as compared to government securities and the bond or debt market.

Figure 2.5: Trend in Total Annual Market Captalization 2000-2012 (N'billion)



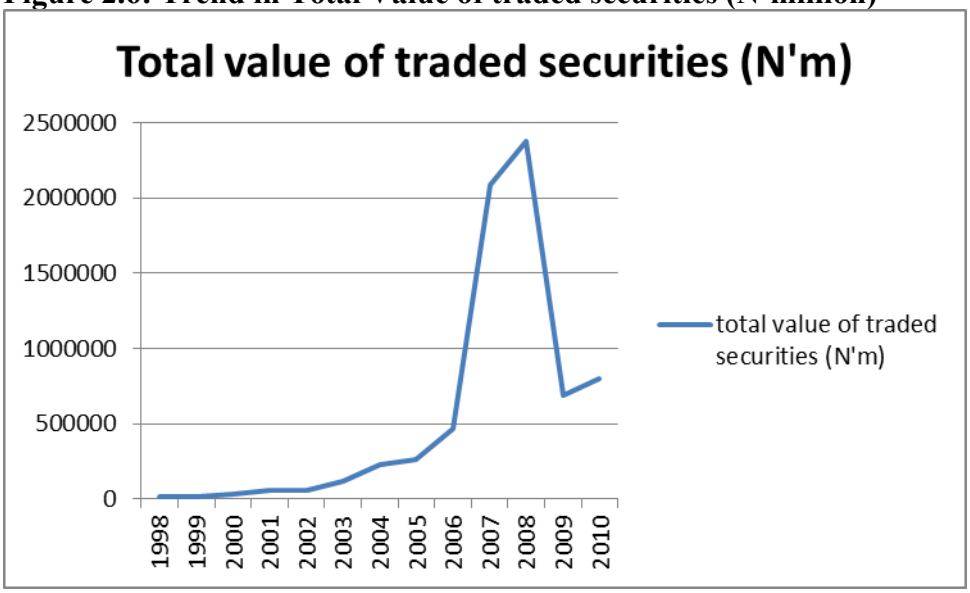
Source: Nigerian Stock Exchange (2000-2012)

2.3.3 Market Depth

Market depth can be defined to include major activities in the market such as the value of securities traded; volume of transactions and the depth which can be measured as the ratio of value traded as a percentage of market capitalization. The Nigerian stock market experienced increase in the value of traded securities in the market between 2007 and 2008, due to the dumping of securities by investors in the market at reduced prices. In 2009, the value of securities traded declined; it, however, started to increase in 2010 as can be seen in the Figure(2.6) below. Although, in 2011, a slight fall was witnessed from N799,911 to N638, 925

million. It started to increase in 2012 with a value of N2, 350,875 in 2013 and it has been on a downward trend after 2013 with a value of N961,221 in 2015 (CBN, 2015).

Figure 2.6: Trend in Total Value of traded securities (N'million)

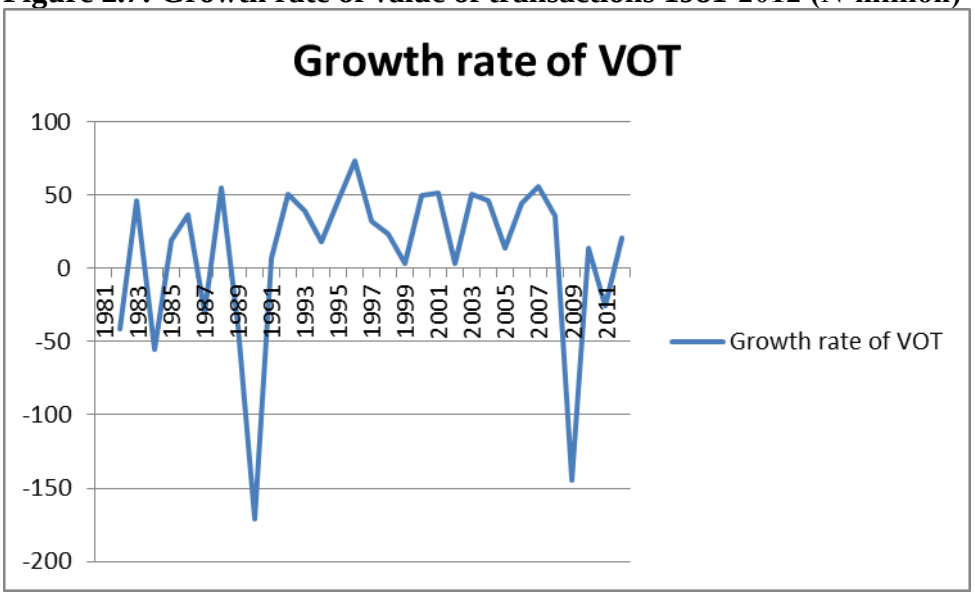


Source: Nigerian Stock Exchange (1998-2010)

Figure(2.7) below shows the growth rate of the value of transaction in the stock market, which has always been fluctuating over time. It can be seen that in the 80's, there was a fall in the growth in 1982, 1984, 1987 and 1989. This could be as a result of political instability and also as a result of the implementation of the Structural Adjustment Program(SAP) in 1987 as it dropped by 23.2% even though there was a noticeable turnaround in the preceding year. Fluctuations were also witnessed in the 90's but it did not generate a negative growth rate. Prior to the recession, in 2002 there was a fall in the volume of stocks traded in the stock exchange compared to the positive growth witnessed the previous year. As the recession set in, the value of transactions traded in the stock exchange dropped sharply with it recording a negative growth rate of 59.16% in the year 2009. In 2011, a negative growth rate of (20.12)% was recorded in the value of transactions on the Nigerian stock market, although a positive change was noticed in

2012 with a 26.61 % growth rate. In 2014 and 2015, it had a negative growth rate of (43.22%) and (27.98%) respectively. It has since not achieved its performance level prior to the recession.

Figure 2.7: Growth rate of value of transactions 1981-2012 (N'million)



Source: Nigerian Stock Exchange (1981-2012)

Although the trend in the market implied an increase in the liquidity of the stock market, the level of liquidity is still low when compared with other emerging stock markets and this leads to increased transaction costs experienced in the Nigerian stock market (SEC, 2009). Therefore, the NSE still faces liquidity problem which has greatly affected the confidence level of investors (SEC, 2009). This could be because of the buy-and-hold attitude of multinational companies, government holdings and uninformed local investors (SEC, 2000), high transaction cost, lack of a functioning derivative market, short trading hours, absence of market makers and short-selling arrangement, no advancement in technology used for exchange (SEC, 2009).

Table 2.3 The Nigerian Stock Market Size: Trends and Growth Rates

Years	Listed Securities		Listed Companies	
	Value (Unit)	**Growth (%)**	**Value (Unit)**	**Growth (%)**
2000	260	-2.9	195	0
2001	261	0.4	194	-0.5
2002	258	-1.1	195	0.5
2003	265	2.7	200	2.5
2004	277	4.5	207	3.5
2005	288	3.9	214	3.4
2006	288	3.9	202	-5.6
2007	310	7.6	212	5
2008	301	-2.9	213	0.5
2009	265	-11.9	216	1.4
2010	264	-0.3	217	0.5
2011	261	-1.14	201	-7.4
2012	258	-1.16	201	-7.4
2013	254	-1.57	190	-5.7
2014	253	-0.39	189	-0.5
2015	257	1.55	184	-2.7

Source: CBN Statistical Bulletin (2000-2015)

In conclusion, it was noticed that most of the major indicators in the stock market exhibited upward movement with the volume, value and number of transactions and index of equity prices. Market capitalization rose sharply from N299.9 billion in 1999 to N472.3 billion in 2000. Trading in equities continued to dominate the market with a total of 4988.3 million shares worth N28,145.0 million, representing 99.8 and 99.9 percent of the aggregate volume and value of shares traded during the year 2000.This reflected the strong performance of the stock market as a result of positive trend in equity prices and improved confidence in the market. Also, the NSE intensified its efforts at internalization of the stock market during the year 2000 by signing memorandum of understanding with the Nairobi Stock Exchange to facilitate cross border listing

of securities[8], and to further improve the market by reduction of settlement time from T+5 to T+3 and a delivery-vs-payment trading regime in line with international standards. It also launched a trade guarantee scheme for the market, which is aimed at arresting the risk of failed trade. The NSE also improved by upgrading the automated trading system, expansion in investors base and consolidation of its global outlook. In 2003, the NSE recorded a significant growth in both new issues and the secondary market during the year. It attracted foreign investors with net purchases in excess of N1.0 billion in 2003 and improved its market infrastructure by completing the upgrade. Therefore, prior to the recession, the stock market was making optimal progress but after the recession, it has not come back to its pre-recession optimal level as can be seen in the recent indices of the Nigerian stock market.

2.4 Fiscal and Monetary Trends in Nigeria

The fiscal policy direction in Nigeria is to encourage investment in specific sectors of the economy, boost public sector revenue, leverage on public sector funding of infrastructure through public-private partnerships (PPP) arrangements, and reduce borrowing. The fiscal policy framework is contained in the Fiscal Responsibility Act of 2007 with focus on macroeconomic stability and growth promotion, sustainability of deficit and debt, increased capital spending in proportion of total spending, and servicing of external debt. The key fiscal policy instruments are taxation and government expenditure.

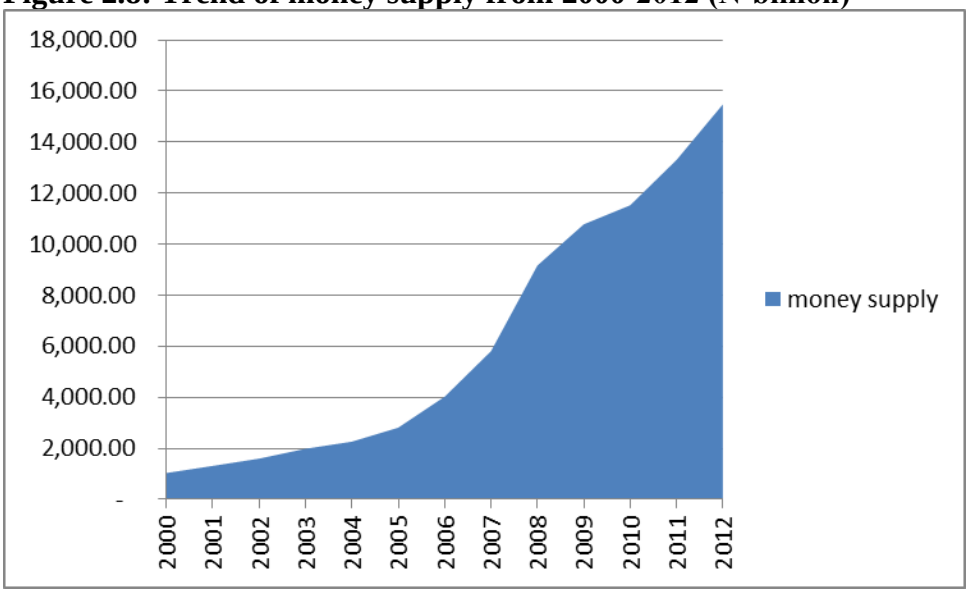
The monetary policy focus of the Central Bank of Nigeria (CBN) is to ensure optimal supply of liquidity to the economy to sustain price stability and non-inflationary economic growth. The CBN's monetary policy framework is a monetary–targeting regime focused on monitoring of

[8] . NSE has earlier signed a similar MOU with Ghana Stock Exchange and Johannesburg Stock Exchange. It also signed with Egyptian Stock Exchange in 2001.

monetary aggregates and inflation developments, liquidity management, fiscal-monetary policy coordination and communication with the market. The CBN enjoys operational but no goal independence in the conduct of monetary policy as conferred on it by the CBN Act of 2007. With regard to policy instruments, the CBN deploys instruments including cash reserve requirement, monetary policy rate (MPR), liquidity ratio (LR), net open position limit (NOP), exchange rate and open market operations (OMO). These instruments are chosen individually or combined by the MPC based on the level of liquidity in the market, the pressure on the exchange rate, effectiveness of the instrument in liquidity management, and the purpose of the monetary policy measure whether it is for signalling or for actual injections or withdrawals.

Figure 2.8 shows that there has been steady growth in both money supply and government expenditure over the years. There was a rise in money supply in 2000 by 48.1 percent over the preceding year and this was as a result of the sharp increase in the foreign net assets of the banking system, especially Central Bank's holdings following favorable developments in the international petroleum market. Developments in the money market continued to be influenced by the high liquidity positions of the banks, while the fall in interest rates stimulated increased activities in the secondary segment of the stock market. In 2001, the growth in money supply was caused by the monetization of excess crude oil receipts, proceeds of GSM licensing fees, savings from previous year and the monetary financing of federal government fiscal deficits. In 2008 after the financial crisis, there was an increase in the growth rate of money supply from 44 percent to 58 percent (CBN Statistical Bulletin, 2009). This was the highest figure recorded for money supply growth in the period considered. This was as a result of the recession experienced and government policy measures were expansionary.

Figure 2.8: Trend of money supply from 2000-2012 (N'billion)



Source: CBN Statistical Bulletin (2000-2012)

Table 2.4: Trend of Government expenditure in Nigeria, (Nm):2000-2015

Year	Recurrent Expenditure (N' Million)	Capital Expenditure (N' Million)	Total Expenditure (N' Million)
2000	461,600.00	239,450.90	701,050.90
2001	579,300.00	438,696.50	1,017,996.50
2002	696,800.00	321,378.10	1,018,178.10
2003	984,300.00	241,688.30	1,225,988.30
2004	1,110,643.60	351,300.00	1,461,943.60
2005	1,321,229.99	519,500.00	1,840,729.99
2006	1,390,101.90	552,385.80	1,942,487.70
2007	1,589,269.80	759,323.00	2,348,592.80
2008	2,117,362.00	960,890.10	3,078,252.10
2009	2,127,971.50	1,152,796.50	3,280,768.00
2010	3,109,378.51	883,874.50	3,993,253.01
2011	3,314,513.33	918,548.90	4,233,062.23
2012	3,325,178.00	874,762.27	4,199,940.27
2013	3,689,045.06	1,108,820.39	4,797,865.45
2014	3,426,110.90	783,796.12	4,209,907.02
2015	3,831,688.95	818,696.37	4,650,385.32

Source: CBN Statistical Bulletin (2000-2015)

The aggregate expenditure of the federal government in 2000 was estimated at N701,050.90 million, indicating an increase of 25.3 percent over its level in 1999. The increase was as a result of higher personnel cost arising from the upward review of emoluments[9] of civil servants and higher allocations to domestic debt service payments. Recurrent expenditure amounted to N461,600 million while capital expenditure was N239,450.9. In terms of economic sectors, recurrent expenditure was applied as follows; economic services 6.5 percent, administration 26.3 percent and transfers 54.5 percent. Similarly, capital expenditure was applied on economic services 46.6 percent, administration 23.3 percent and transfer payments 19.5 percent. The aggregate expenditure of the government in 2001 was N1,017,996.50 million, representing a

[9] Salaries and Allowances

45.2 percent increase over the expenditure of the preceding year. The recurrent expenditure was N579,300 million and the capital expenditure was N438,696 million. We noticed that there has been continuous growth in expenditure but the increase is reflected more in recurrent expenditure than in capital expenditure.

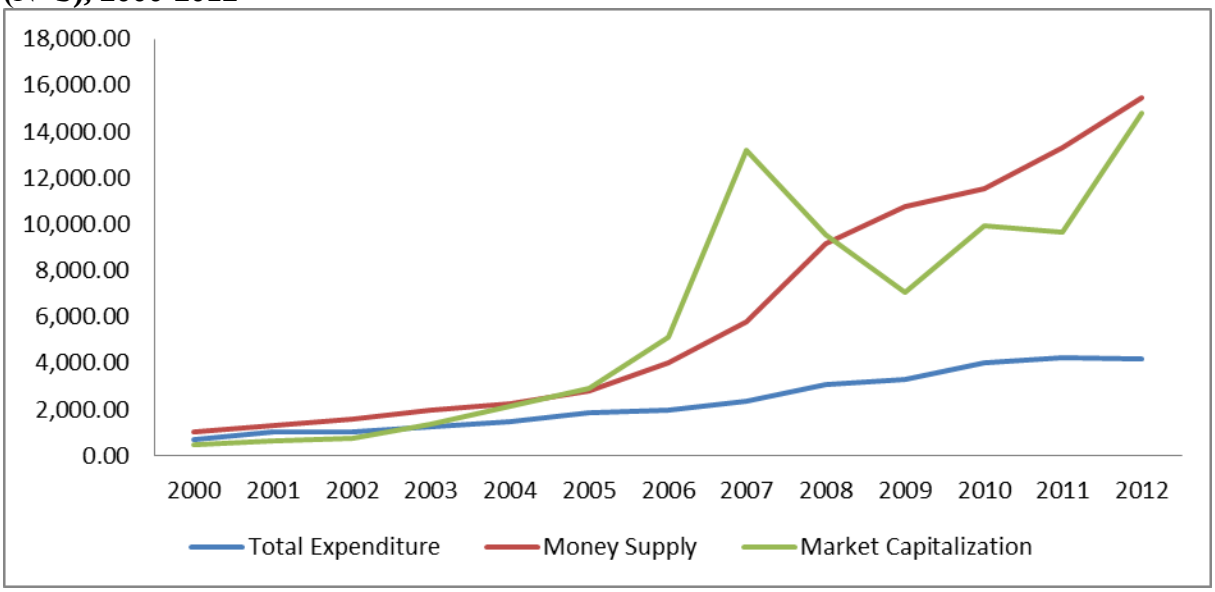
In 2006, fiscal activities which was targeted at boosting infrastructural development responded positively to policy measures as the government's fiscal policy thrust was consistent with the provisions of National Economic Empowerment and Development Strategy (NEEDS), which was targeted at improving the quality of life, empowering the private sector and addressing infrastructural deficiencies (Central Bank of Nigeria, 2006). It was also aimed at wealth creation, employment generation and the achievement of the Millennium Development Goals (MDGs). Consequently, the government budget gave priority to investments in power, water, roads, health, education and national security. The reforms embarked on by the government include in the areas of, taxation such as expansion of value added tax to include more items, rationalizing recurrent expenditure, encouraging public/private partnership, improving infrastructure (ensure reduction of cost of doing business).

2.5 Relationship between Government Expenditure, Money Supply and Stock Market Performance

In order to complement the Tables above, a graphical illustration (See Figures 9 and 10) showing the relationship among the core variables under investigation is presented below . The graph shows that indicators of fiscal policy, monetary policy and stock market activities have been increasing overtime with monetary policy showing stability, with its increasing trend overtime,

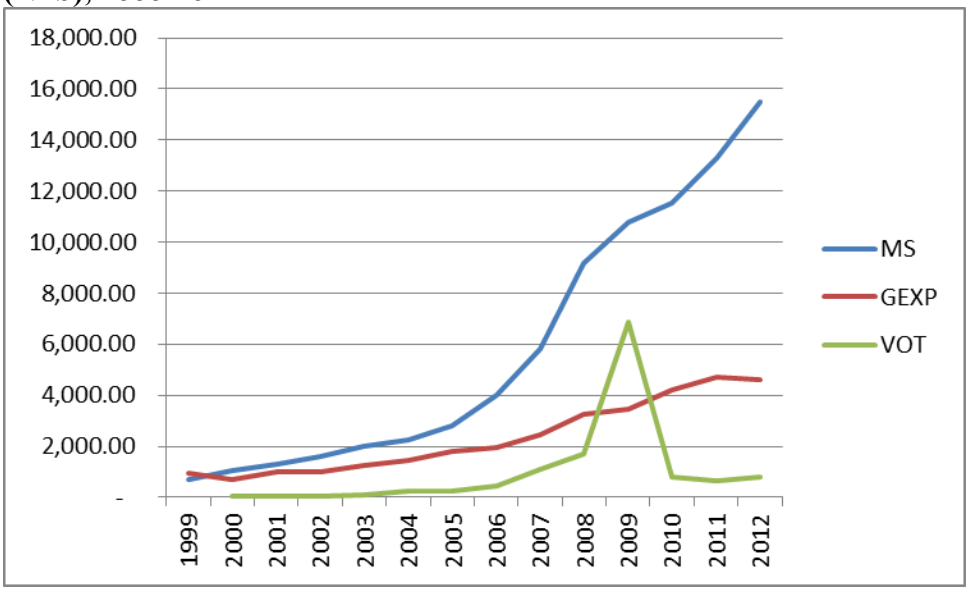
while we have slight swings in government expenditure but intermittent swings in market capitalization but showing decreasing trends after the global financial crisis in 2008.

Figure 2.9: Trend in Government Expenditure, Money Supply and Market Capitalization (N' b), 2000-2012



Source: CBN Statistical Bulletin (2000-2012)

Figure 2.10: Trend in Government Expenditure, Money Supply and Value of Transaction (N' b), 2000-2012



Source: CBN Statistical Bulletin (1999-2012)

The objectives of the Central Bank of Nigeria as written in the bank's monetary policy circular No.35 are to formulate policies, to maintain internal and external balance, as well as contribute to the achievement of sustainable output growth and poverty reduction. This is to be achieved by reducing excess liquidity, sustenance of single digit inflation rate and market based interest rate, maintenance of exchange rate stability, promotion of non-inflationary growth, achievement of balance of payment viability and maintenance of financial sector stability. Yet, the financial system has continued to face the problem of excess liquidity, which has been further aggravated by the expansionary fiscal policy stance of the three tiers of government despite various monetary policy actions taken by the monetary authorities to reduce liquidity expansion.

Also, in 2002 the Central Bank of Nigeria adopted a medium term perspective monetary policy framework for the period 2002-2003, recognizing that monetary policy actions affect the ultimate objectives of policy with a substantial lag. The shift was to minimize the problem of time inconsistency and over-reaction due to temporary shocks. There was excessive growth in money supply in 2002 as induced by the three tiers of government, particularly by the rapid draw-down of the federal government deposits with the Central Bank of Nigeria and the substantial increase in bank credit to the domestic economy.

2.6 Monetary and Fiscal Policies Coordination in Nigeria

Before World War II, government used monetary or credit policy techniques to reduce economic instability and control the economy effectively. The attempt was directly aimed at managing investments and spending through control over interest rates and bank credit stabilization measures through its influence over bank reserves and total money supplied. However, in recession, open market purchase of government bond was adopted as a measure of reducing

excess money in circulation and this led to the assumption that monetary policies were an all cure potion in economic hardship field and gave way to fiscal policies. The introduction of fiscal policies was heavily criticized but it showed potential in fighting unemployment, inflation through articulation, combination and manipulated direction of taxes and government expenditures.

An understanding of monetary policies is important in differentiating between both the fiscal and monetary policies. While monetary policies are geared towards the management of the expansion and contraction of the volume of money in circulation in order to achieve certain national objectives (monetary deals specifically with monetary affairs and credit control), fiscal policies are geared towards economic stability. While monetary policies can be adjusted quickly, the same cannot be done for fiscal policies.

The term coordination refers to the set of arrangement and activities aiming at the identification of a unified framework for monetary and fiscal policies and the introduction of commitments on policy decisions at national levels. It is an agreement to enforce fiscal discipline to avoid any spillover effect caused by irresponsible policies. In many countries, monetary policy has been subservient to fiscal policy, as central banks have often been required to finance public sector deficits. However, the efficient pursuit of the objectives of the authorities overall macroeconomic policy framework requires a close degree of coordination of both fiscal and monetary policies. Such overall objectives must be set on a sustainable course. As monetary and fiscal policies operate in different time frames, with monetary policy adjusting on a continuous basis and economic agents reacting with much shorter lags than in the case of fiscal policy which takes time to adjust and therefore economic agents react with longer lags to such adjustment. Thus,

without efficient policy coordination, financial instability could arise, leading to high interest rates, high exchange rate, rapid inflation and an adverse effect on economic growth.

In Nigeria, Monetary policy implementation is under two broad regimes and they are direct and indirect controls. The direct control method was from 1959-1985. The indirect method was adopted in 1986 when the economy was experiencing hardship and moves were made to eliminate unnecessary economic controls. The Structural Adjustment Program (SAP) was one of the programs that came up to ensure an efficient market system and it brought about a lot of monetary policy changes such as, deregulation in the financial system, removal of interest rate controls, bank licensing liberalization, unification of the foreign exchange markets, introduction of auction market for government securities, upward review of capital adequacy standards, introduction of uniform accounting standards for banks and the empowerment of the central bank to regulate and supervise all financial institutions in the economy.

Macroeconomic policies are designed to achieve the objectives of price stability, balance of payment equilibrium, employment and economic growth. The two key instruments to achieve this are monetary and fiscal policies. Monetary policy is used by monetary authority to control the availability and cost of credit in the economy and this is done through changes in money supply, interest rate and other variables that affect flow of credit in the economy. On the other hand, fiscal policy uses such instruments as government revenue, government expenditure and transfer payments to influence aggregate level of economic activity. There are often conflicts in the fiscal and monetary policies objectives; and therefore there is need for coordination of the two so as to ensure convergence between them. If there is no coordination of policies, it could lead to instability in the economy.

Monetary and fiscal policies coordination in Nigeria was done by fiscal authorities from 1960 to 2001; but the financial sector reforms through legislative means with the support of some agencies occurred in 2004. The members of the agencies are permanent secretary, federal ministry of finance, the Central Bank of Nigeria board of directors and the monetary policy committee (MPC). They meet regularly to enhance coordination of monetary and fiscal policies in Nigeria. Communication between fiscal and monetary authorities is done at various levels: Bilateral communication between heads of the fiscal and monetary institutions and through various formal committee meetings where policy issues are discussed and harmonized. These committees include Monetary and Fiscal Policies Coordination Committee (MFPCC), Cash Management Committee (CMC) and Fiscal and Liquidity Assessment Committee (FLAC). MFPCC meets on quarterly basis, MPC meets bi-monthly and CMC meets every month, while FLAC meetings are weekly.

Interest Rate in Nigeria

Interest rate in Nigeria over the years has played a dominant role as one of the instruments used by the Federal Government in managing Monetary Policy. The Monetary Policy rate was first used in 1962 as an instrument following the introduction of money market instruments. The use of interest rate as an instrument of Monetary Policy was based on two main assumptions:

(i) That the interest rate can influence all other rates in the economy, and

(ii) That the demand for money is interest elastic.

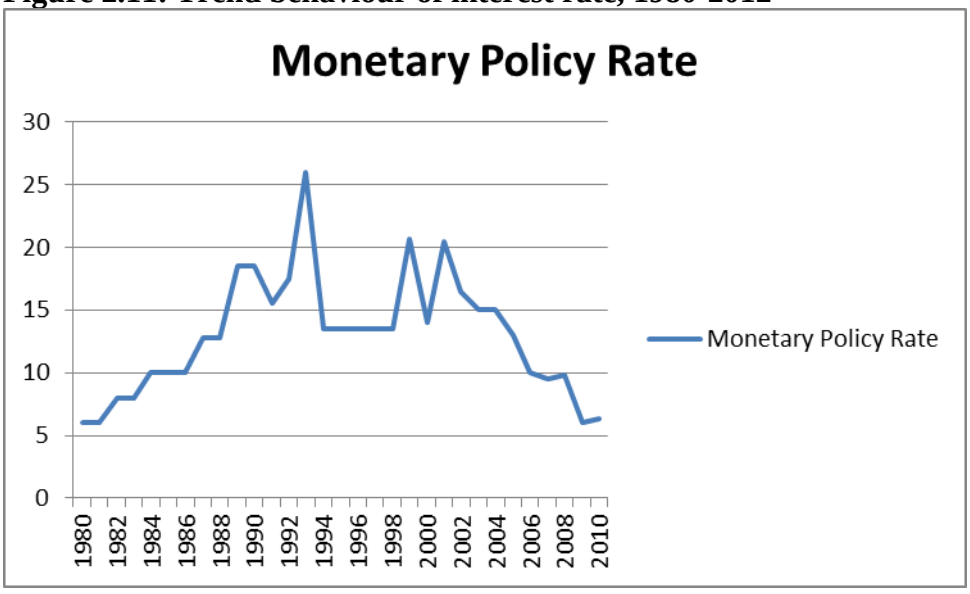
The Structural Adjustment Programme (SAP), which was introduced by the Federal Government of Nigeria in 1986, was a comprehensive economic restructuring programme as it emphasized increased reliance on market forces. In order to pursue this objective, financial sector reforms were initiated by the Federal Government to enhance competition, reduce distortion in

investment decisions and for a sound and more efficient financial system. The reforms focused on structural changes, monetary policy, interest rate administration and foreign exchange management.

In August 1987, the Central Bank of Nigeria (CBN) liberalized the interest rate regime and adopted the policy of fixing only its Minimum Rediscount Rate (MRR). This was however modified in 1989, when the Central Bank of Nigeria (CBN) issued further directives on the required spreads between deposit and lending rates. However, in 1992 partial deregulation was restored and financial institutions were required to only maintain a specified spread between their average cost of funds and maximum lending rates. The removal of the maximum lending rate ceiling in 1993 by the Central Bank of Nigeria (CBN) saw interest rates rising to unprecedented levels and this prevailing high interest rates discouraged investment in the directly productive sectors of the economy, while volatile inter-bank rates undermined the efficacy of open market operations and general stability in the financial system. Thus, based on this, some measures of regulation were introduced in the management of interest rates in 1994. Deposit rates were set at 10.0 – 15.0 percent per annum, while a ceiling of 21.0 percent per annum was fixed for lending. It was however noted that these controls led to negative economic effects and deregulation of interest rate was again adopted in 1996 and it brought about Liquidity glut, high interest rates and volatile inter-bank interest rates which became a permanent feature of the Nigerian economy. In 2006, the CBN announced the replacement of MRR with MPR. The Monetary Policy Rate (MPR) was introduced as an instrument, which might be used to correct the excessive short-term interest rate volatility; especially with the setting of the 7-13 percent corridor. This measure allows the Central Bank of Nigeria (CBN) to actively intervene in the money market to achieve the interest rate target.

In conclusion, the figure below shows the trend of interest rate in Nigeria from 1980 to 2012. It can be seen that there was an upward movement in interest rate between 1980 and 1990 and witnessed a drop in 1991. It however experienced a sharp increase in 1993 and an immediate sharp fall in 1994 (a result of policy change). It has however continued a spiral downward movement from 2001 till 2012.

Figure 2.11: Trend behaviour of interest rate, 1980-2012



Source: CBN Statistical Bulletin (1980-2010)

Exchange Rate in Nigeria

The exchange rate system in Nigeria has been liberalized since 1986 and the flexible exchange rate[10] system was adopted in compliance with the Bretton Woods Agreement. It is argued that flexible exchange rate permits a continuous response to changes in the fundamentals of the economy. The Nigerian economy experienced an oil boom in the 1980's which led to the appreciation of the naira. The Central Bank of Nigeria implemented a system of gradual

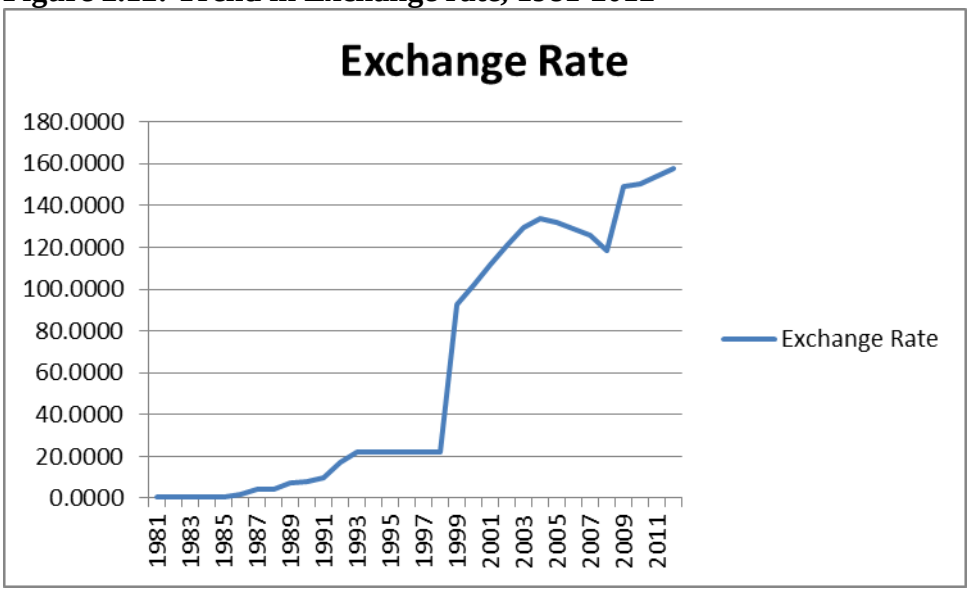
[10] . A flexible exchange rate system is an arrangement in which the interaction of demand and supply forces determines the rate. The flexible exchange rate could be a clean float where there is no government intervention.

appreciation of the naira against the US dollar in an attempt to have a Naira exchange rate that could reflect the Nigerian balance of payments position. In 1986, Nigeria implemented the IMF/World Bank inspired Structural Adjustment Program (SAP) which was a market oriented approach to exchange rate determination. Thus, the second tier foreign exchange rate market (SFEM) was put in place in 1986, which implemented a dual exchange rate system. In 1987, a Dutch Auction System (DAS) was introduced in order to improve the bidding level; however, the SFEM and DAS were replaced by the Foreign Exchange Market (FEM). This was to reduce the multiplicity of the exchange rates and to ensure the depreciation of the currency. In 1989, the Bureau de Change and the Inter-bank Foreign Exchange Market (IFEM) were introduced to the market to cater for the needs of small end-users. In 1990, the IFEM was altered to accommodate the reintroduction of the DAS.

The exchange rate system in Nigeria was deregulated between 1992 and 1993 and this helped with the realignment of the official exchange rate with the exchange rate in the parallel market. The Autonomous Foreign Exchange Market (AFEM) replaced the IFEM in 1994 and it was established to ensure that foreign exchange rate was sold at a market determined price by authorized dealers. In 1999, the IFEM was reintroduced in order to improve inter-bank activities in the market. Although with the exchange rate being deregulated, it continued to depreciate and in order to cope with the demand pressure on the foreign exchange rate as well as the falling external reserves, the Central Bank of Nigeria reintroduced the Dutch Auction System which replaced the Inter-bank Foreign Exchange Market in 2006 and the official and parallel market rates in Nigeria merged.

In conclusion, from the Figure below, it can be seen that from 1993 there has been a gradual depreciation of the naira since the exchange rate system was deregulated. It shows an upward trend with a slight fall in 2008 due to the financial recession. It gradually picked up and continued on its earlier path. For instance, the naira depreciated from N0.6100 in 1981 to N2.0206 in 1986 and further to N8.0378 in 1990. Although the exchange rate became relatively stable in the mid-1990s ranging between N17.22 and N21.88, it depreciated further in 1999 at the start of a democratic regime, to N92.69 and it continued to increase to 2004 with N133.50. Thereafter, the exchange rate appreciated to N132.14, N128.65 and N117.96 in 2005, 2006, and 2007 respectively. The exchange rate appreciated because of high revenues gotten from the high crude oil prices internationally. In early 2009, the Naira depreciated to N148 and it has continued on that path till date. While some have attributed the persistent depreciation to the decline in the nation's foreign exchange reserves, others argued that the activities of speculators and banks are answerable for the recent decline in the value of the naira (Umoru and Asekome, (2013)).

Figure 2.12: Trend in Exchange rate, 1981-2012



Source: CBN Statistical Bulletin (1981-2012)

CHAPTER THREE

LITERATURE REVIEW

3.1 Theoretical Review

This chapter reviews existing literature on fiscal policy, monetary policy and stock market performance. This is done in three subsections vis-à-vis; theoretical, empirical and the overview, which reviews related literature on the topic of concern. This is done to identify and provide an insight on the consensus and gaps in literature.

3.1.1 Stock Price Behaviour

In terms of stock price behaviour, there are five divergent schools of thought and they are, the fundamentalist school, the technical school, the random walk hypothesis school, the behavioural School of finance and macro-economic hypothesis school.

The fundamental analysis approach posits that at any point in time an individual security has an intrinsic value which depends on its earning potential. The earning potential of the security depends in turn on such fundamental factors as quality of management, outlook for the industry and the economy. This implies that the value of a corporation's stock is determined by expectations of investors regarding future earnings and by the rate at which those earnings are discounted. The fundamentalists apply present value principles to the valuation of corporate stock, using dividends, earnings, assets and interest rate to establish the price of stock.

The technical school opposes the fundamentalists' arguments, and claims that stock price behaviour can be predicted by the use of financial and economic data. They submit that stock prices tend to follow definite pattern and each price is influenced by preceding prices, and that successive prices depend on each other. Technical analysts engage themselves in studying

changes in market prices, the volume of trading and investors' attitude (Smith, 1990). This implies that history tends to repeat itself, that is, past patterns of price behaviour in individual securities will tend to reoccur in the future. Thus the way to predict stock prices (and, of course, increase one's potential gains) is to develop a familiarity with past patterns of price behaviour in order to recognize situations of likely recurrence. Essentially, this approach attempts to use knowledge of the past behaviour of a price series to predict the probable future behaviour of the series. That is, the sequence of price changes prior to any given day is important in predicting the price change for that day.

However, both the "technical" and "fundamental" analyses have been challenged by scholars who subscribe to the random-walk hypothesis, which sees stock price movements in terms of a probability distribution of different possible outcome. The random-walk hypothesis is based on efficient market assumption that investors adjust security prices rapidly to reflect the effect of new information. Supporters of the efficient capital market hypothesis argue that stock prices are essentially random and therefore, there is no room for profitable speculation in the stock market.

Several studies have been carried out to independently test the statistical randomness of successive changes in stock prices (Moore, 1962; Fama, 1965; Cootner, 2002, and Nwidobie, 2014). They showed insignificant departures from randomness and were both inconclusive and insufficient. This led to the behavioural school of finance which posits that market might fail to reflect economic fundamentals under the first three approaches (Osisanwo and Atanda (2012). The theory predicts that pricing biases in financial markets can be both significant and persistent under three conditions. The first condition is irrational behavior, which holds that investors behave irrationally when they don't correctly process all the available information while forming their expectations of a company's future performance. The second is systematic patterns of

behaviour, which holds that even if individual investors decide to buy or sell without taking into cognisance economic fundamentals, the impact on share prices would be limited. Furthermore, limits to arbitrage in financial markets ascertain that when investors assume that a company's recent strong performance alone is an indication of future performance, they may start bidding for shares and drive up the price. Some investors might expect a company that surprises the market in one quarter to go on exceeding expectations (Osisanwo and Atanda, 2012).

Lastly, the macroeconomic approach attempts to examine the sensitivity of stock prices to changes in macroeconomic variables. The approach posits that stock prices are influenced by changes in money supply, interest rate, inflation and other macroeconomic indicators. It employs a general equilibrium approach, stressing the interrelations (Fama, 1977; Sneeney and Warga, 1986; Emenuga, 1994). The macroeconomic approach can be linked to the arbitrage pricing theory (APT) which shows that multiple factors can explain stock returns. Chen, Roll and Ross (1986) argue that risk factors (in the APT) arise from changes in some fundamental economic and financial variables such as interest rates, inflation, real business activity, exchange rate among others. Thus, according to the Arbitrage theory, a rise in real interest rate reduces the present value of a firm's future cash flows and causes stock prices to fall. But at the same time, a higher interest rate stimulates the capital inflow, and therefore exchange rate falls. So the real interest rate disturbance may be a factor of a positive relationship between the average level of stock prices and exchange rates. In this regard, the model assumes that macroeconomic variables such as exchange rate can have an effect on the stock market. Thus, the theory of stock price behaviour explained above shows the different schools of thought on how stock prices behave on the stock market which automatically shows the trend in which the market is trending whether positive or negative or whether the market is performing or not.

3.1.2 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) which was developed by Fama in 1965 states that financial markets are efficient or that the prices of traded assets have already reflected all known information about the market, and therefore is unbiased because they represent the collective beliefs of all investors about future prospects of the capital market. This means that when assets are traded, prices are accurate signals for capital allocation. It also implies operational efficiency. Fama (1970, 1976), also supports the operationalization of capital market efficiency and he defines three types of efficiency and they are weak form efficiency, semi-strong efficiency and strong form efficiency. The market is said to be efficient if the information causes no portfolio change. The efficient market approach argues that all past information incorporated in the data which is reflected in current stock returns should have no impact on stock returns. The general equilibrium approach suggests that an investor attempts to hold an equilibrium position among all his assets including money and equities. An exogenous shock that increases the money supply would temporarily disturb this equilibrium until investors substitute money for other assets ,including stocks (Laopodis, 2006).

3.1.3 Neoclassical Theory

The neoclassical exogenous growth theory, also known as the Solow-Swan growth model is based on the basic neoclassical frameworks of long run economic growth. The framework explains growth using four main components; productivity, capital accumulation, population growth and technological progress. This theory states that the long run economic growth is exogenously determined, which implies that economic growth is determined by factors outside the basic model specifications. The basic building block of this theory is the production function which has constant labour (L) and capital (K). The crucial aspect of the production function is

the assumption of diminishing returns of capital accumulation. This means giving labor more capital goods without technological inventions will result in redundant investment of the new capital at a certain point. Another basic assumption of the neoclassical growth model is that there tends to be a convergence to a steady state in the long run depending on the technological progress and rate of labor force growth. This implies that a country that has higher savings than others, will tend to grow faster than those with low savings. However, in the long run, the role of capital accumulation plays a smaller role in this model than technological progress as nations move to the steady state. The neoclassical growth model emphasizes mostly on the importance of technological innovation in the long run growth to offset the effects of diminishing returns that affect both capital accumulation and labor increases in the economy (Aghion and Howitt, 1998).

However, in the Endogenous Growth Theory, economic growth is achieved by internal and not external forces. This implies that households, investing in human capital and innovation play a significant role in the growth of an economy. This theory focuses on the positive externalities and spillover effects of a knowledge based economy which ultimately leads to economic development. It is in contrast to the exogenous growth model which places emphasis on the role of technological progress as a scientific exogenous process that is not determined by economic forces. Thus, the Endogenous growth model posits that growth is a positive function of the investment ratio. This implies that economic growth or a better performing stock market will depend on the government making policies that would embrace openness, competition and innovation (Aghion and Howitt, 1998).

However, the neoclassicals are of the opinion that active fiscal and monetary policy was not needed in the economy, because expansionary policies would cause inflation rather than improve

the economy. This is because of three assumptions; people have rational preferences between outcomes that can be identified and associated with values, individuals maximize utility and firms maximize profits and lastly, that people act independently on the basis of full and relevant information (Greenwald and Stiglitz, 1988). They believe that government policy has a crowding out effect (this is an economic term referring to government spending driving down private sector spending or when government borrowing absorbs all the available lending capacity in the economy)which completely negates any fiscal stimulus. This implies that policies made by government have a crowding out effect for private investors in the stock market and this could drive prices of stocks lower. However, the neoclassical economists put relatively more emphasis on long term growth than on fighting recession because they believe that recessions will fade in a few years and long term growth will ultimately determine the standard of living. They tend to focus more on reducing the natural rate of unemployment caused by economic institutions and government policies than the cyclical unemployment caused by recession. In conclusion, due to the deep and lasting impact of the great depression, it changed the thinking and Keynesian economics, which prescribed active fiscal policy to alleviate weak aggregate demand, became the more mainstream perspective.

3.1.4 Keynesian Theory

Fiscal policy is based on the theories of the British economist John Maynard Keynes, known as Keynesian economics, which states that government can influence macroeconomic productivity levels by increasing or decreasing tax levels and public spending (Keynes, 1936). According to the Keynesian economic theory, they advocate for the intervention of government in the running of the day to day affair of the economy. They posit that fiscal policy can boost aggregate demand

through injection of government expenditure, which would boost the economy and potentially drive the stock prices higher and this will in turn influence the stock market performance. On the other hand, from the market agent‘s perspective, an increase in government‘s budget deficit will reduce the asset market performance, particularly stock and bond prices because they increase interest rates (Vance and Lawrence, 1988). A rise in interest rates, in turn, will reduce investments because of raising the cost of borrowing (as well as consumption expenditure) and eventually dampen economic activities. This implies that higher interest rates and weaker economic activities may worsen further the fiscal capacity and may lead to a vicious cycle (Ioannis, 2011). Thus, the impact of fiscal policy will crowd out the money market and the productive sectors of the economy (Afonso and Sousa, 2009). However, in recession, a fiscal stimulus is a standard Keynesian response to a recession accompanied by reduction in interest rates (monetary policy). The reason is because recessions can be caused by insufficient total demand for goods and services and either tax cuts or increased government spending can increase total demand, and therefore total output and employment. Keynesian economists often argue that private sector decisions sometimes lead to inefficient macroeconomic outcomes which require active policy responses by the public sector, in particular, monetary policy actions by the central bank and fiscal policy actions by the government, in order to stabilize output over business cycles. Thus, in recession, it would be advisable for government policies to be used to bring out the economy from recession and this would have a spiral effect on the stock market which would automatically have a positive effect on the macroeconomy. Also, based on the belief of Keynesian economics that monetary and fiscal policy affects aggregate demand, it therefore implies that monetary and fiscal policies would have an effect on the performance of the stock market because fluctuations in any component of spending; consumption, investment

or government expenditures would cause output to fluctuate. This implies an increase in government spending with all other components being constant would make output increase.

3.1.5 Ricardian Equivalence Theory

The Ricardian equivalence theory (Barro-Ricardo equivalence theorem) posits that government expenditure, notwithstanding however financed, would have no effect on private consumption, and interest rates would depend on some assumptions. The theory suggests that when government tries to stimulate an economy by increasing debt-financed government spending, demand remains unchanged. The theory assumes that individuals internalize both the government budget constraint and the utility of their offspring and that the capital market is efficient; that is, interest rate is the same for borrowers and lenders and that there are no distorting taxes. This implies that economic agents smooth their consumption over the course of their life. Thus, if consumers anticipate a rise in taxes in the future, they will save their current tax cuts to be able to pay future tax rises. This theory is used as an argument against tax cuts and spending increases aimed to boost aggregate demand. The Ricardian equivalence theory has been challenged by several authors arguing, especially because of the unrealistic assumptions on which the theory was based, that he ignored economic and population growth, and that the assumption of perfect capital market hypothesis is invalidated (Buchanan, 1976; Feldstein, 1976).

In the relationship between the Ricardian theory and the stock market, the theory asserts that due to the efficiency of the market, fiscal and monetary policy options have no effect on it. This view is also supported by the stock market efficiency hypothesis, which posits that fiscal policy options have no effect on the stock exchange market activities due to the observation that stock

prices fully reflect all publicly available information (Abakah and Poku, 2016). The implication for both government policies is that it makes both policies redundant. Therefore, in the Ricardian equivalence theory, policies being put in place by government either fiscal or monetary policies have no effect on private investment and therefore would not affect the performance of the stock market. This means that a reduction in taxes accompanied by an increase in fiscal deficit does not trigger growth of consumption and hence has no effect on households' increased savings (Barro, 1989). Thus, in conclusion, the Ricardian model brings about redundancy in the policies and it will have a negligible effect on the stock market.

3.1.6 Tobin's Q theory

The Tobin's Q ratio was devised by James Tobin in 1969; he hypothesized that the combined market value of all the companies on the stock market should be equal to their replacement costs. According to this theory, investment is an increasing function of q where q is defined as the ratio of increase in the market value of the firm as a result of installing new capital to the equipment cost. A value maximizing firm will acquire more capital as long as an additional unit of capital increases its market value than the cost of acquiring the new capital. In this theory, the firm will continue to increase or decrease the capital stock as long as q is greater than or less than one. The q theory relates investment activity to stock market based on the measure of the firm's value. Literaly, the Tobin Q focused on the impact that share prices have on the cost of capital. This is captured by a coefficient which is the ratio of the market value of current capital to cost of replacement capital. When share prices are high, the value of the firm relative to its replacement cost of its stock of capital is also high. This leads to increased investment and thus higher aggregate economic output. This happens because investment would be easier because it requires

lower share offering in a situation of high share price. Tobin's discoveries show that movement in stock prices will be reflected in changes in consumption and investment. He acknowledged the importance of monetary policy and made a notion that expansionary monetary policy affects the economy by changing real rates of return on various assets in a way that decreases the rate of interest used to discount future earnings from current capital. Thus, Tobin's q increases causes an increase in the demand for capital and setting off a prolonged process of investment activities. However, it was concluded that there are no theoretical grounds to support the claim that expansionary fiscal effects on aggregate demand are necessarily transitory (Cukierman, 1984). Tobin in his general equilibrium approach asserts that there is a linkage between stock returns and the real financial sectors of the economy. He depicted how budget deficits and the growth of money could have important impact on the stock market. Tobin further explained that increases in government spending when taxes are constant tend to increase asset returns, inducing investors to invest more in the capital market. However, high capital gain taxes which may result from excessive government spending may discourage investors from actively trading shares which may dampen the liquidity of the stock market (Abakah and Poku, 2016).

3.1.7 Rational Expectation Theory

The theory of rational expectations was first proposed by John F. Muth of Indiana University in the early 1960s and was developed by Robert Lucas. They used the term to describe the many economic situations in which the outcome depends partly on what people expect to happen (Sargent, 2008). The rational expectation theory is an economic idea that the people make choices based on their rational outlook, available information and past experiences. The theory suggests that the current expectations in the economy are equivalent to what people think the

future state of the economy will become and it contradicts the idea that government policy influences people's decisions. The concept of rational expectations asserts that outcomes do not differ systematically from what people expect them to be. This implies that on average, people can correctly predict future conditions and take actions accordingly, even if they do not understand the cause and effect relationships underlying the events and their own thinking. Any error in their decision is usually due to random and unforeseeable causes. Thus, in an open market economy, people will anticipate government actions to stimulate or restrain the economy, and will adjust their response accordingly. Economists who believe in the rational expectations theory base their belief on the standard economic assumption that people behave in ways that maximize their utility or profits (Sargent, 2008). The random walk or efficient market theory of securities' prices, the theory of the dynamics of hyperinflations, the permanent income, life cycle theories of consumption and the design of economic stabilization policies are all building blocks of rational expectations. Lucas used the theory of rational expectations to challenge many orthodox economic assumptions of the 1970s, particularly the theories of John Maynard Keynes and the effectiveness of government intervention in the economy. The assumptions are based on the rational expectations theory, that players in an economy will act in a way that conforms to what can logically be expected in the future. An investor will invest or spend according to what he rationally believes will happen in the future. Thus, we can say that fiscal and monetary policies may be completely ineffective because people change their behavior based on what is expected from the fiscal and monetary authorities.

3.1.8 Monetary Neutrality Theory

The theory of monetary neutrality is a basic proposition in monetary theory. Money is said to be neutral if exogenous changes in the supply of money have no effect on real quantities and real prices. Monetary neutrality theory says that in the long run, the rise in the money supply would not lead to a change in the domestic interest rate. The fact that the increase in the money supply has left output and interest rate unchanged in the long run is referred to as long-run monetary neutrality. The only result of the increase in the money supply is a higher price level, which has increased proportionally to the increase in the money supply so that real money balances are unchanged. Therefore, a condition where changes in money supply affect only nominal variables is known as the neutrality of money. This implies that an expansionary or contractional monetary or fiscal policy instrument would not result in a spillover effect on the performance of the stock market as it does not lead to change in the circulation of money in the economy due to inflationary pressures.

3.1.9 Discounted Cash Flow Theory

The discounted cash flow or present value model offers important insights on the stock market effects of monetary policy changes. According to this model, the stock price is the present value of expected future dividends and it indicates that a change in monetary policy can affect stock returns in a dual manner (Abaenewo and Ndugbu, 2012). First, there is a direct effect on stock returns by altering the discount rate used by market participants and contractionary monetary policy leads to an increase in the rate at which firms' future cash flows are capitalised causing stock prices to decline. The underlying assumptions are that, the discount factors used by market participants are generally linked to market rates of interest and that the central bank is able to

influence market interest rate. Second, monetary policy changes exert an indirect effect on the firms' stock value by altering expected future cash flows. Monetary policy easing is expected to increase the overall level of economic activity and the stock price responds in a positive manner because higher cash flow is being expected (Ioannidis and Kontonikas, 2007). This model generally assumes the existence of a link between monetary policy and the aggregate real economy(Ioannidis and Kontonikas, 2007).

3.1.10 Exchange Rate Theory

The two basic approaches to exchange rate determination are the Flow Oriented Model (Exchange rate movement causes stock price movement) and the Stock Oriented Model (Okpara, 2012). They are classical economic theories that show existence of relationship between exchange rate and stock market. The Flow Oriented Model assumes that the exchange rate is determined largely by a country's current account or trade balance performance. This model says that changes in exchange rates affect international competitiveness and trade balance, which has a spillover effect on real economic variables such as real income and output (Dornbusch and Fisher, 1980). Stock prices, usually defined as a present value of future cash flows of firms, should adjust to the economic perspectives. Thus, flow oriented model posits that a negative relationship occurs between stock prices and exchange rates with causation going from exchange rates to stock prices. The causation can be explained as follows: domestic currency depreciation leads to local firms being more competitive, thus exports becomes cheaper than in the international market. This leads to higher exports, higher incomes and increase in firms' stock prices. In effect, "flow theory" postulates 'unidirectional' causality running from exchange rates to stock prices, or at best, exchange rate 'Granger-cause' stock price and that the relationship is

positive. For the flow-oriented models, the manner in which currency movements influence firm's stock price is a function of the characteristics of that firm (Umoru and Asekome, 2013). However, Stock oriented models (captured in the portfolio balance model) lay more emphasis on the role of capital account in the exchange rate's determination. That is, a rise in domestic stock prices leads to the appreciation of domestic currency through direct and indirect channel (Okpara and Odionye, 2012). In the direct effect, a rise in stock prices encourages investors to buy more domestic assets and simultaneously sell foreign assets to obtain domestic currency for buying new domestic stocks. Described shifts in demand and supply of currencies cause domestic currency appreciation. The indirect channel shows that an increase in domestic assets' prices results in increase in wealth, which leads investors to increase their demand for money, which in turn raises domestic interest rates. Higher interest rates attract foreign capital inflow and initiate an increase in foreign demand for domestic currency and its subsequent appreciation (Branson, 1983; Frankel, 1983). Thus, this shows that a positive relationship exists with causality running from stock prices to exchange rate.

In contrast to "flow oriented" models, "stock-oriented" or 'portfolio balance theory posits that movements in stock prices Granger-cause movements in the exchange rate via capital account transactions. The degree to which stock oriented models explain currency movements is a function of stock market liquidity (Umoru and Asekome, 2013). Accordingly, while the flow theory holds that exchange rate movement causes stock prices to oscillate, the stock theory states that exchange rates are determined by market mechanism. In other words, stock price is expected to affect exchange rate with a negative correlation since a decrease in stock prices reduces domestic wealth, which leads to a fall in domestic money demand and interest rate. Besides, the decrease in domestic stock prices induces foreign investors to lower demand for domestic assets

and domestic currency. These shifts in demand and supply of currencies cause capital outflows and the depreciation of domestic currency. Also, when stock prices rise, foreign investors become willing to invest in a country's equity securities and so, these investors derive paybacks from international diversification thereby inducing capital inflows and an appreciation of the currency (Granger, Huang and Yang, 2000; Caporale, Pittis and Spagnolo, 2002)).

The Portfolio balance approach, postulates that changes in stock prices influence movements in exchange rates through portfolio adjustments (inflows/outflows of foreign capital). The approach believes that an inflow in foreign capital rises as upward trend in stock prices is recorded. However, a decrease in stock prices would induce a reduction in domestic investor's wealth, leading to a fall in the demand for money and lower rates, causing capital outflows and consequently currency depreciation. It also pointed out that, a depreciation of the local currency makes exporting goods attractive, increases foreign demand and hence revenue for the firm and its value appreciates thus leading to increases in stock prices. Conversely, appreciation of local currency reduces the profit for an exporting firm and thereby affects its value of stock price negatively (Jorion, 1991).

Therefore, one can conclude that there is no consensus according to all the theories reviewed above. This can be seen in the effect of fiscal policy actions either through changes in expenditures or taxes, which lead to budget deficits or surpluses which play a significant role in the determination of asset prices. This is because an increase in taxes, with government spending unchanged, would lower expected returns on assets as it would discourage investors from investing in the stock market. Furthermore, increases in government borrowing raise the interest rate in the short term which will lead to lower discounted cash flow value from an asset and thus signals a reduction in stock market activity. However, in the case of high interest rates, it has an

adverse effect on economic activity and monetary authorities might step in to reverse the undesirable situation (and so, monetary policy might interact with fiscal policy). The same can also be seen in the divergent views of stock price behaviour.

3.2 Monetary policy, Fiscal Policy and stock market performance

Monetary policy attempts to stabilize the economy either by controlling interest rates (the cost of money) or the supply of money. A successful implementation of monetary policy requires a fairly accurate consideration of the speed of adjustment and the impact of such policy changes to other components of the economy. The impact of money supply change can be expressed by adjusting an investor's portfolio allocations. Increase in capital changes the balance of a given portfolio. Thus, in order to maximize returns, a rational investor will generate a new balance by investing more in riskier assets. If the supply of a given riskier asset stays unchanged, its price climbs. So, in principle when money supply increases, stock prices follow in the same direction.

The interest rate is the price the borrower pays to use a resource at a given time. This means that the higher the interest rate, the more valuable that resource. Interest rates change the cost of holding cash. When interest rates increase, the borrowing cost rises. Investors will therefore reduce the allocation to the stock market as it is considered to be more risky. Additionally, a higher interest rate generates higher returns on cash deposits. When interest rates decline, investors buy more stocks as they prefer to hold comparatively more profitable investments. Interest rate changes will also affect companies' profitability. Higher capital cost leads to lower expected returns. If the rate adjustment is already expected by investors, based on the efficient market hypothesis, the demand for stocks will not change much. However, if the rate decreases unexpectedly, according to Keynes' liquidity preference theory, people will believe interest rates

will rise in the future, meaning stocks will become cheaper and this leads to a drop in stock markets.

The stock market has various roles to play in connection with monetary policy decision making. This is because the stock market performance is affected to a great extent by innovations in monetary policy through several channels, and it reflects the level of economic development, thus should be taken into consideration in the conduct of policy decisions (Ioannis, David and George; 2011). In this regard, stock market performance may not only respond to monetary policy decisions and affect the economy, but also provide feedback to central banks regarding the private sector's expectations about the future course of key macroeconomic variables (Mishkin, 2001). Monetary policy is likely to have an influence on stock market prices through four mechanisms: First, changes in the money supply may be related to unanticipated increases in inflation and future inflation uncertainty and hence negatively related to the share price. Second, changes in the money supply may positively influence the share price through its impact on economic activity. Third, portfolio theory suggests a positive relationship; an increase in the money supply is likely to shift the portfolio from non-interest bearing money to financial assets, including equities. Finally, changes in the money supply may through the expected rise in inflation lead to a rise in the present demand for shares, and consequently positively influence the shares' prices.

One of the major channels through which monetary policy works in the economy is the interest rate channel. This is the traditional Keynesian view of the transmission mechanism of interest rates. It could be completely described by classical monetarism, as well as in modern literature such as the Keynesian IS–LM (investment saving–liquidity preference money supply) model. Keynes(1936) examined the effects of lowering interest rates on aggregate demand.

Expansionary monetary policy reduces the interest rate. When the interest rate is lower than the marginal productivity of capital, it broadens investment demand until the marginal productivity of capital is equalized to the lower interest rate. The expansion of investment creates an accelerator–multiplier effect, causing aggregate demand to expand. The expanded aggregate demand also reflects in stock market. This expansion of demand for stock market shares puts pressure on prices. In the end, this process leads to increased stock market prices. In other words, lower interest rates will make borrowing cheaper, and this will push up the demand and prices.

The credit channel is an indirect monetary policy transmission channel. It says that the monetary authority can influence the level of investment taking place in a country by altering interest rates. This argument is based upon the fact that the market value of firms is affected by the present value of its future cash flows. Thus, higher corporate investment activity should lead to higher future cash flows, thereby increasing the firm's market value.

An additional transmission mechanism is through the wealth effect, which says that a rise in interest rates will reduce the value of long-lived assets. The exchange rate channel also helps to explain the way in which interest rates may influence stock performance. In particular, higher interest rates will lead to an appreciation of the domestic exchange rate, resulting in higher imports and lower exports, thus having a negative effect on the competitiveness of the country, leading to a reduction in business activities, which will eventually lead to lower asset prices.

Lastly, the exchange rate channel also transmits to the stock market; however, it can be seen from two views. One view opines that when the domestic currency depreciates against foreign currencies, export product prices will decrease for foreigners and, consequently, the volume of the country’s exports will increase (Fama 1981). This would benefit companies whose products’

markets are overseas, which will be reflected by an increase of their stock price. On the other hand, currency depreciation will increase the importing expenditures of raw materials for domestic manufacturers, which is expected to have a negative impact on their cash flow and on stock prices. Thus, the net effect of the exchange rate variation on stock prices is undetermined.

The Keynesian total expenditure model says that spending by government brings about increase in the output in the economy both at the business level and the economy as a whole and also provides short term stimulus to help reduce a recession or depression. The Ram's (1986) Growth Accounting Model also suggests that government expenditure generally affects economic growth and performance in a favourable manner through a positive externality effect on growth.

Government expenditure has an impact on the stock market through its effect on the decisions and activities of the private sector firms and households. All things being equal, the turnover of firms which enjoy high government patronage, may experience a boost, which could translate into enhanced profitability and impressive dividends for the shareholders of the firms (depending on the level of the firm's expenses and its dividend policy). Improved profitability and impressive dividends enhance the attractiveness of firms listed on the stock exchange, and drive up demand for them on the trading floor. This drives up the stock price and the market capitalization of the firms, and hence, the market capitalization of the entire stock exchange, as well as the value of transactions, given that the market is functional and efficient (Aigheyisi and Edore, 2014).

Government expenditure can also affect stock market in terms of income (wages and salaries) of government employees. Government employees may invest part of their income in stock market securities, depending on their perception of the market, expectation of returns on investment and the rate of return on alternative investment. Wages and salaries constitute part of government

recurrent expenditure. If workers perception of the stock market is favourable, and expectations of superior returns on investment therein are high, that could increase their participation in the market, leading to increase in stock market transactions.

3.2.1 Fiscal and monetary policies interactions

Fiscal policy and monetary policy are the two tools used by the government to achieve its macroeconomic objectives. While for many countries the main objective of fiscal policy is to increase the aggregate output of the economy, the main objective of the monetary policies is to control the interest and inflation rates. The IS/LM model is one of the models used to depict the effect of policy interactions on aggregate output and interest rates. The fiscal policy has a direct impact on the goods market and the monetary policy has a direct impact on the asset markets; since the two markets are connected to each other through the two macroeconomic variables, output and interest rates, the policies interact while influencing output and interest rates (Jose, 2010).

Traditionally, both policy instruments were under the control of the national or federal governments. Thus traditional analyses were made with respect to the two policy instruments to obtain the optimum policy mix of the two to achieve macroeconomic goals, lest the two policy tools be aimed at mutually inconsistent goals. But recently, owing to the transfer of control with respect to monetary policy formulation to central banks, formation of monetary unions (like European Monetary Union formed via the Stability and Growth Pact), and attempts being made to form fiscal unions, there has been a significant structural change in the way in which fiscal and monetary policies interact (Jose, 2010).

Thus leading to a dilemma as to whether these two policies are complementary, or act as substitutes to each other for achieving macroeconomic goals. Policy makers are viewed as interacting as strategic substitutes when one policy maker's expansionary (contractionary) policies are countered by another policy maker's contractionary (expansionary) policies. For instance, if the fiscal authority raises taxes or cuts spending, then the monetary authority reacts to it by lowering the policy rates and vice versa. They are seen as strategic complements, when an expansionary (contractionary) policy of one authority is met by expansionary (contractionary) policies of the other.

The issue of interaction and the policies being complements or substitutes for each other arises only when the authorities are independent of each other. But when, the goals of one authority are made subservient to those of the other, then one authority solely dominates the policy making and no interaction worthy of analysis would arise. It is equally worthwhile to note that fiscal and monetary policies interact only to the extent of influencing the final objective. So, if the objectives of one policy are not influenced by the other, then there is no direct interaction between them. This is why there has been substantial interest in understanding the policies. This has led to theoretical literature focusing on using tools of game theory while empirical literature focuses on complementarity and strategic substitutability of both monetary and fiscal policies (Ioannis et al, 2011). The complementarity between the policies can be through government expenditure which is financed primarily from taxes and borrowing and this could lead to inflationary pressure on the economy and thus, leading to contractionary monetary policy and a slowing down of the growth of the economy (Ioannis et al, 2011). This could lead to rendering

the monetary policy ineffective as a result of government decisions. Therefore, it is important to allow for interaction of both policies and assess their impacts on the performance of the market.

3.2.2 Theoretical Effect of government policies on stock market

The adjustment of the stock market to changes in policy, whether monetary or fiscal, depends on whether the change is anticipated or unanticipated (Bernanke and Kuttner, 2005). In the anticipated monetary policy case, the announcement of the expansionary monetary policy to be pursued itself has a positive effect. The stock market jumps at the time of announcement in anticipation of higher profits and interest rates reduces after implementation. Output and spending also increase during the period before implementation. Additionally, real short-term rate declines as a result of a higher expected price level. However, at the time of implementation, the principal effect of the policy is a further decline in the short-term rate due to higher real balances, as the stock market does not react. After implementation, the behaviour of the economy is qualitatively similar to the case of an unanticipated increase. In the unanticipated monetary policy case, there are two principal effects of the change in monetary policy, the real balance effect and the "Mundell effect" (Bailey, 2001). The first effect results in higher real balances, as prices cannot instantaneously adjust to the increase in nominal money. The Mundell effect works through the mechanism of higher expected prices (inflation) due to the monetary expansion, which decreases the real rate of interest, given the nominal rate. Hence, both effects work to lower the real rate of interest. Consequently, on the reduction of the real rate, there is an anticipation of a higher level of profits, which results in an increase in the value of the stock market. In the short run, it is expected that output will also begin to increase as a result of the expansion in money. With an anticipated fiscal expansion, the effect on the stock market may be

ambiguous (Bailey, 2001). The announcement of fiscal expansion may have a perverse effect on the stock market and output even before the policy is implemented. If it is expected that a change in fiscal policy will result in an increase in short term interest rates after the policy is implemented, then the stock market value will fall at the time of announcement. The decline in stock market value results in a decrease in private spending and therefore a decline in output. Conversely, if it is anticipated that consumption and profits will increase as a result of higher future government spending, then fiscal policy may instead have a positive impact on the stock market. In this case, higher spending more than offsets the anticipation of higher interest rates and thus facilitates the stock market rise. The ultimate response of the stock market will depend on how the increase in expenditure is financed. If it is debt-financed, then higher real interest rates cause the stock market to fall. In the case where the expenditure is financed through taxation measures the negative impact on the stock market may be somewhat muted (Bailey, 2001). In the case of an unanticipated fiscal expansion the impact is also somewhat imprecise and is similar to the anticipated case. An unexpected increase in government expenditure, which results in an increase in the short-term rate, causes the value of the stock market to fall. Spending increases as a result of the higher public spending but output does not adjust immediately to the change in policy and increases slowly over time. The adjustment of the stock market and output is therefore slower than in the anticipated case. Again, the impact will depend on which of the two effects dominate: spending and rising output or higher interest rates. In summary, the effect of a change either in anticipated and unanticipated policy, fiscal or monetary, is a discrete change in the stock market due to the change in the anticipated sequence of profits and interest rates. Whether policy is anticipated or unanticipated is important as an announcement itself can lead to a change in profits and interest rate. The change in the stock market and output precedes the

implementation of an anticipated policy change, so that at actual implementation the policy may have little apparent effect. In the unanticipated case, the stock market and output react and reflect immediately the effects of the policy change.

3.3 Empirical Review

3.3.1 Fiscal policy and Stock market performance

Anghelache, Jakova and Oanea (2016) analysed the relationship between fiscal policy and capital market performance in six European countries, using quarterly data from 2004 to 2015. The variables used were government expenditure, government revenue and capital market returns, using the least square method. They found that there is a bilateral relationship between fiscal policy and capital market performance for Czech Republic and Slovakia. In Bulgaria, they found that fiscal policy affects the capital market returns, while in Poland, they obtained that the capital market returns affect the fiscal policy. However, for the other two countries, Hungary and Romania, no significant influence was found between the variables.

Abakah and Poku (2016) studied the causality between real budget deficits and the real stock market returns in Ghana using monthly data from 2008 to 2015. The variables used were real budget deficit and all share index, using the VAR framework. They found a significant positive relationship between real stock market returns and real budget deficit. There was also granger causality between budget deficit and stock in a unilateral direction.

Joshi and Giri (2015) examined the impact of fiscal deficits on the performance of stock market in India using annual data from 1988 to 2012. The variables used in the study are stock index of Indian Stock Exchange, fiscal deficit as a ratio of GDP, money supply, consumer price index and interest rate using the Auto Regressive Distrributed Lag (ARDL) bound test and the Vector Error

Correction Model. The ARDL result shows a long run negative relationship between budget deficit and stock prices and no significant relationship in the short run. The stock price movement in the long run is mostly explained by shocks on fiscal deficits in the variance decomposition results.

Rangan, Charl and Kanyane (2013) studied the interplay of fiscal policy and asset prices using quarterly data from 1966 to 2012. The variables used were stock prices, house prices and government budget balance using the time varying parameter VAR. They found that fiscal expansions were associated with slightly increased stock prices. Fiscal shocks had a small impact on asset prices. Also, fiscal policy and asset price shocks have varying impact over time.

Osahon and Oriakhi (2013) investigated the effects of fiscal deficits on stock prices in Nigeria using annual data from 1984 to 2010. They made use of the Vector Auto Regression (VAR) and Error Correction Mechanism (ECM) on variables such as stock prices, fiscal deficit, money supply, interest rate, volume of transactions, inflation rate and private consumption expenditure. They found that fiscal deficit has a negative relationship to stock prices. They said that in order to maintain a robust stock market, authorities are expected to de-emphasize monetary financing of fiscal deficits in preference for bond-financing, since it promotes the problem of inflation in the economy and also depresses stock prices.

Goodness et al (2012) did a study on fiscal policy shocks and the dynamics of asset prices using South Africa as a case study. The sign restriction was used to identify government revenue and spending shocks. They identified three types of fiscal policy scenarios, a deficit financed spending increase, a deficit financed revenue cut and a balanced budget spending increase. The quarterly data was used ranging from 1966 to 2011 using real household consumption, real non-

residential investment, real GDP, total government expenditure and revenue, real wage, treasury bill and the CPI, using the Bayesian Vector Auto Regressive [BVAR] estimation technique. The study found that deficit spending shock does not affect house prices but temporarily exerts positive effects on stock prices. Furthermore, fiscal policy shock affects stock prices in the short run; monetary policy exerts a more direct effect on asset; markets and contractionary monetary policy shocks lower the real stock price index.

Faiza, Yasir, Farhan, Kamran and Saba (2012) examine the relationship between budget deficits and stock prices in Pakistan using yearly data from 1990 to 2010. The variables used in the study were budget deficit and stock prices using the cointegration and causality test. They found that high developmental expenditure in Pakistan is the reason for long term positive causal relationship between budget deficit and stock prices and in India a long term negative relationship is observed due to high recurrent expenditure.

Agnello and Sousa (2011) examined the effect of fiscal policy on asset prices by using a Panel Vector Autoregressive model (PVAR) of ten developed countries using quarterly data. They found that a contractionary effect of fiscal policy leads to a crowding out effect and that there is an immediate temporary negative response of stock markets performance to fiscal policy shocks.

Mountford and Uhlig (2008) conducted their study on the effects of fiscal policy shocks using the Vector Autoregressive approach (VAR). They also used sign restriction in identifying government revenue and government spending shocks, controlling for business cycle and monetary policy shock using the US quarterly data from 1955 to 2000. They identified three types of fiscal policy scenarios, a deficit financed spending increase, a deficit financed revenue

cut and a balanced budget spending increase. They found that deficit financed tax cuts work best among the three and led to an improvement in GDP.

Jansen, Zijun and Jian (2007) examined the role of fiscal policy on the United States asset market using monthly data from July 1954 to December 2005. The variables used were stock price index, corporate bond yield, Treasury bond yield, federal fund rate, industrial production, consumer price index and budget deficit using a semi parametric analysis as estimation technique. They found that the impact of fiscal policy on corporate and Treasury bond yields follows a similar pattern in the equity market, while the impact of monetary policy on the stock market varies depending on fiscal contraction or expansion. The results were consistent with the notion of strong interdependence between monetary and fiscal policies.

Unro (2004) investigates whether the U.S stock and corporate bond markets are informationally efficient with respect to fiscal policy using monthly data from 1969 to 1998. The variables used are corporate bond returns, stock returns, dividend yield, terms structures, default spread and treasury bill. The study found that stock capitalization and bond excess returns fully capture information on fiscal and monetary policies in the United States during the period investigated which marked the period of persistent budget deficit.

Jose and Rossen (2003) analysed the effects of taxes and government spending on stock market returns, government bond and corporate bond in the US using quarterly data spanning from 1960 to 2000. They found that an increase in government spending has a positive effect on expected returns, but the effect is statistically significant only for bonds at short horizons. When fiscal and monetary policies are jointly identified, their results remain qualitatively unchanged, and that fiscal policy and monetary policy are important sources of return variability.

Alesina, Silvia, Roberto and Fabio (2002) evaluated the effects of fiscal policy on investment using 18 countries from the period 1960 to 1996. The variables used are business investment, indirect tax, direct tax, labour tax, goods, wage component of government spending, transfers, total revenues, primary spending and labour costs using the vector autoregressive approach. They found a sizeable negative effect of public spending, in particular of its wage component, on profits and on business investment. The effects of government spending on investment are larger than those of taxes. The results explain the non-Keynesian effects of fiscal adjustment.

Darrat (1990) conducted a study to know if changes in the stance of fiscal policy could exert important effects on the stock market and equity returns using monthly data from 1961 to 1987. The variables used were change in real market value of privately held federal debt scaled by real gross national product, percentage change in stock price index using the Akaike final prediction error criterion combined with multivariate granger causality test. They found that fiscal policy plays an important role in determining stock prices in the United States. Also, changes in the stance of fiscal policy have granger caused significant changes in aggregate stock prices. The stock market can be seen as an important channel transmitting the influence of fiscal policy to the real side of the economy.

3.3.2 Monetary Policy and Stock Market Performance

Naoyuki, Farhad, Ali and Ahmad (2014) examined the response of Asian stock market prices to exogenous monetary policy shocks using quarterly data from 1998 to 2013. The variables used in the study stock index, gross domestic product, monetary base, exchange rate and the consumer price index using the Vector error correction model. They found that monetary policy transmits to stock market price through three routes, money by itself, exchange rate and inflation. Also that

stock price increases persistently in response to an exogenous easing monetary policy. A large percent variance in stock prices can be explained by exogenous shocks to exchange rate.

Chude and Chude (2013) investigated the effect between money supply and stock market returns using yearly data spanning 1980 to 2012. The variables used were all share index and money supply. They found that there exists a long run relationship between money supply and stock market returns in Nigeria; which results into a small but positive effect of money supply on stock market performance.

Dewan (2013), in his study of econometric analysis of the impact of monetary policy on stock market performance in Bangladesh, investigated the effect of monetary policy variables on its stock market using monthly data from January 2006 to July 2012. The variables used in the study are DSE index, money supply, repo rate, inflation rate, three-month treasury bill using econometric analysis such as cointegration, error correction model and the granger causality. He found that, money supply, inflation and treasury bill rate have a positive impact while repo rate has a negative impact on the market index. Monetary target variables like money supply, inflation rate and deflation rate have significant bearing on the long run movement of stock prices and that proper coordination between capital market and money market regulators are of paramount importance in order to properly integrate their policies for achieving economic sustainability.

Okoli (2012) ascertained the relationship between volatilities in the monetary policy variables and volatilities in the stock market using data spanning the period 1980 to 2010. The variables used were all share index, monetary aggregates, interest rate and exchange rate using the GARCH and VAR method of estimation. The study found that exchange rate policy has a

negative effect on stock market volatility. Furthermore, a stabilizing interest rate will reduce volatility in the stock market; and that international factors have no effect on stock market returns in Nigeria. Therefore, government policy should focus on exchange rate to stabilize the stock market and investors should also consider the nature of volatility in exchange rate before making investment decisions.

Aliyu (2012) assessed the reaction of the Nigerian Stock Exchange to monetary policy innovations during the global recession. He used the new classical macroeconomics and the rational expectation hypothesis theory in the study, using monthly data from 2007 to 2011. The variables used were monetary policy rate (MPR), all share index, unanticipated and anticipated monetary shock using the GARCH and the EGARCH model. He found that the unanticipated component of policy innovations on M2 and MPR exerts destabilizing effect on the stock returns, whereas the anticipated component does not and this supports the Ricardian Equivalence hypothesis.

Babak, Navid, Shahriar and Roza (2012) examined the relationship between monetary policy and stock market performance in Malaysia using quarterly data from 1991 to 2011. The variables used were stock price index, interest rate and monetary aggregates using the VECM estimation approach. They found that a long run relationship among the variables. The VECM revealed statistically significant relationship between M1 and M2; and that M1 and M2 have long term influence on stock index.

Obonye and Jonah (2011) investigated the impact of monetary policy shocks on stock returns using quarterly data for Botswana from 1993 to 2010 using a standard Vector Auto Regressive (VAR) technique. The variables used in the study are world oil prices, real GDP, inflation rate,

real exchange rate, short term interest rate and real stock returns. They found that positive interest rate innovations are associated with increase in the aggregate stock returns. The variance decomposition shows that monetary policy shocks explain a relatively small proportion of stock returns variability.

Chaiporn and Yaowaluk (2011) attempted to evaluate the impact of monetary policy decisions on stock returns in Thailand using monthly data from January 2003 to December 2009 using the event study approach. They found negative and significant abnormal returns around the repurchase rate announcement in our event studies. Also, stock market response to the repurchase rate change is asymmetric. The relationship between stock prices and change in repurchase rate is negative for both the market and firm level. Monetary policy announcement has a negative effect on stock prices.

Ogbulu and Uruakpa (2011) investigated the link between monetary policy and stock prices in the Nigerian capital market using quarterly data from 1982 to 2011. They employed the use of cointegration, error correction mechanism, impulse response and granger causality using variables such as broad money supply, interest rate, foreign exchange rates and inflation. They found a long run relationship among the variables. Furthermore, money supply has a positive and significant impact on stock prices while interest rate shows a weak relationship with stock prices. They also found that own shocks from stock prices are the dominant source of variations in the forecast error decomposition.

Kontonikas, MacDonald and Saggu (2010) examined the impact of federal funds' rate surprises on stock returns in the United States using quarterly data from June 1989 to December 2009. The variables used are federal funds' rate, futures contract, S and P returns. They found that prior to

the crisis, stock prices increased as a response to unexpected federal funds rate cuts. State dependence is also identified with stocks exhibiting larger increases when interest rate easing coincided with recession, bearish stock markets and tightening credit market conditions. However, during the crisis, the stock market participants did not react positively to unexpected federal funds' rate cuts and the conventional monetary policy measure was ineffective.

Okpara (2010) analysed the effect of monetary policy on the stock market returns in Nigeria using monthly data for the period 1985 to 2006. He adopted the two-stage least square method, VECM and the forecast error decomposition analysis approach using stock market returns, inflation, interest rate, treasury bill rate, minimum rediscount rate. He found that monetary policy is a significant determinant of long run stock market returns in Nigeria while high Treasury bill rate reduces stock market returns. The variance decomposition shows that the predominant sources of returns are due largely to stock returns shocks and interest rate shocks.

Hafedh, Badye and Normadin (2010) empirically investigated the response of stock returns to monetary policy shocks using monthly data from November 1982 to November 2007, using nominal stock returns, interest rate, inflation rate and the Structural Vector Autoregressive (SVAR) approach (conditional hetero-elasticity). They found that stock returns do not respond to monetary policy shocks and that stock returns do not alter the transmission mechanism of monetary policy. In other words, monetary policy does not systematically react to stock returns.

Ajie and Nenbee (2010) examined the relationship between monetary policy and stock prices in the Nigerian Stock Exchange market using annual data spanning 1986 to 2008. The variables used to capture monetary policy are money supply and interest rate. The method used in analysis was the cointegration and error correction model. They found that both money supply and

interest rate affect stock prices in Nigeria. They concluded that monetary authorities should formulate policies that will reduce the rising pace of inflation to encourage availability of investible funds for investors.

Gregoriou, Kontonikas, Macdonalds and Montagnoli (2009) examined the impact of anticipated and unanticipated interest rate changes on the aggregate and sectoral stock returns in the United Kingdom using three-month sterling LIBOR futures contract from June 1999- March 2009, using the ordinary least square (OLS) and the Generalized methods of moments (GMM). They found that both expected and unexpected components of monetary changes impact significantly on stock returns. Before the financial crisis, the stock market responds negatively to higher interest rate, the stock returns-interest rate change relationship becomes positive during the credit crunch. It shows that highly expansionary monetary policy has not been able to reverse the negative trend in stock prices.

Bjornland and Leitemo (2009) estimated the interdependence between US monetary policy and stock market employing a VAR methodology that used both short-run and long-run identification scheme to examine the relationship between monetary policy and asset prices. Their findings indicate that there is substantial simultaneous interaction between the interest rate setting and shocks to real stock returns in the US. This implies that just as monetary policy is important for the determination of stock prices, the stock market is an important source of information for the conduct of monetary policy.

Ioannidis and Kontonikas (2008) investigated the effect of the monetary policy on stock returns in 13 OECD countries over the period 1972-2002. The stock market variable was regressed on the monetary policy variable and found that stock returns decrease when money supply

decreases. Their findings imply that monetary policy shifts have significant negative effect on both nominal and inflation-adjusted stock returns.

Konstantin, Montagnoli, Napolitano and Siliverstov (2008) conducted a study to assess the response of the European stock markets to the monetary policy shocks by the European Central Bank using the heteroskedasticity based approach of Rigobon (2003). The interest rate was used as a proxy for monetary policy shock from the period 1999 to 2008 using both the event study methodology and the heteroskedasticity approach. They found that monetary policy contraction has a heterogeneous impact on the Euro area sectors on the day the monetary policy is publicly announced. They also found that event study methods are downward biased and suggested that care should be taken in the use of event study and all its underlying axioms should be tested.

Eze (2008) investigated the impact of monetary policy variables on the performance of the stock market using quarterly data for the year 1994 to 2007. The method used for analysis is the ordinary least square, cointegration and error correction approach. They found that stock market performance was strongly determined by broad money supply, exchange rate and consumer price index both in the short and long run.

Chen (2007) investigated whether monetary policy has asymmetric effects on stock returns using the Markov switching models. He found that monetary policy has larger effects on stock returns in the bearish market and that contractionary monetary policy leads to a higher probability of switching to the bear market regime. He said that when monetary policy is measured by the interest rate instrument, a contractionary monetary shock strongly lowers stock returns to both the bull and bear market regime.

Garcia and Schaller (2006), in the study of the asymmetric effects of monetary policy, built on the Markov switching model to find out the effects of monetary policy especially interest rate, and how it affects growth of an economy either during expansion or recession using monthly and quarterly data from 1955;2- 1993;1. The Markov- switching model and the Vector autoregressive model were used and found economically and statistically significant evidence of asymmetry. Interest rate changes have larger effects during recession and also have substantial effects on the probability of a state switch.

Conover, Jensen, Johnson and Mercer (2005) conducted a study to find out if federal policy was still relevant for investors. That is to determine the robustness of the relationship between monetary policy and stock returns by evaluating both its cross-sectional and time series consistency using daily data from July 1963 to January 2001. The variables used are daily returns of stock prices and treasury bills. The annualized mean returns and mean stock returns were used. They found that U.S monetary policy continues to have a strong relationship with security returns. U.S stock returns are consistently higher and less volatile when the federal reserve is following an expansive monetary policy. The study found that investment professionals should continue to consider monetary conditions when performing fundamental analyses of U.S and international securities. U.S monetary policy has an important influence on global stock markets.

Bernanke and Kuttner (2005), in their study of analyzing the impact of changes in monetary policy on equity prices using both the vector autoregressive approach and the event study approach, found a relatively strong and consistent response of the stock market to unexpected monetary policy actions. They also found that monetary policy surprises tend to differ across industry based portfolios and was consistent with the predictions of the standard CAPM. They

also found that the impact of monetary policy surprises on stock prices seems to come either through its effects on expected future excess returns or on expected future dividends. They found that the effects of unanticipated monetary policy actions on expected excess returns account for the largest part of the response of stock prices.

Rigobon and Sack (2004) estimated the response of asset prices to changes in monetary policy which is complicated by the endogeneity of policy decisions and the fact that both interest rate and asset prices react to numerous other variables. They showed that the response of asset prices to changes in monetary policy can be identified based on the increase in the variance of policy shocks that occur on days of monetary policy congress using data from 1994 to 2001 with event study and heteroskedasticity approach. They found that an increase in short term interest rate leads to a decline in stock prices and an upward shift in the yield curve which becomes smaller with longer maturities. Also, the event study estimates contain biases that make the estimated effects on stock prices appear too small and those on treasury bills too large.

Ravn and Sola (2004), in their study of asymmetric effects of monetary policy in the United States, tested for the presence of asymmetric effects of monetary policy on aggregate activity using the post war quarterly data of the United States. They wanted to check whether negative and positive monetary policy shocks have different effects on output, whether big or small shocks have different effects and whether low variance, negative shocks have asymmetric effects on output. They found that when using M1, the evidence is mixed since we cannot reject either that shocks are symmetric or that negative shocks have same effects as positive shocks. They found strong evidence in favour of only small negative shocks having real effects. The US data

seems to indicate evidence in favour of the asymmetry implied by menu costs models in environments with positive steady state inflation.

Francesco (2004) attempted to measure the reaction of monetary policy to the stock market using daily data from January 1985-December 1999 for Japan and August 1991 to August 2003 for European Union using the Vector Autoregressive (VAR) approach. They found a positive and significant reaction in the United States and the United Kingdom but the reactions become much lower during the high tech bubble, while in Japan and the European Union there was no reaction noticed.

Stefano (2002) evaluated the effects of exogenous monetary policy shocks on stock market indices using monthly data from 1983 to 1998. The variables used were commodity price index, exchange rate, industrial production, consumer price index, interest rate, monetary aggregate and the stock market index using the Structural Vector Autoregressive (SVAR) approach. They found that a contractionary monetary shock has a negative and transitory effect on stock market indices. Furthermore, a limited participation of households trading in stocks is set up to account qualitatively for the empirical response of stock prices to monetary policy shocks.

Udegbunam and Eriki (2001) examined the relation between stock prices and inflation in the Nigerian stock market. They found that inflation exerts a significant negative influence on the behaviour of stock prices. Also, that stock prices are driven by the level of economic activity measured by gross domestic product, interest rate, money supply and financial deregulation.

Thorbecke (1995) conducted a study on stock returns and monetary policy from the period 1953 to 1990 using industrial production, inflation rate, federal fund rate, non-borrowed reserves, total

reserve and stock returns using the vector autoregressive approach (VAR). He found that expansionary policy increases ex-post stock returns. Estimating a multifactor model also indicates that exposure to monetary policy increases an assets ex-ante return.

3.3.3 Fiscal and Monetary Policy and Stock Market Performance

Handoyo, Jusoh and Zaidi Shah (2015) investigated the effect of fiscal and monetary policy on Indonesian stock price using monthly data from 2001 to 2011. The variables used in the study are world oil price, debt to GDP ratio, industrial production index, inflation rate, growth rate of consumer index and sector price index using the Structural Vector Autoregressive Framework. They found a positive stock price response to monetary policy shock both aggregated and sectoral stock price. There was a negative relationship between fiscal policy shock and stock market. Thus, the fiscal policy crowds out the private sector activity in the market. The interaction between monetary and fiscal policy is important in explaining stock market performance.

Gowriah, Boopen, Lamport and Seetah (2014) investigated the effects of monetary and fiscal policies on the stock exchange of Mauritius stock market using annual data series from 1991 to 2011. The variables used in the study are money supply, consumer price index, gross domestic product, budget deficit, interest rate and exchange rate using the Autoregressive Distribution Lag (ARDL) model. They found a significant long run relationship existing between monetary variables and stock price. However, a short run significant relationship was obtained between money supply and stock price. While, there was neither a short or long term significant relationship between budget deficit and stock price. Lastly, a unidirectional causal relationship existed between interest rate and stock price.

Yu (2013) examined the impact of fiscal policy and monetary policy on stock market performance in Poland using quarterly data from 1999 (Quarter 2) to 2012 (Quarter 4). The variables used were stock market index, fiscal policy, interest rate, money supply, real output, exchange rate using the GARCH methodology. They found that the Poland's stock market index was not affected by the ratio of government deficits and is also negatively influenced by the money market rate. Also, monetary tightening has a negative impact on the stock index.

Chen and Minghong (2013) measured the impacts of fiscal and monetary policy adjustments on stock markets during the financial crisis using the event study methodology. They found that during the crisis, policy adjustments led to diversified response among different countries and which was as a result of certain features of the country such as the scale of the economy, degree of freedom, etc.

Rossanto, Mansor and Mohd (2012) examined the impact of fiscal and monetary policies shock on the Indonesian stock market using monthly data from 2000 to 2011. The variables used were world oil price, industrial production, debt to GDP ratio, inflation rate, interest rate, exchange rate and the stock price index using the Structural Vector Autoregressive (SVAR) approach. They found a positive stock price response to monetary policy shock both at the aggregate and disaggregated level. The interaction between fiscal policy shock and the stock market shows a negative relationship, which implies that fiscal policy crowd out the private sector activity in the market and cripples the economy.

Bekhet and Othman (2012) analysed the relationship between Malaysia stock index and macroeconomic policies (fiscal and monetary) using quarterly data from 1999 to 2011. The variables used are government operating expenditure, government development expenditure, tax

revenue, interest rate and money supply using the Vector Error correction model. They found a long run relationship amongst the variables. The result indicated that fiscal and monetary tools play an important role in accelerating financial performance in Malaysia. However, monetary tools worked faster compared to fiscal tools.

Vafa and Matin (2011) examined the relationship between Japan's financial structure and the country's fiscal and monetary policies using annual time series for the period span of 1960 to 2008 using variables such as real GDP, real narrow money, real fiscal spending to GDP ratio, total equity value traded ratio to GDP. The Vector Error Correction model and the unrestricted Vector Auto Regressive approach (VAR) were used in the study. They found that there exists long run relationship between policy variables and financial structure, and that stock markets also benefit from increasing fiscal consumption.

Ioannis et al (2011) examined the stock market response to monetary and fiscal policy shocks using quarterly data from the period 1991 to 2010 using variables such as GDP, CPI, Government expenditure (which was used as a proxy for fiscal stance), money supply, interest rate, all share index and the global economic activity index using the structural vector autoregressive approach (SVAR). They found that both fiscal and monetary policies influence stock market returns via direct and indirect channels and that the interaction between the two policies is very important in explaining the stock market development. Therefore both the fiscal and monetary policies should be considered together rather than in isolation.

Samuel, Zhao and Attamills (2011) examined the impact of fiscal and monetary policy actions on the stock market in Ghana using quarterly data ranging from 1990 to 2010. The variables used were government final consumption expenditure, average lending rate, all share index using the

Vector Autoregressive (VAR) approach, cointegration and causality test as estimation techniques. They found that fiscal policy actions have significant effect on stock market activity and that government should synchronize its fiscal policy actions with activities in the stock market.

Laopodis (2004) examined the dynamic linkages among the federal budget deficit, monetary policy and the stock market using quarterly data from 1960-2004 using variables such as budget deficit, GDP, CPI, money supply, Treasury Bill rate, federal fund rate and nominal stock prices. The Vector autoregressive (VAR) approach, Granger Causality, Cointegration method were used for analysis. They found that deficits matter for the stock market and thus violates the Ricardian Equivalence Hypothesis (REH). The use of taxes and government spending show a higher sensitivity of the stock market to taxes relative to spending. They did not find a relationship between budget deficit and money supply.

Yu and Chen (2004) examined the impact of monetary policy, fiscal policy, exchange rate, stock market performance, inflation and supply shocks on real output in Singapore using quarterly data from 1993 – 2001. The variables used in the study were treasury bill, real GDP, government debt, stock price index, exchange rate, inflation rate, world oil price and world output. Using the vector autoregressive approach (VAR), they found that output responds positively to a shock to lagged own output and negatively to an innovation to the treasury bill rate, government debt, stock prices, inflation rates or world oil prices.

Bailey (2001) analyses the effects of monetary and fiscal policy on the behavior of Jamaican stock prices using monthly data from 1991-1999. The variables used in the study include fiscal balance, monetary base, exchange rate, inflation rate, interest rate and gross domestic product.

Using the framework of a dynamic model utilizing the VAR approach, the study shows that unanticipated expansionary monetary policy had a significant and positive short run impact on stock market. The effect of a change in fiscal policy whether expected or unexpected had a contractionary effect on the stock market. It is also possible that the transmission of policies may be restricted by the presence of information asymmetry and inefficiency on the stock market. The long run impact of fiscal and monetary policy is limited which may be due to the existence of market imperfections and inconsistencies. Furthermore, an improvement in the overall efficiency of the stock market will aid policy in achieving its desired outcome.

Kausik and Kyojun (2001) investigated the volatility of stock returns in some Asian emerging markets in terms of the volatility of domestic and external factors using monthly data from the period 1980 to 1995. The variables used are industrial production, government expenditure, exchange rate, inflation rate, money supply, interest rate and stock prices using the ordinary least square approach method. They found that both domestic macroeconomic variables and international variables are found to have explanatory power for stock return volatility. Equally important is the role of government, in terms of fiscal and monetary policies, for the smooth functioning of the stock market.

Evans and Murinde (1995) conducted a study on the impact of monetary and fiscal policies' actions on the stock market in Singapore. The study considered both anticipated and unanticipated policy actions. The variables used were the growth rate in money supply, ratio of budget deficit to GDP, stock price index, growth rate of GDP, inflation rate, growth rate in government spending, changes in import price deflator, one year fixed deposit rate, ratio of total exports to GDP using monthly data for the period 1980 to 1992. They found that both anticipated

and unanticipated policy actions affect stock prices. Anticipated and unanticipated monetary policy actions lagged up to three months are significant in their effects upon stock prices, while anticipated fiscal policy is negative which implies that an increase in the budget deficit depresses stock values as private economic agents react to tough fiscal measures.

3.3.4 Other Macro Variables and Stock Market Performance

Ime and Queensley (2014) examines the impact of interest rate changes on the Nigerian stock market using yearly data from 1986 to 2011. The variable used in this study were all share index, interest rate, inflation rate, unemployment rate, Gross Domestic Product. They found an inverse relationship between interest rate and all share index. However, interest rate is not an important determinant when considering the changes in stock prices. Although not important, it should not be too high because it will affect the economy and the stock market is a crucial part of the economy.

Zubair (2013) examined the causal relationship between stock market and exchange rate before and during the financial crisis in Nigeria using monthly data from 2000 to 2011. The variables used in the study are all share index, money supply and exchange rate using the trivariate VAR estimation technique. He found that there exists no long run relationship before and during the crisis. The granger causality tests show a unidirectional causality running from money supply to all share index before the crisis, while there was no causality during the financial crisis.

Umoru and Asekome (2013) examines the dynamic interaction between stock prices and exchange rate in Nigeria using daily data from 2000 to 2012. Data used in the study were stock prices and exchange rate using the cointegration and granger causality technique. They found in the study that there exists a positive cointegrating relationship between exchange rate movement

and the Nigerian stock prices. Furthermore, bidirectional relationships exist between stock prices and exchange rate. The variables interacted in a way consistent with the predictions of the flow and stock theories of exchange rate.

Courage, Andrew and Kin (2013) assessed the effect of currency volatility on Johannesburg Stock Exchange(JSE) using monthly data from the period 2000 to 2010. The variables used were exchange rate and stock price index using the generalized auto regressive conditional heteroskedasticity. They found that a weak relationship exists between currency volatility and stock market. They suggested that since the stock market in South Africa is not really exposed to the negative effects of currency volatility, government can use exchange rate as a policy tool to attract foreign portfolio investment. Thus, the weak relationship between the two variables implies that the JSE can be marketed as a safe market for foreign investors and they need to monitor the developments between the variables.

Okoli (2012) examined the effects of exchange rate and interest rate on the Nigerian stock market using monthly data spanning the period 2009 to 2011. The variables used in the study were the all share index, exchange rate and interest rate using the ordinary least square estimation technique. The study found that there exists a negative but significant relationship between stock market and exchange rate in Nigeria. Thus, implying that an increase in exchange rate reduces stock market returns thereby dampening the market activity. Also, the interest rate had a negative relationship with stock market performance, although it was not significant.

Osamwonyi and Osagie (2012) made an attempt to determine the relationship between macroeconomic variables and Nigerian capital market index using yearly data for the period 1975 to 2005. The variables used in the study were interest rate, inflation rate, exchange rate,

fiscal deficit, gross domestic product and money supply using the VECM estimation technique. They found that macroeconomic variables influence stock market index in Nigeria. Interest rate has adverse effect on stock market, although not statistically significant. Money supply has an adverse and significant relationship while fiscal deficit and exchange rate are positively and significantly related to the stock market.

Pallegedara (2012) examines the dynamic relationship between stock market performance and interest rates using daily data from 2004 to 2011. The variables used were all share index and interest rate using granger causality and the VECM estimation technique. The study found that interest rate is negatively related to stock market performance. In the long run, there is no causal relationship between interest rate and stock market index.

Amadasu (2012) examines the factors that influence the Nigerian stock market using yearly data from 1975 to 2009. The variables used were the index of all share prices (SMI), interest rate, inflation rate and exchange rate using cointegration econometric technique. He found that some relationships exist among the variables, though they were not significant. He, therefore, recommended that authorities should manage these variables and enhance exports in order to improve growth because of the long- run negativity of the exchange rate.

Okpara and Odionye (2012) examine the causal relationship between exchange rate and stock prices in Nigeria using quarterly data from1990 to 2010. The variables used in the study were all share index, stock market capitalization, value of shares traded, exchange rate, inflation and interest rate using the VECM estimation method. They found that a long run equilibrium relationship exists between exchange rate and stock prices. And there is a unidirectional causality

running from stock prices to exchange rate, irrespective of the stock market indicator used. The exchange rate exerts a negative impact on Nigerian stock prices.

Adaramola (2012) examines the long and short run effects of exchange rate on stock market development in Nigeria using quarterly data from 1985 to 2009. The variables used were all share index and exchange rate using the Johansen cointegration test. The findings showed that while a positive relationship exists between stock market and exchange rate in the short run, there is a negative effect in the long run. The granger causality shows a strong evidence of causation between exchange rate and stock market. This implies that variations in the Nigerian stock market is explained by exchange rate volatility.

Michael, Robert, Yu and Susan (2010) examines whether the stock market performance, exchange rate affect real output using quarterly data for the period 1996 to 2009. The variables used were real gross domestic product, government spending, government revenue, interest rate, real stock prices, exchange rate and world output using the generalized least square method. They found that maintaining a robust stock market or pursuing real appreciation of the exchange rate would stimulate the Brazilian economy.

Foo (2009) empirically examined the impact of exchange rate and interest rate on stock market performance in the Malaysian stock market. The econometric technique used in the study was cointegration, vector error correction method and the granger causality approach. The study found that both interest rate and exchange rate have a negative or adverse effect on the performance of stock market index in Malaysia.

Terfa (2009) examines the relationship between the stock market and selected macroeconomic variables using yearly data from 1985 to 2008. The variables used were all share index, inflation and exchange rates using the Error Correction model. The study found that a significant negative short run relationship exists between stock market and interest rate. And that in the long run, exchange rate stability improves the performance of the stock market. Therefore, stable exchange rate and altering the interest rate, monetary policy would be effective in improving the performance of stock market.

Richard, Simpson and Evans (2009) examined the interaction between stock prices and exchange rates in Australia using weekly data from 2003 to 2006. The variables used were stock price and exchange rate using the VAR framework estimation technique. They found that there exist not only a long run relationship between the variables, but also a unidirectional relationship from exchange rate to stock prices. Thus, stock price movements cause changes in the exchange rate.

Chakradhara (2008) investigated the importance of interest rate in the stock market performance in India using monthly data from 1996 to 2006. The variables used in the study are ten-year government security and treasury bill (to measure long and short term interest rates), SENSEX and NIFTY to measure stock prices using the cointegration and vector error correction method approach. The findings show that there exists a long run relationship between interest rate and stock prices; also, that both short and long term interest rates affect stock market performance. While long term interest rate affects stock prices negatively, short term interest rate affects stock prices positively.

Olowe (2007) examined the relationship between macroeconomic variables and Nigerian stock market using quarterly data from 1986 to 2004. The variables used were industrial production

index, consumer pricing index, money supply and treasury bill rate using the VECM estimation method. The study found that a long run relationship exists among macroeconomic variables. The findings show that exchange rate negatively influences stock prices, and this could be because of high devaluation of the naira since the introduction of structural adjustment programme.

Phylaktis and Ravazzolo (2001) examined the long run and short run dynamics between stock prices and exchange rate using quarterly data from 1980 to 1998. The variables used are domestic stock price and exchange rate using the VAR estimation method. They found no long run relationship between exchange rate and stock market. The stock market is found to be an important causing variable which acts as a conduit through which foreign exchange and the local markets are linked. Foreign exchange restrictions have not been found to be an important determinant of the link between the domestic stock and foreign exchange market

Vance and Lawrence (1988) conducted a study on macroeconomic variables and stock market using quarterly aggregates from 1956 to 1985. They took into consideration unanticipated changes in structural deficit, unanticipated changes in cyclical component of budget deficit, unanticipated monetization of debt using variables such as inflation, interest rate and gross domestic product. Their result shows that deficits resulting from expansionary fiscal policy actions have been associated with small improvements in stock prices. Furthermore, when the economy is operating at less than full employment, stimulative fiscal actions increase economic output; and that interest rate could rise implying an uncertain net effect on stock prices.

Forrest (1976) did an empirical analysis on the effects of monetary policy and financial markets with the aid of graphs and charts. He found that a significant change in monetary policy sends

ripples to the government securities market and that it influences the financial world in widening circles. Furthermore, that the impact of monetary policy is relatively direct and quick in the financial market.

3.4 Overview of Literature

In the review of literature, it shows that there has been conflicting opinions on the effects of both fiscal policy and monetary policy on stock market performance. Some authors say that fiscal and monetary policies affect stock market performance (increase in government expenditure or money supply will lead to increase in income of the household which will transmit to increased consumption and affect the economy positively); others have posited that the policies have no significant effect on stock market performance. There was also no consensus reached on the divergent views on the behaviour of stock prices.

Economic theories have suggested several reasons why interaction occurs between monetary policy and performance of the stock market. Stock prices are determined in a forward looking approach; therefore, any monetary policy surprise would likely have an effect through the interest rate and this affects the market which leads to an increase in the degree of uncertainty faced by economic agents. And through the wealth channel (Tobin's Q-effect), the performance of the market could affect consumption. This means that there is the possibility of interdependence between stock market and monetary policy. The economic impacts of fiscal policy depend on the view taken theoretically. The Keynesians' view shows that fiscal policy takes an appropriate role in stabilizing economic fluctuations, this runs contrary to the, Ricardian view which stipulates that fiscal policy has no impact on demand as any public borrowing will be offset by the private savings of rational households. The neoclassicals emphasize that fiscal

policy crowds out private sector activity in the market, and it will be less important in an economy that operates at close to its potential output. Lastly, the interaction of these two policies contributes to the growth or redundancy of an economy that aims to outlive any impulses that slow it down. The fiscal policy is expected to influence the goods market while the monetary policy is expected to utilize its effects on the assets market. Their interaction has been significant in the achievement of macroeconomic goals, given that the assets market and the goods market are dictated by output and interest rates (Ramos and Roca-Sagales, 2008)

In the review of empirical literature, it was noticed that monetary policy has been widely researched in the developed world but few empirical work has been done on the effects of fiscal policy on the stock market performance. Furthermore, several studies on monetary policy have been done on Nigerian economy, but to our knowledge only limited study has been done on the effects of fiscal policy on stock market performance. Although, it has been studied in relation to other macroeconomic variables. However, the interaction of both variables on the stock market is very limited in the Nigerian economy. Therefore, evidence in relation to this for the Nigerian economy is highly relevant at this time. This is the gap which this study aims to occupy through its interest in studying the impact of both fiscal and monetary policies' shocks on stock market performance. And in the course of the study of the stock market performance, we would consider the anticipated or unanticipated effect and the complementarity or substitutability effect of the two policies.

Summary of Theoretical Literature

Theory	Findings	Effect on Stock market
Neoclassical	Economy adjust itself to full employment and there is no need for fiscal or monetary policies	Monetary and Fiscal policies have a crowding out effect on stock market performance
Keynesian	Fiscal policy is necessary in stimulating economic growth	Fiscal policy would have a positive effect on the performance of the stock market
Ricardian Equivalence	Government policies have no effect on economic agents	Monetary and Fiscal policies do not have any effect on the performance of the stock market
Tobin's Q	Relates investment activity to the stock market based on the value of firms	Monetary policy has an effect on stock market while fiscal policy has no transitory effect on the performance of the stock market
Rational Expectation	The public adjusts its behaviour to announced policy	Monetary and Fiscal policies have no effect on the behaviour patterns of individuals and therefore has no effect on the performance of the stock market
Monetary Neutrality	Exogenous changes in the supply of money have no effect on real quantities and real prices	This implies that increase in money supply has no effect on the better performance of the stock market
Exchange Rate	Flow Oriented and Stock Oriented Approach	Negative relationship between stock market and exchange rate for "flow oriented approach" and a positive relationship for the "stock oriented approach"

CHAPTER FOUR

THEORETICAL FRAMEWORK AND MODEL SPECIFICATION

4.1 Theoretical Framework

In this chapter, we have the systematic presentation of the theoretical framework which shows the link between macroeconomic policies and stock market performance, in order to show the direction in which the empirical model specified would be estimated. The analysis is done by showing the link between fiscal policy and output and monetary policy and output The chapter also involves other methodological issues like source of data, data description and method of analysis.

4.1.1 Fiscal policy and Output

The underlying framework of the study is based on the neoclassical production function. The discussion on the theoretical framework for this study is divided into three sections that later form a unique model on which the analyses of the study is based. Here, reference is made to the work of Michael, Douglas, Dirk, and Susanna (2010), The Global Integrated Monetary and Fiscal Model (GIMF) - Theoretical Structure.

For the development of this framework, the study starts with the link between fiscal policy and output. Considering an economy that uses consumption goods X_t^{CG} and investment goods X_t^{IG} to produce government output Y_t^{GD} . The constant elasticity of substitution (CES) production function in equation (1) shows the output function for the hypothetical economy. Where β_{CG} is the consumption goods share factor and E^G an elasticity of substitution.

$$Y_t^{GD} = \left[(\beta_{CG})^{1/E_G} \left(X_t^{CG} \right)^{E_G - 1/E_G} + (1-\beta_{CG})^{1/E_G} \left(X_t^{IG} \right)^{E_G - 1/E_G} \right]^{E_G / E_G - 1} \quad \text{----------(1)}$$

Representing the marginal cost of producing Y^G by P_t^{ZG} and normalize the cost with technology and labour force; we realize the standard input demands to be:

$$\hat{X}^{CG} = \beta_{CG} Y^{GD} \left(P_t^{ZG} \right)^{EG} \quad \text{----------(2)}$$

$$\hat{X}^{IG} = (1-\beta_{CG}) Y^{GD} \left(P_t^I / P_t^{ZG} \right)^{-E_G} \quad \text{----------(3)}$$

If we allow for unit shocks that could influence the relative price of government output, Y_t^{GD} then, the output of government goods Y_t^G can be converted to final output of the government using the technology- leading process, and therefore:

$$\hat{Z}_t^{GD} = T_t^G Y_t^{GD} \quad \text{----------(4)}$$

Where T_t^{GD} is the technology-leading shock with no growth in trends. Moreover, consider the stochastic relative price as;

$$P_t^G = \hat{P}_t^G P_t^{ZG} \quad \text{----------(5)}$$

Assume the demand for government output G_t comes from government consumption and investment such that:

$$G_t = G_t^I + G_t^C \quad \text{----------(6)}$$

And that the market clearing condition is given as supply equates demand;

$$G_t = Y_t^{GD}$$

Thus, equation 4 can be rewritten as;

$$Z_t^{GD} = T_t^G \; G_t \qquad \text{----------(7)}$$

Furthermore, given the assumption that fiscal policy consists of lump sum taxes and transfers which are represented below;

Lump Sum Taxes;

$$t_{ls,t} = t_t^{lsG} + t_t^{lsQ} \qquad \text{----------(8)}$$

Lump Sum Transfer;

$$T_{ls.t} = T_t^{lsG} + T_t^{lsQ} \qquad \text{----------}(8^t)$$

Moreover, assuming that both types of government spending are exogenous and stochastic and government investment spending is an important function in this economy, the stock of publicly provided infrastructure capital is given as;

$$K_{t+1}^{GI} = \left(1 - \delta_{GI}\right) K_t^{GI} + G_t^{In} \qquad \text{----------(9)}$$

Where:

δ_{GI} is the depreciation rate of public capital. Similarly, a representative of the government consumption spending can be modeled as follows:

$$K_{t+1}^{GC} = (1-\delta_{GC})\, K_t^{GC} + G_t^C \quad \text{----------(10)}$$

Assuming that the government lump sum transfers and taxes are received and paid by individuals in proportion to their share in aggregate consumption; rescaling by technology, we therefore have the lump sum taxes restructured as follows:

$$t_{ls,T} = \gamma_i \left(d_t^N + d_t^T + d_t^D + d_t^C + d_t^I + d_t^M + d_t^X + d_t^F + d_t^K + d_t^{EP}\right) + C_t^I / C_t \left(d_t^R + T_t - t_{ls.t}\right) + l_t^I / L_t\, d_t^U \quad (11)$$

The sources of nominal tax revenue are labour income taxes, $t_{l,t} W_t L_t$, consumption taxes, t$t_{c,t} P_t^c C_t$, taxes on return to capital $t_{k,t} \sum_j = \gamma_j \left[R_{k,t}^j - \delta_{k,t}^J P_t Q_t^J \right] \bar{K}_t^J$ and lump sum taxes P$P_t t_{ls,t}$, thus, the aggregate real tax variable as:

$$t_t = t_{l,t} W_t L_t + t_{c,t} P_t^c C_t + t_{ls,t} + t_{k,t} \sum_j \quad \text{----------(12)}$$

$$t_t = t_{l,t} W_t L_t + t_{c,t} p_t^c c_t + t_{ls,t} + \left[\gamma_j R_{k,t}^J - \gamma_j \delta_{k,t}^J p_t Q_t^J\right] \bar{K}_t^J$$

$$t_t = t_{l,t} W_t L_t + t_{c,t} p_t^c c_t + t_{ls,t} + \gamma_j \bar{k}_t^j R_{k,t}^j - \gamma_j \bar{k}_t^j \delta_{k,t}^j p_t Q_t^j \quad \text{----------(13)}$$

Furthermore, if the real government budget constraint involves one period nominal debt, B_t at the gross nominal interest rate i_t.

$$b_t + t_t + g_t^x = i_{t-1} / \pi_t g_n b_{t-1} + p_t^c G_t + T_t \quad \text{----------(14)}$$

We further consider two major economic concerns: (1) dynamic stability and (2) stabilization of the business cycle. First, fiscal policy ensures a non-explosive government debt to GDP ratio by adjusting tax rates to generate sufficient revenue, or by reducing expenditure, in order to stabilize the overall interest inclusive government surplus to GDP ratio, g_t^{rat} at a long run level of $g_{t,LR}^{rat}$;

$$g_t^{rat} = t_t + g_t^x - p_t^G G_t - T_t - i_{t-1} - 1/\pi_t g_n (b_{t-1}) \quad \text{----------(15)}$$

Satisfying its long run target of g_t^{rat} and flexibly responding to the business cycle, specifically, we have the following structural fiscal surplus rule;

$$g_t^{rat} = g_{t,LR}^{rat} + d^{debt}\left(b_t^{rat} - b_{t,LR}^{rat}\right) + d^{gdp} In\left(gdp_t^{Fisher} / gdp_t^{pot}\right) + d^{tax}\left(t_t - t_t^{pot} / gdp_t\right) + d^{transfer}\left(g_t^x - g_{x,t}^{pot} / gdp_t\right) \quad (16)$$

The relationship in equation (15) implies that even with $d^{debt} = 0$. The rule in equation (16) automatically ensures a non-explosive government debt to GDP ratio of b_t^{rat}, but the long run autoregressive coefficient on debt in that case at $1/(\pi_t g_n)$ is very close to one. Setting $d^{debt} \succ 0$ ensures faster convergence of debt at the expense of more volatile government surpluses. The remaining terms in equation (16) represent responses to the state of business cycle. The d^{gdp} is the output gap; this uses current and potential Fischer weighted GDP; $gdp_t^{fischer}$ and gdp_t^{pot} as the relevant measures. Other terms remain as earlier defined.

4.1.2 Monetary policy and Output

Introducing the effect of monetary policy by assuming that monetary policy uses an interest rate rule that features interest rate smoothing and which responds to:

i. Deviations of one-year a-head year on year inflation π_{t+1} from possibly time varying inflation target π_t.

ii. The output gap;

iii. The year-on year growth rate of Fischer weighted GDP;

iv. Deviation of current exchange rate depreciation value exh_t.

Furthermore, allowing for autocorrelated monetary policy shocks, S_t^{int} if the notation below is employed and the model allows for inflation rate targeting by monetary policy; then the complete monetary rule is given by;

$$i_t = E_t\left(i_{t-1}\right)^{\delta_i}\left(r_t\,\bar{\pi}_t\right)^{1-\delta_i}\left(\pi_t/\bar{\pi}_t\right)^{(1-\delta_i)\delta_\pi}\left(gdp_t^{fish}/gdp_t^{pot}\right)^{(1-\delta_i)\delta_y}\left[\left(gdp_t^{fischer}/gdp_{t-4}^{fischer}\right)\right]^{(1-\delta_i)\delta_{yg}}$$
$$\left(EXH_t/EXH_t\right)^{\delta_e} S_t^{\text{int}} \qquad (17)$$

Where:

$$\bar{\pi}_t = \pi_t^{\delta\pi}\pi_{t+1}^{1-\delta\pi}$$
$$r_t = r_t^{world} EXH_t$$
$$r_t^{world} = \prod_{j=1}^{N}\left(r_t^j\right)gdp_i / \sum gdp$$
$$r_t^j = \left(r_t^j\left(r_{t-1}^{ma(j)}\right)^k\right)^{1/1+k}$$

Incorporating shocks into equations (1) and (16) and assuming that the shocks are denoted by w_t; which is modeled as follows;

$$w_t = (1-\rho_i)\bar{w}_t + \rho_i w_{t-1} + \mu_t^w \bar{w}_t \quad \text{----------(18a)}$$

$$In\left(\bar{w}_t\right) = In\left(\bar{w}_{t-1}\right) + \mu_t^w \quad \text{----------(18b)}$$

Recall equations (1), (17) and (18a);

$$Y_t^{GD} = \left[(\beta_{CG})^{1/E_G}\left(X_t^{CG}\right)^{E_{G-1}/E_G} + (1-\beta_{CG})^{1/E_G}\left(X_t^{IG}\right)^{E_G-1/E_G}\right]^{E_G/E_G-1}$$

4.1.3 Fiscal Policy, Monetary Policy and Output

From the equation above, the variables for both monetary policy and fiscal policy were extracted to give us equation 19 below.

$$FP = f_i\left(t_{ls,t}, k_{t+1}^{GI}, b_t, g_t^{rat}\right)$$
$$MP = g_i\left(i_t, r_t^j, EXH_t^{ki}\right) \quad \text{----------(19)}$$

Modifying equation (1);

$$Y_t^{GD} = h_i\left(FP, MP, W_t\right) \quad \text{----------(20)}$$

$Y_t^{GD} = Government output$
$FP = Fiscal\ Policy\ Measure$
$MP = Monetary\ Policy\ Measure$
$W_t = Shocks\ Embedded$

4.2 Model Specification

4.2.1 Linear Regression Model

Equation 20 in the theoretical framework represents fiscal and monetary policies as they affect government output. The model in equation 20 was adapted and modified for the purpose of this study. There are several fiscal policy measures such as the tax, fiscal deficit and surplus measure; but the variable that would be used to represent fiscal policy would be the government expenditure while the money supply would be used to capture monetary policy. The other control variables that would be used are the interest rate and exchange rate, because they are macroeconomic variables that also affect the stock market. The government output in the theoretical framework (equation 20) of the model will be captured by value of transactions in the stock market in our own specification. The value of transaction is chosen in this study as the tool of measurement of stock market performance because it encompasses both the value and volume of transaction in the stock market. The value of transaction is of interest in this study as it captures daily movements of equities, thereby showing the stock market's movement. Because of the characteristics and robustness of its framework, the Vector Autoregressive method would be used in the estimation process. When all the variables identified above are put together, the model for this study is specified in a functional form as follows:

$$VOT = f(CGEXP, CMS, INT, EXCH) \quad \text{..... (21a)}$$

$$VOT = f(GEXPv, MSv, INT, EXCH) \quad \text{..... (21b)}$$

Where:

VOT = Value of Transaction

CGEXP = Anticipated Fiscal Policy

CMS = Anticipated Monetary Policy

GEXPv = Unanticipated Fiscal Policy

MSv = Unanticipated Money Policy

INT = Interest Rate

EXCH = Exchange Rate

In order to achieve the objectives of this study, the anticipated and unanticipated monetary policy and fiscal policy series were calculated by estimating a dynamic model of monetary and fiscal policy reaction function equation as specified in equations 22a and 22b in line with the objectives. Equations 22a and 22b were estimated using Ordinary Least Square (OLS) estimation technique; the fitted and residual values from the two equations were used as the anticipated and unanticipated values respectively. This follows the work of Bailey (1999). Thus, the monetary policy and fiscal policy reaction functions are specified as follows:

$$MP = f\left(P_t, y_{t-1}\right) \quad \text{.....(22a)}$$

$$FP = f\left(\text{Re}v, Debt\right) \quad \text{.....(22b)}$$

Where: P is the Consumer Price Index, y_{t-1} is output at a given time dimension, MP is the value of anticipated and unanticipated monetary policy, Rev is total government revenue, Debt is total government debt and FP is the value of anticipated and unanticipated fiscal policy.

The functional model would therefore be transformed into an econometric model as shown below;

$$VOT = \beta_0 + \beta_1 CGEXP + \beta_2 CMS + \beta_3 INT + \beta_4 EXCH + \varepsilon_{1T} \text{ …….(23a)}$$

$$VOT = \alpha_0 + \alpha_1 GEXPv + \beta_2 MSv + \beta_3 INT + \beta_4 EXCH + \varepsilon_{2T} \text{ …….(23b)}$$

Equations 23a and 23b are therefore the models specified for this study. The a priori expectation is shown below; $\beta_i and \alpha_i \geq or \leq 0$ for i=1,…4.

4.2.2 Vector Error Correction Model (VECM)

In line with the theoretical framework, the specification of the models that will be used in estimation is presented as follows:

For the first objective in which we seek "*to determine the effects of anticipated fiscal policy and monetary policy shocks on stock market performance in Nigeria*", the variables used are the stock market performance variable named – Value of Transaction (VOT), change in government expenditure (CGEXP) which is used as the anticipated fiscal policy measure, change in money growth (CMS) is used as the anticipated monetary policy measure, the GEXPv and MSv stand as the unanticipated fiscal policy and monetary policy measures, Exchange rate (EXR) and Interest rate (INT) respectively. After identifying the variables to be considered in the modeling, the model to be estimated is specified to follow the Vector Error Correction Model (VECM) framework.

For the VECM specification, the structural form is specified for clarity:

$$\Delta Y_{i,t} = \Pi Y_{t-1} + \sum_{i=1}^{p-1} \phi_i^* \Delta Y_{i,t-j.} + \varepsilon_t \qquad (23)$$

Where Π and ϕ_i^* are functions of the ϕ_i^* specified. However specifically,

$$\phi_i^* = -\sum_{i=j+1}^{p} \phi_i, \qquad \Pi = -\left(1 - \phi_1 - \cdots - \phi_p\right) = -\phi(1)$$

J=1,…,p-1

The characteristic polynomial is $1 - \phi_i z - \ldots - \phi_p z^p = \phi(z)$

Y are the vector of variables considered for the analyses in 21a and b above.

If $\Pi = 0$, then there is no co-integration. Non-stationarity of $I(1)$ type vanishes by taking differences.

In an attempt to validate the second objective that examines "*the effects of unanticipated fiscal and monetary policy shocks on stock market performance*", the variables to be included in the system are stock market performance variable named – Value of Transaction (VOT), Unanticipated Fiscal Policy (GEXPv), Unanticipated Monetary Policy (MSv), Exchange rate (EXCH) and Interest rate (INT).

4.2.3 Vector Auto-Regressive Model (VAR)

The third objective is "to determine whether monetary and fiscal policies are substitutes or complements for stock market performance". To validate this aim, the research will consider the sign effects of the fiscal and monetary policies variable used in the models specified above. The decision rule is that, when the VAR results show a positive sign or relationship between fiscal

variables as it corresponds to the monetary variables, then, the submission will be that both policies are complementary. Whilst, if there exists a negative relationship between the fiscal and monetary variable, then both policies are considered substitutes. After the findings on substitutability and complementarity have been revealed, the research work will proffer policy thrust and implications regarding the issue in the short, medium and long term periods. The VAR framework would be used to achieve this objective.

The standard form of the VAR specification is presented below:

$$\psi(L)Y_t = e_{mt} \quad \ldots (24)$$

$$\Rightarrow \quad Y_t = \psi(L)^{-1} e_{mt} \quad \ldots (25)$$

Y_t is a vector of variables to be used in the VAR model, $\psi(L)$ is the coefficient matrix and e_{mt} is a vector of innovations that are assumed to be mutually uncorrelated.

4.3 Data Description

The study employed quarterly time series data on Nigeria covering the 2000 and 2012 period, and they were obtained from the Central Bank of Nigeria Statistical Bulletin. For estimation purposes, the anticipated and unanticipated fiscal policy and monetary policy series were deduced from the fitted and residual values from the OLS.

Definition and Sources of Variables

S/N	Variables	Data Acronym	Data source
1	Value of Transaction	VOT	Nigerian Stock Exchange Market (NSEM)
2	Government Expenditure	GEXP	Central Bank of Nigeria (CBN) Statistical Bulletin
3	Money Supply	MS	Central Bank of Nigeria (CBN) Statistical Bulletin
4	Interest Rate	INT	Central Bank of Nigeria (CBN) Statistical Bulletin
5	Exchange Rate	EXCH	Central Bank of Nigeria (CBN) Statistical Bulletin
6	Anticipated Shocks	Denoted with C	Fitted Values from OLS Estimation
7	Unanticipated Shocks	Denoted with V	Residual Values from OLS Estimation

Definition of Variables

The variables used to estimate these equations are discussed below:

a. Value of Transaction: this is the amount of a security either for a given set of securities or an entire market that were traded during a given period of time. It is the number and value of shares that changed hands during a given day. The trading value is usually higher when the price of a security is changing either positively or negatively and will normally result in a temporary increase in the trade volume of its stock. It could also be the amount of shares that trade from sellers to buyers as a measure of activity. It is an important indicator in analysis as it is used to measure the worth of a market move.

b. Government expenditure: this is the overall spending carried out by the government. It is spending by the government sector including both the purchase of final goods and services or gross domestic product and transfer payments.

c. Money supply: this is the entire stock of currency and other liquid instruments in a country's economy at a particular point in time or the total amount of monetary assets available in an economy at a specific time.

d. Interest Rate: this is an amount charged as a percentage of principal, by a lender to a borrower for the use of assets. The monetary policy rate (MPR) was used for estimation purposes and it was known as the Minimum Rediscount rate (MRR) till 2006 when it was changed to MPR.

e. Exchange Rate: this is the price of a nation's currency in terms of another currency or the current market price for which one currency can be exchanged for another. An exchange rate has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly.

4.4 Estimation Techniques

The study employs the VAR framework in order to capture the three objectives formulated. The first and the second objectives made use of the Vector Error Correction Model (VECM) while the third objective made use of the Vector Auto-Regressive Method (VAR). The VAR framework to be employed consists of the *parameter estimates, impulse response, variance decomposition and the VEC Granger causality/ Block Exogeneity test.*

CHAPTER FIVE

EMPIRICAL RESULTS AND INTERPRETATION

In the preceding chapter, an econometric model was proposed to examine the comparative interaction between fiscal policy shock, monetary policy shock and stock market performance. This chapter presents the estimated results and discusses the findings following the objectives of the study. The data used for the estimation of the models are mainly from the Central Bank of Nigeria Statistical Bulletin and the Nigerian Stock Exchange. The estimation is done using the Econometrics Views package version 7.0.

5.1 Descriptive Statistics and Stationarity Test

Table 5.1(A) below contains descriptive statistics for the indicators of both the anticipated and unanticipated components of fiscal policy, monetary policy, other control variables (Interest rate and Exchange rate) and stock market activity. From Table 5.1(A), it can be observed that on the average, interest rate recorded the highest across the sample variable, followed by other variables such as anticipated monetary policy, value of transaction, anticipated fiscal policy, exchange rate, unanticipated monetary policy and the least being unanticipated fiscal policy. From all indications, the exchange rate which has an index point of 0.125 is the least volatile when compared to other selected variables such as unanticipated fiscal policy (0.146), unanticipated monetary policy (0.151), anticipated monetary policy (0.869), anticipated fiscal policy (0.588), value of transaction (1.281) and interest rate (2.919). Also, observed from the Table below, anticipated fiscal policy, Value of transaction and exchange rate are negatively skewed while anticipated monetary policy, unanticipated monetary policy, unanticipated fiscal policy and

interest rate are positively skewed. The normality test was also done using the Jarque Bera test and the result can be seen in Table 5.1(B).

The unit root test is done to detect the presence and form of non-stationarity and the unit root property requires all variables to be stationary in levels or at first differences. This is to avoid the problem of a spurious regression. The test for this property was conducted and the result shown in Table 5.1(B), and this applies for the Augmented Dickey Fuller test, which was reported for Unit Root. It indicates that at levels I(0), only unanticipated fiscal policy (GEXPv) was stationary while other variables were not stationary because the corresponding t-statistics and normalized bias statistics indicate that their unit root coefficient are not significant at the critical 5 percent level. Therefore, the variables had to be corrected by first differencing. As indicated in the Table, it can be seen that all the time series variables are homogenous of order one but unanticipated fiscal policy is homogenous of order zero.

Table 5.1 Descriptive Statistics, Normality Values and Stationarity Test

Case A: Descriptive Statistics						
Variables	**Mean**	**Median**	**Std.Dev**	**Skewness**	**Kurtosis**	
CGEXP	7.622	7.721	0.588	-0.031	1.824	
CMS	15.285	15.125	0.869	0.386	2.053	
GEXPv	0.159	0.105	0.146	1.319	3.902	
MSv	0.182	0.161	0.151	0.755	2.893	
Interest rate	18.837	18	2.919	0.891	3.083	
Exchange rate	4.8755	4.857	0.125	-0.1785	2.231	
Value of transaction	12.597	13.03	1.281	-0.606	2.338	
Case B: Normality and Stationarity Test						
Variables	**Jarque Bera**		**ADF Test@Levels**		**ADF Test@FD**	
	Value	**Prob**	**Value**	**Prob**	**Value**	**Prob**
CGEXP	3	0.223	-1.321	0.613	-4.807	0.0003
CMS	3.234	0.198	-2.768	0.071	-3.293	0.021
GEXPv	16.854	0.0002	-3.116	0.031	-5.227	0.0001
MSv	4.965	0.083	-2.607	0.098	-7.232	0
INT	6.903	0.031	-1.5668	0.492	-7.629	0
EXCH	1.557	0.459	-1.554	0.498	-5.464	0
VOT	4.144	0.125	-1.391	0.579	-4.904	0.0002

Source: Authors Computation (2016) using E-Views 7.0

5.2 Lag Selection Test

In the specification of an optimal Lag length (ρ), one of the challenges faced is that if the chosen lag length is too small, it is possible the model may be mis-specified due to the omission of relevant variables and if too large, it is possible the number of degrees of freedom may be lost. In other words, a model with relatively large number of lags is most likely to produce residuals that approach the white noise process, but might not be parsimonious. On the other hand, a model with smaller lag lengths is more likely to be parsimonious, but might not produce residuals that are random enough to approach a white noise process. The above problem implies that there is the need to select an optimal lag length ρ. The Akaike Information Criterion (AIC), Schwartz Bayesian information Criteria (SIC) and the Hannan-Quinn information criterion (HQ) are identified in literature as appropriate in selecting optimal lag lengths that produce errors that approach a white noise process, subject to the constraint that the smallest number of lag terms was selected for parsimony. But for this study, the Akaike Information Criterion and the Hannan-Quinn information criterion would be used for the first objective while for the second objective, the Akaike Information Criterion (AIC), Schwartz Bayesian information Criteria (SIC) and the Hannan-Quinn information criterion (HQ were adopted because they all chose the same lag length criteria. These approaches are jointly employed to determine the optimal lag length of the variables used in this study. In the test for the optimal lag structure in this study, the entire test of the information criterion (LR, FPE, AIC, SIC and HQ) had the same optimal lag length criterion of 1, thus for objective 1, the lag length of one was chosen. However, for objective 2 while AIC and HQ chose 4, SIC chose 2. The study would therefore go for the lag length of 4 since it was only the SIC that chose the lag length of 2 as against the one chosen by AIC and HQ. This can be

seen in Table 5.2, where the fourth lag shows asterisks for LR, FPE, AIC and HQ, while for Table 5.2a, the asterisks can be seen in the first lag for LR, FPE, AIC, SC and HQ.

Table 5.2: VAR Lag Selection Test (Anticipated Policies)

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-90.4854	NA	3.68E-05	3.9786	4.1735	4.0522
1	189.5589	490.078	8.98E-10	-6.6483	-5.478*	-6.2063
2	215.0649	39.322	9.10E-10	-6.6694	-4.5253	-5.8591
3	256.8275	55.683	4.96E-10	-7.3678	-4.2491	-6.1893
4	291.5493	39.0621*	3.97e-10*	-7.772*	-3.6796	-6.226*

*** indicates lag order selected by the criterion**
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Authors Computation (2016) using E-Views 7.0

Table 5.2a: VAR Lag Selection Test (Unanticipated Policies)

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-43.0304	NA	5.09E-06	2.0013	2.1962	2.0749
1	185.4081	399.767*	1.07e-09*	-6.475*	-5.305*	-6.033*
2	206.6423	32.7361	1.29E-09	-6.3184	-4.1743	-5.5082
3	224.9809	24.4515	1.87E-09	-6.0409	-2.9222	-4.8623
4	252.8943	31.4026	1.99E-09	-6.1623	-2.0690	-4.6154

*** indicates lag order selected by the criterion**
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Authors Computation (2016) using E-Views 7.0

5.3 Cointegration Test

The Johansen Cointegration Test was done in order to detect the existence of long run equilibrium relationship among the variables in the model because of its importance in policy making. As illustrated in Table 5.3.1, Johansen cointegration results encompassed both methods of Trace statistics and Maximum Eigen value for the anticipated policies as indicated in the first objective. Results of the Trace method suggested the existence of one cointegrating equation while similarly the Max Eigen statistics test suggested one cointegrating equation. Thus, indicating the existence of a long run relationship among the variables within a multivariate framework.

Table 5.3.1; Cointegration Test Results for Anticipated policies

Cointegration Test Results: Anticipated Policies				
Unrestricted Cointegration Rank Test (Trace)				
Cointegration	**Eigenvalue**	**Trace Statistics**	**Critical value(5%)**	**Prob**
None *	0.6123	92.7196	69.8189	0.0003
At most 1	0.3813	45.3488	47.8561	0.0844
At most 2	0.2352	21.3437	29.7971	0.3365
At most 3	0.1207	7.9373	15.4947	0.4721
At most 4	0.0297	1.5075	3.8415	0.2195
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Cointegration	**Eigenvalue**	**Max- Eigen Statistics**	**Critical value(5%)**	**Prob**
None *	0.6123	47.3708	33.8769	0.0007
At most 1	0.3813	24.0052	27.5843	0.1345
At most 2	0.2352	13.4063	21.1316	0.4156
At most 3	0.1207	6.4299	14.2646	0.5587
At most 4	0.0297	1.5075	3.8415	0.2195

Source: Authors Computation (2016) using E-Views 7.0

Furthermore, in Table 5.3.2 below, it shows the Johansen cointegration results of both methods of Trace statistics and Maximum Eigen value for the unanticipated policies as indicated in the second objective. Results of the Trace method suggested the existence of one cointegrating equation while similarly the Max Eigen statistics test suggested one cointegrating equation. In order words, there is a possibility of existence of a long run relationship amongst the variables within a multivariate framework.

Table 5.3.2: Cointegration Test Results for Unanticipated Policies

Cointegration Test Results: Unanticipated Policies				
Unrestricted Cointegration Rank Test (Trace)				
Cointegration	**Eigenvalue**	**Trace Statistics**	**Critical value(5%)**	**Prob**
None *	0.6680	98.2625	69.8189	0.0001
At most 1	0.3609	43.1357	47.8561	0.1293
At most 2	0.2178	20.7474	29.7971	0.3736
At most 3	0.1240	8.4636	15.4947	0.4172
At most 4	0.0362	1.8434	3.8415	0.1746
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Cointegration	**Eigenvalue**	**Max- Eigen Statistics**	**Critical value(5%)**	**Prob**
None *	0.6680	55.1268	33.8769	0.0000
At most 1	0.3609	22.3883	27.5843	0.2011
At most 2	0.2178	12.2838	21.1316	0.5199
At most 3	0.1240	6.6203	14.2646	0.5350
At most 4	0.0362	1.8434	3.8415	0.1746

Source: Authors Computation (2016) using E-Views 7.0

5.4 Empirical analysis of First Objective

The first objective of the study is to determine the effects of anticipated fiscal and monetary policy shock on stock market performance in Nigeria.

5.4.1 Linear Regression Estimate of Anticipated Fiscal Policy and Monetary Policy effect on Stock Market Performance

Table 5.4.1 Linear Regression model (Anticipated Policies)

Dependent Variable VOT			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
C	4.416	0.965	0.339
CGEXP	0.759	1.336	0.187
CMS	0.198	0.551	0.584
INT	-0.183	-2.992	0.0044
EXCH	0.579	0.429	0.669
R-squared	0.81		
Adjusted R-squared	0.783		
Akaike info criterion	1.894		
Schwarz criterion	2.082		
Durbin-Watson stat	0.208		

Source: Authors Computation (2016) using E-Views 7.0

Table 5.4.1 above shows the result of the linear regression estimates for the effect of anticipated fiscal policy and anticipated monetary policy on the performance of the stock market. It shows that both anticipated policies are positive but do not have significant impact in the performance of the stock market. However, Interest rate has a negative and significant effect on the performance of the stock market while exchange rate has a positive but not significant effect on the performance of the stock market. The findings on interest rate is in line with the findings of (Ime and Queensley, 2014; Margaret, 2012; Osamwonyi and Osagie, 2012) which state that there exists an inverse relationship between interest rate and stock market performance. Furthermore, it can be seen that the 81% of the variance in the response variable can be explained by the

explanatory variables while 19% can be attributed to unknown or inherent variability, which shows a goodness of fit.

5.4.2 VECM Estimates of Anticipated Monetary and Fiscal Policy effect on Stock Market Performance

The Vector Error Correction Model (VECM) is a full information maximum likelihood estimation model because it yields more efficient estimators of the cointegrating vectors. The VECM also permits testing for cointegration in a whole system of equation in one step without requiring a specific variable to be normalized. It also means that all the variables can be solved simultaneously (Koh and Maysami (1997)). Moreover, it allows for the non-requirement for a prior assumption of endogeneity or exogeneity of the variables. Table 5.4.2 above shows the first objective of the study to examine the effect of anticipated change in fiscal and monetary policy in Nigeria. This was estimated using the vector error correction approach. The asterisks in the figure below shows the level of significance as it relates to the t- statistics. The t-statistics indicates whether or not an independent variable is correlated to the dependent variable.

In this section, the vector error correction model estimates include both the anticipated monetary policy (CMS) and the anticipated fiscal policy (CGEXP) and the control variables. The VECM provides information about the short term relation of the variables. It can be seen from the results that we have one cointegrating equation in the whole system of the vector error correction estimates. Each variable also has four lags denoted with (-1) to (-4). It can be seen from the result that the cointegrating equation or error correction term has a negative sign, less than one and the speed of adjustment in the stock exchange is at the 13% and it is also significant at the t value of 6.688 which is at the 1% level of significance. The performance of the stock market in the

lagged value of all the four quarters has a positive effect on the present performance of the stock market with only the first and third quarters being significant at the 10% and 5% level. It, however, had the highest values in the levels that was significant. This implies that the present performance of the stock market has a short and long term effect.

Furthermore, from the first quarter to the last quarter, anticipated fiscal policy has an adverse effect on the performance of the stock market. However, it was only in the third and fourth quarters that we had significant relationship with the stock market. This implies that anticipated fiscal policy has a long term (Lag) negative effect on the performance of the stock market. Therefore, when fiscal policy is to be announced, government should have in mind the effect it would have on the stock market on the long run depending on the goal expected to be achieved. For the anticipated monetary policy (CMS), a positive relationship was observed with the performance of the stock market in the first and second quarters, while the third and fourth quarters exhibited a negative relationship with only the fourth quarter being significant. This implies that anticipated monetary policy has a negative and significant effect in the long run on the performance of the stock market. However, Interest rate was seen to affect stock market negatively in all the four quarters with it being significant in the first to the third quarters while the fourth quarter was not significant. This is in line with interest rate theory which says a rise in interest rate is expected to impact negatively on stock market performance. Although, some studies are of the opinion that short term interest rate affects the stock market positively (Chakradhara, 2008). Meanwhile, exchange rate exhibits positive effects on stock market performance with the exception of the last quarter with only the first quarter being significant at the 5% level. This is obviously not in line with the flow oriented theory which says that a

negative relationship exists between exchange rate and stock market. Our result which shows a positive relationship is in line with the stock oriented theory of exchange rate.

Furthermore, stock market in the second quarter has negative impact on anticipated monetary policy and with exchange rate in the third quarter at the 10% and 5% level of significance. While anticipated fiscal policy in the second quarter has a negative effect on exchange rate at the 10% level of significance, anticipated fiscal policy in the third quarter has a negative and positive relationship with anticipated monetary policy and exchange rate at the 10% and 5% level; and in the last quarter, anticipated fiscal policy has a positive relationship with exchange rate at the 5% level of significance. Lastly, there exists a positive relationship in the last quarter between exchange rate and interest rate at 10% level of significance.

In conclusion, it can be seen that the performance of stock market in both the short and long run has an effect that has endured till the present times. This implies that the stock market performance is self- enhancing. It can be seen that there exists a negative relationship between anticipated fiscal policy and anticipated monetary policy in the lagged third quarter, which shows an interrelationship between the variables. And anticipated fiscal policy has a negative long run relationship with stock market performance, with it being significant in the third and fourth quarters; but in respect of anticipated monetary policy, a negative relationship was observed with the performance of the stock market in the long run.

Table 5.4.2: A five-variable VEC Model estimate including both Anticipated policies

	Dependent Variable				
Independent Variable	**D(VOT)**	**D(CGEXP)**	**D(CMS)**	**D(INT)**	**D(EXCH)**
C	0.105619 [1.87452]*	0.027833 [0.43250]	0.052346 [1.67472]*	-0.937771 [-1.15463]	0.015044 [0.87923]
D(VOT(-1))	0.252189 [1.95912]*	-0.11206 [-0.76219]	0.00143 [0.02002]	-0.979118 [-0.52768]	0.023314 [0.59641]
D(VOT(-2))	0.073943 [0.51752]	-0.126548 [-0.77546]	-0.133768 [-1.68768]*	-1.751534 [-0.85044]	-0.037916 [-0.87388]
D(VOT(-3))	0.331363 [2.09372]**	0.132921 [0.73533]	0.109004 [1.24156]	0.891414 [0.39074]	-0.111992 [-2.33025]**
D(VOT(-4))	0.082264 [0.66806]	0.105046 [0.74691]	-0.093825 [-1.37353]	2.227973 [1.25522]	0.015675 [0.41919]
D(CGEXP(-1))	-0.273228 [-1.25292]	0.245036 [0.98379]	0.013607 [0.11248]	-3.948514 [-1.25612]	-0.003582 [-0.05409]
D(CGEXP(-2))	-0.140439 [-0.63513]	0.517326 [2.04841]**	0.155112 [1.26453]	-0.263971 [-0.08282]	-0.12618 [-1.87918]*
D(CGEXP(-3))	-0.483665 [-1.87222]*	-0.205956 [-0.69801]	-0.215101 [-1.50094]*	1.09344 [0.29363]	0.229519 [2.92572]**
D(CGEXP(-4))	-1.750113 [-6.38587]***	-0.695299 [-2.22127]**	0.110518 [0.72694]	5.488399 [1.38930]	0.200313 [2.40693]**
D(CMS(-1))	0.232237 [0.81187]	0.054714 [0.16747]	0.031079 [0.19585]	2.076643 [0.50363]	-0.053209 [-0.61254]
D(CMS(-2))	0.057082 [0.20171]	0.0647 [0.20018]	-0.33831 [-2.15507]**	2.601631 [0.63780]	-0.096229 [-1.11981]
D(CMS(-3))	-0.235747 [-0.85112]	-0.025969 [-0.08209]	-0.02717 [-0.17682]	3.101269 [0.77675]	0.037899 [0.45058]
D(CMS(-4))	-0.40699 [-1.45396]*	-0.162317 [-0.50770]	0.664418 [4.27876]***	2.694035 [0.66768]	-0.079538 [-0.93571]
D(INT(-1))	-0.046647 [-3.02465]***	-0.014406 [-0.81787]	0.011077 [1.29477]	-0.193403 [-0.86999]	0.000696 [0.14864]
D(INT(-2))	-0.021961 [-1.63386]*	-0.006016 [-0.39187]	-0.002945 [-0.39502]	-0.117572 [-0.60683]	-0.001373 [-0.33628]
D(INT(-3))	-0.029787 [-2.20634]**	-0.02164 [-1.40336]*	-0.004827 [-0.64445]	0.318517 [1.63672]*	0.006062 [1.47858]*
D(INT(-4))	-0.001409 [-0.10812]	0.002226 [0.14956]	-0.008785 [-1.21510]	-0.123974 [-0.65992]	-0.007816 [-1.97494]*
D(EXCH(-1))	1.555786	0.036255	-0.412763	-13.00469	0.079879

	[2.15701]**	[0.04401]	[-1.03160]	[-1.25084]	[0.36470]
D(EXCH(-2))	0.082905 [0.11871]	6.24E-01 [0.78192]	-0.182026 [-0.46985]	-0.7182 [-0.07134]	-0.318431 [-1.50151]*
D(EXCH(-3))	0.925093 [1.29576]	0.586473 [0.71922]	0.157991 [0.39892]	-1.471931 [-0.14303]	-0.220635 [-1.01768]
D(EXCH(-4))	-0.399572 [-0.60881]	-0.188723 [-0.25176]	0.054476 [0.14962]	14.52298 [1.53512]*	0.311379 [1.56236]*
Ect (-1)	-0.130778 [-6.68800]***				
't' statistics in parentheses, *p< 0.1,**p<0.05,***p<0.01					

Source: Author's Computation (2016) using E-Views 7.0

5.4.3 Comparison between Results of Linear Regression and Vector Error Correction Model

The first objective which is to determine the effects of anticipated fiscal and monetary policies on stock market performance in Nigeria was estimated using the ordinary least square method and the vector error correction model. The ordinary least square method (OLS) found that there existed a positive but not significant relationship between anticipated fiscal policy and stock market performance in Nigeria; also, anticipated monetary policy has a positive but not significant effect on the performance of the stock market. The results from the vector error correction model (VECM) found that a negative and significant relationship existed between anticipated fiscal policy and stock market performance in Nigeria; the anticipated monetary policy also has a negative and significant effect on stock market performance in Nigeria in the fourth lag. Furthermore, interest rate has a negative relationship while exchange rate has a positive relationship with the stock market in the linear regression method with only interest rate being significant. While in Vector error correction model, interest rate has a negative and

significant relationship with stock market performance in the short and long run while exchange rate has a positive significant relationship with stock market in the short run. From the results of these two methods, this study would adapt the Vector error correction model because of its characteristics and robustness, when compared to the ordinary least square method. The two methods were used in order to understand the differences in results between the Ordinary Least Square Method (OLS) and Vector Error Correction Method (VECM).

5.5 Variance Decomposition of the VECM

The VECM parameter estimates alone do not provide indication of the dynamic properties of the system nor the relative strength of the granger causality beyond the sample period. Thus, we draw on the variance decomposition technique to examine the breakdown of the change in value of the variable in a given period arising from its own shocks in addition to the shocks of other variables in previous periods. Thus, the variance decomposition estimates give us further insights about the relationship among the variables and to determine the contribution of each sector to the changes in other sectors. The variance decomposition is termed an out of sample causality test which provides an indication of the dynamic properties of the system by partitioning the variance of forecast error of a certain variable in the system including its own. From the variance decomposition below, it can be seen in Table 5.5.1 that 37.3 percent of the variation in stock market performance (VOT) was accounted for mainly by its own shock after the 10th quarter while CGEXP, CMS, INT and EXCH explained 14.71, 26.8, 4.38 and 16.73 percent respectively. It can be seen that anticipated monetary policy has the highest value that explains shocks in the performance of the stock market, followed by exchange rate and anticipated fiscal policy. Similarly, in Table 5.5.2, 78.31 percent of the variation in anticipated fiscal policy was

accounted for by its own shock after 10 quarters, while VOT, CMS, INT and EXCH explained 12.08, 0.31, 7.85 and 1.43 percent respectively. If the variation caused by the stock market is followed by the exchange rate, there will arise distortion in the market, with the least distortion coming from anticipated monetary policy. In Table 5.5.3, 80.77 percent of the variation in anticipated monetary policy was explained by its own shock after the 10th quarter while VOT, CGEXP, INT and EXCH explained 13.49, 2.13, 0.37 and 3.22 percent. Hence, the stock market causes more distortions in anticipated monetary policy than the other variables. In Table 5.5.4, 56.25 percent of the variation in interest rate was explained by its own shock after the 10th quarter while VOT, CGEXP, CMS and EXCH explained 2.13, 30.15, 8.65 and 2.80 percent respectively. It can be seen that anticipated fiscal policy has a major impact in explaining distortions in interest rate. In the same vein, Table 5.5.5 shows that 3.92 percent of the variation in exchange rate was explained by its own shock while VOT, CGEXP, CMS and INT explained 19.06, 75.22, 1.44 and 0.33 percent respectively after the 10th quarter. This implies that anticipated fiscal policy and VOT cause huge distortions in exchange rate, although the distortions caused by anticipated fiscal policy is of a higher variation.

In conclusion, it can be seen that anticipated fiscal policy (CGEXP) explains some level of variation in the performance of the stock market while anticipated monetary policy (CMS) also had some level of variation in the performance of the stock market, with anticipated monetary policy being of a higher magnitude than its fiscal policy counterpart. Also, the stock market causes relative distortions in both anticipated policies with 12.08 percent for anticipated fiscal policy and 13.49 percent for anticipated monetary policy. Furthermore, anticipated monetary policy explains very little distortions in anticipated fiscal policy with a value of 0.31 percent, while anticipated fiscal policy explains 2.13 percent of anticipated monetary policy. Lastly,

anticipated fiscal policy explains interest rate with a value of 30.15 percent and exchange rate with a value of 75.22 percent. This implies that anticipated fiscal policy causes huge distortions in exchange rate.

Table 5.5.1: Variance Decomposition of VOT

Period	S.E.	VOT	CGEXP	CMS	INT	EXCH
1	0.086075	100	0	0	0	0
2	0.15233	87.56928	3.579382	0.156933	1.503704	7.190697
3	0.244239	72.90437	13.33166	1.110536	1.940013	10.71342
4	0.349748	62.48725	17.3496	3.126616	3.66635	13.37018
5	0.422449	55.1492	14.93208	7.118388	5.053728	17.7466
6	0.500441	49.33856	12.95093	11.76998	5.872715	20.06782
7	0.576084	44.79966	10.94586	16.71479	6.487414	21.05227
8	0.654656	41.46211	9.809709	22.37603	5.863048	20.48911
9	0.752276	39.25273	11.77308	25.32233	5.101991	18.54988
10	0.857126	37.36398	14.71198	26.80064	4.386115	16.73729

Source: Authors Computation (2016) using E-Views 7.0

Table 5.5.2: Variance Decomposition of CGEXP

Period	S.E.	VOT	CGEXP	CMS	INT	EXCH
1	0.09831	25.60302	74.39698	0	0	0
2	0.165278	20.0158	79.44546	0.029356	0.488625	0.020751
3	0.248685	16.58859	82.63982	0.028354	0.456879	0.286354
4	0.319914	14.51608	83.2956	0.075393	1.527708	0.585211
5	0.357975	13.32989	83.07314	0.060214	2.529875	1.006878
6	0.384098	12.62068	82.43932	0.052508	3.625063	1.262423
7	0.399234	12.18289	81.0445	0.050155	5.301027	1.421433
8	0.40804	11.98464	80.15142	0.094569	6.296398	1.472967
9	0.4164	12.02059	79.15882	0.197707	7.172955	1.449927
10	0.423673	12.08687	78.31083	0.310748	7.85528	1.436271

Source: Authors Computation (2016) using E-Views 7.0

Table 5.5.3: Variance Decomposition of CMS

Period	S.E.	VOT	CGEXP	CMS	INT	EXCH
1	0.04775	9.68046	0.52173	89.7978	0	0
2	0.06806	7.90044	0.45702	88.5173	1.87682	1.24841
3	0.08096	7.90478	7.36397	79.4708	1.57771	3.68272
4	0.09093	9.28857	7.14591	77.9105	1.25127	4.40374
5	0.11933	10.2134	4.83057	81.5648	0.77789	2.61341
6	0.14452	10.9119	3.29607	83.0026	0.58899	2.20039
7	0.15873	11.312	3.50639	81.2117	0.5903	3.37967
8	0.17293	12.5384	3.37483	79.3698	0.52745	4.18946
9	0.19785	13.2446	2.69655	80.0822	0.44999	3.52673
10	0.22266	13.4918	2.13449	80.7741	0.3708	3.22883

Source: Authors Computation (2016) using E-Views 7.0

Table 5.5.4: Variance Decomposition of INT

Period	S.E.	VOT	CGEXP	CMS	INT	EXCH
1	1.24073	0.46011	27.1583	4.29109	68.0905	0
2	1.64013	1.83439	33.1936	2.58421	60.1851	2.20272
3	2.03389	4.92488	35.4104	1.7548	54.6328	3.27713
4	2.6419	3.74895	36.0464	1.17045	54.9573	4.07699
5	3.00833	3.03259	37.9057	1.7524	53.5823	3.72704
6	3.30657	2.65616	35.9887	3.08489	54.8222	3.44812
7	3.57039	2.27872	33.3325	4.35009	56.5634	3.47528
8	3.74771	2.07723	31.2079	6.14928	57.2978	3.26778
9	3.92443	2.11036	30.3786	7.36934	57.1065	3.0352
10	4.09825	2.13323	0.15788	8.65805	56.2508	2.80009

Source: Authors Computation (2016) using E-Views 7.0

Table 5.5.5: Variance Decomposition of EXCH

Period	S.E.	VOT	CGEXP	CMS	INT	EXCH
1	0.02614	8.27776	48.4478	0.13825	0.82853	42.3077
2	0.04312	9.87445	60.1157	0.06183	0.3212	29.6268
3	0.06581	14.8723	69.1504	0.03111	0.63394	15.3123
4	0.08067	17.494	71.3876	0.02393	0.53291	10.5616
5	0.09061	17.7985	73.0277	0.05767	0.58774	8.52833
6	0.09964	18.2836	73.6873	0.14432	0.51741	7.36731
7	0.10795	18.2377	74.566	0.38173	0.44749	6.3671
8	0.11605	18.5756	74.3001	1.06544	0.45798	5.60093
9	0.12718	19.1679	74.4545	1.30986	0.38536	4.68242
10	0.13919	19.0616	75.2292	1.44437	0.33818	3.92665

Source: Authors Computation (2016) using E-Views 7.0

5.6 VEC Granger Causality/ Block Exogeneity Wald Test

The VEC granger causality test shows the interrelationship among variables. In Table 5.6.1, it can be seen that anticipated fiscal policy, anticipated monetary policy and interest rate granger cause stock market performance individually while exchange rate does not granger cause the stock market individually. Although, collectively, all the variables granger cause stock market performance. In Table 5.6.2, none of the variables both collectively and individually granger cause anticipated fiscal policy. In Table 5.6.3, it shows that none of the variables both individually and collectively granger cause anticipated monetary policy. Also, In Table 5.6.4, it was noticed that all the variables do not granger cause interest rate both individually and collectively. Lastly, in Table 5.6.5, the stock market, anticipated fiscal policy and interest rate granger cause exchange rate individually but anticipated monetary policy does not granger cause exchange rate, but collectively, all the variables granger cause exchange rate. Therefore, we can say that there exist unilateral relationships between anticipated fiscal policy and stock market performance, anticipated monetary policy and stock market performance, interest rate and stock market performance, stock market and exchange rate, anticipated fiscal policy and exchange rate, interest rate and exchange rate. Therefore we can say anticipated fiscal policy and anticipated monetary policy have causation effect on stock market performance. Furthermore, in our findings, both the flow and stock oriented theory of exchange rate is not supported.

Table 5.6.1: Dependent Variable VOT

Variables	Chi-sq	Df	Prob
D(CGEXP)	50.04966	4	0
D(CMS)	11.15627	4	0.0249
D(INT)	13.09295	4	0.0108
D(EXCH)	6.581057	4	0.1598
All	77.36649	16	0

Source: Authors Computation (2016) using E-Views 7.0

Table 5.6.2: Dependent Variable CGEXP

Variables	Chi-sq	Df	Prob
D(VOT)	2.886196	4	0.577
D(CMS)	1.140974	4	0.8877
D(INT)	2.447606	4	0.654
D(EXCH)	1.634424	4	0.8026
All	7.262525	16	0.9679

Source: Authors Computation (2016) using E-Views 7.0

Table 5.6.3: Dependent Variable CMS

Variables	Chi-sq	Df	Prob
D(VOT)	6.453717	4	0.1677
D(CGEXP)	3.878644	4	0.4227
D(INT)	3.199625	4	0.525
D(EXCH)	1.87588	4	0.7586
All	13.9632	16	0.6015

Source: Authors Computation (2016) using E-Views 7.0

Table 5.6.4: Dependent Variable INT

Variables	Chi-sq	Df	Prob
D(VOT)	3.255937	4	0.5159
D(CGEXP)	4.822175	4	0.306
D(CMS)	0.926264	4	0.9208
D(EXCH)	4.108084	4	0.3916
All	15.51707	16	0.4871

Source: Authors Computation (2016) using E-Views 7.0

Table 5.6.5: Dependent Variable EXCH

Variables	Chi-sq	df	Prob
D(VOT)	8.639398	4	0.0708
D(CGEXP)	17.99483	4	0.0012
D(CMS)	4.027714	4	0.4023
D(INT)	7.975744	4	0.0925
All	35.53368	16	0.0034

Source: Authors Computation (2016) using E-Views 7.0

5.7 Empirical Analysis of Second Objective

The second objective which is to determine the effects of unanticipated fiscal and monetary shocks on stock market performance in Nigeria was analyzed by estimating the Linear Regression method and the Vector Error Correction model. However, the Vector Error correction model would be adapted in the study because it is not only rigorous but robust. The results for the Ordinary least square (OLS) and the Vector error correction model (VECM) are respectively shown in Table 5.7.1 and 5.7.2 below. The asterisks in Table 5.7.1 and 5.7.2 show the level of significance of the variable as it relates to the t- statistics. The t-statistics indicates whether or not an independent variable is correlated to the dependent variable.

5.7.1 Linear Regression Estimates of Unanticipated Monetary and Fiscal Policy

Table 5.7.1 A Linear Regression model (Unanticipated Policies)

Dependent Variable VOT			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
C	1.307	0.291	0.772
GEXPV	-0.371	-0.609	0.545
MSV	1.126	1.803	0.077*
INT	-0.277	-7.439	0*
EXCH	3.359	4.021	0.0002*
R-squared	0.785		
Adjusted R-squared	0.767		
Akaike info criterion	1.966		
Schwarz criterion	2.153		
Durbin-Watson stat	0.329		

Source: Author's Computation (2016) using E-Views 7.0

The Table 5.7.1 above shows the result of the linear regression estimates for the effect of unanticipated policies on the performance of the stock market. The result shows that there exists a negative but not significant relationship between unanticipated fiscal policy and the performance of the stock market. This result is not in line with the findings of (Goodness et al, 2012; Jose and Rossen, 2003; Nikiforos, 2004; Samuel et al, 2011; Darrat, 1990) which state that fiscal policy is an important determinant in the performance of stock market. However, positive and significant effects exist between unanticipated monetary policy and stock market performance. This implies that unanticipated monetary policy has a significant role to play for the stock market to perform in the Nigerian economy. This finding supports the study done by (Aliyu, 2012; Goodness et al, 2012; Chairporn et al, 2011) which shows that unanticipated monetary policy has no destabilizing effect on stock market performance. Furthermore, interest rate and exchange rate exhibited a negative and positive relationship with the performance of the

stock market with both variables being significant. This is in line with the finding of Asankha (2012) which says interest rate is negatively related to stock performance; Okpara and Adionye (2012) found a negative relationship between exchange rate and stock prices; Foo (2009) also found both adverse effects of interest rate and exchange rate on stock prices; and Olowe (2007) found a negative relationship between exchange rate and stock prices. Lastly, 78% of the variance in the response variable can be explained by the explanatory variables while 22% can be attributed to unknown or inherent variability and this indicates goodness of fit.

5.7.2 VECM Estimates of Unanticipated Monetary Policy and Fiscal Policy

In this section, the vector error correction model estimates include both the unanticipated monetary policy (MSV) and the unanticipated fiscal policy (GEXPV) and the control variables. Each variable also has just one lag denoted with (-1) according to the VAR lag length criteria. The error correction term in the Table 5.7.2 below is negative and between zero and one, and also significant at the 10% level with a t value of 1.73076. It can be seen from the result that the speed of adjustment in the stock exchange is at the 5% level, which shows that the stock market is slow in adjusting to changes in government policies. It was found that there exists a positive relationship between the performances of the stock market in the lagged period with its current performance being significant at the 1% level. However, a positive but not significant relationship exists between unanticipated fiscal policy and stock market performance. Although the unanticipated monetary policy (MSV) has a positive relationship with the performance of the stock market but it was not significant. This implies that though it is not significant, the stock market reacts positively to unanticipated monetary shock. That notwithstanding, it's important to take into consideration the stock market when monetary policies are being made because it can have a spillover effect on the macroeconomy which could still affect the stock market indirectly,

and its effects should not be overlooked. And in the estimation process, interest rate and exchange rate have negative impact on stock market performance, with none of the variables being significant.

Furthermore, it was noticed that there exists a negative relationship between lagged value of stock market performance and interest rate and exchange rate at the 5% and 10% level of significance. There is also a negative relationship between the lagged value of unanticipated fiscal policy and exchange rate at the 10% level of significance.

In conclusion, the performance of stock market in the lagged period has positive effect on the performance of stock market in present times, which implies that the stock market is self-enhancing. Also, unanticipated fiscal policy has a positive but not significant effect on stock market, while unanticipated monetary policy implies that a positive but not significant relationship exists between itself and the stock market.

Table 5.7.2:A five -variable VEC Model estimate including both Unanticipated policies

	Dependent Variable				
Independent Variable	**D(VOT)**	**D(GEXPV)**	**D(MSV)**	**D(INT)**	**D(EXCH)**
C	0.028271 [1.04916]	0.001523 [0.09745]	0.006294 [0.29693]	0.277983 [1.27860]	0.011912 [2.02988]**
D(VOT(-1))	0.528056 [3.16965]***	-0.083676 [-0.86585]	0.0636 [0.48527]	-3.533816 [-2.62899]**	-0.065469 [-1.80448]*
D(GEXPV(-1))	0.199193 [0.64019]	0.183827 [1.01848]	0.159643 [0.65219]	-1.176914 [-0.46880]	-0.12502 [-1.84499]*
D(MSV(-1))	0.000182 [0.00101]	0.09313 [0.89145]	-0.125925 [-0.88880]	0.761008 [0.52372]	0.00418 [0.10658]
D(INT(-1))	-0.015896 [-0.82609]	-0.003103 [-0.27798]	-0.004776 [-0.31549]	-0.030936 [-0.19926]	0.002077 [0.49565]
D(EXCH(-1))	-0.037637 [-0.04489]	0.28863 [0.59350]	-0.79812 [-1.21011]	-8.047716 [-1.18973]	0.18355 [1.00531]
Ect (-1)	-0.05419 [-1.73076]*				
't' statistics in parentheses, *p< 0.1,**p<0.05,***p<0.01					

Source: Author's Computation (2016) using E-Views 7.0

5.7.3 Comparison between Results of Linear Regression and Vector Error Correction Model

The second objective which is to determine the effects of unanticipated fiscal and monetary policies on stock market performance in Nigeria was estimated using the ordinary least square method and the vector error correction model. The ordinary least square method found that there exists a negative but not significant relationship between unanticipated fiscal policy and stock market performance in Nigeria. This was not different from the findings of the vector error correction model which found a negative and not significant relationship between unanticipated fiscal policy and stock market performance in Nigeria. While the linear regression estimate shows that unanticipated monetary policy has a positive and significant effect on stock market performance in Nigeria, the vector error correction estimate also found a positive relationship

which however was not significant at any of the levels. Furthermore, interest rate in the linear regression method showed a negative and significant relationship with stock market performance, while exchange rate exhibited a positive and significant relationship with the stock market. In the Vector error correction model, interest rate and exchange rate had a negative but not significant relationship with stock market performance. Therefore, this study would adapt the Vector error correction model result because of its characteristics and robustness, when compared to the ordinary least square method.

5.8 Variance Decomposition of the VECM

The variance decomposition estimates are used to determine the contribution of each sector to the changes in other sectors. From the variance decomposition below, it can be seen in Table 5.8.1 that 98 percent of the variation in stock market performance (VOT) was accounted for mainly by its own shock after the 10th quarter while GEXPV, MSV, INT and EXCH explained 0.52, 0.09, 0.42 and 0.09 percent respectively. Although, the study showed that both unanticipated policies do not cause much distortions in the variations in the stock market, the unanticipated fiscal policy still causes more variation than the unanticipated monetary policy. Similarly, in Table 5.8.2, 55.96 percent of the variation in unanticipated fiscal policy was accounted for by its own shock after 10 quarters, while VOT, MSV, INT and EXCH explained 42.64, 1.03, 0.01 and 0.34 percent respectively. It can be seen that when compared to other variables, the stock market causes huge distortions in unanticipated fiscal policy. In Table 5.8.3, 55.19 percent of the variation in unanticipated monetary policy was explained by its own shock after the 10^{th} quarter while VOT, GEXPV, INT and EXCH explained 32.81, 2.05, 8.59 and 1.33 percent. It can also be seen that stock market performance would cause huge variations in the

unanticipated monetary policy. We equally note that unanticipated fiscal policy causes more variation in unanticipated monetary policy than the other way round. In Table 5.8.4, 24.53 percent of the variation in interest rate was explained by its own shock after the 10^{th} quarter while VOT, GEXPV, MSV and EXCH explained 40.97, 14.04, 14.96 and 5.47 percent respectively. It can be seen that the stock market has the highest percentage in explaining shocks in interest rate, followed by unanticipated monetary policy and fiscal policy. In the same vein, Table 5.8.5 shows that 34.73 percent of the variation in exchange rate was explained by its own shock while VOT, GEXPV, MSV and INT explained 53.90, 1.18, 9.38 and 0.79 percent respectively after the 10^{th} quarter. The stock market also explains a relatively high percentage of the shocks in exchange rate in Nigeria.

In conclusion, it can be seen that both unanticipated monetary policy (MSV) and unanticipated fiscal policy (GEXPv) has a very small level of variations in the stock market. This is because the stock market itself causes a major level of distortions to itself. The unanticipated fiscal policy has a greater level of variation on stock market as at when compared to the unanticipated fiscal policy albeit very small. It can also be seen that stock market has a higher level of variation on unanticipated fiscal policy than unanticipated monetary policy. However, the magnitude of the impact from unanticipated monetary policy is lower on unanticipated fiscal policy than the distortions of unanticipated fiscal policy on unanticipated monetary policy. It was seen that the stock market caused a reasonable level of distortions in all the variables, and lastly, unanticipated fiscal and monetary policies have almost the same impact on variations on interest rate.

Table 5.8.1: Variance Decomposition of VOT

Period	S.E.	VOT	GEXPV	MSV	INT	EXCH
1	0.14107	100	0	0	0	0
2	0.25645	99.42287	0.12475	0.00971	0.44145	0.00121
3	0.36064	99.07094	0.33367	0.02352	0.56288	0.00899
4	0.45322	98.89691	0.45952	0.0335	0.58219	0.02788
5	0.53558	98.82881	0.51744	0.04518	0.56208	0.04649
6	0.60948	98.81047	0.53935	0.05724	0.53142	0.06152
7	0.67651	98.81341	0.54426	0.0688	0.50058	0.07295
8	0.73799	98.82455	0.54169	0.07931	0.47287	0.08158
9	0.79493	98.83811	0.53616	0.08856	0.449	0.08816
10	0.84813	98.85165	0.52975	0.09657	0.42876	0.09328

Source: Authors Computation (2016) using E-Views 7.0

Table 5.8.2: Variance Decomposition of GEXPV

Period	S.E.	VOT	GEXPV	MSV	INT	EXCH
1	0.08183	25.43768	74.5623	0	0	0
2	0.13536	29.78669	69.2669	0.70927	0.02854	0.20861
3	0.17735	33.43109	65.3887	0.85621	0.01674	0.30723
4	0.21245	36.17034	62.5454	0.92542	0.01327	0.34557
5	0.2431	38.17927	60.4935	0.95911	0.01267	0.3555
6	0.27064	39.64315	59.008	0.98086	0.01238	0.35562
7	0.29581	40.72251	57.9154	0.99731	0.01194	0.35286
8	0.31912	41.53409	57.0942	1.01075	0.0114	0.34961
9	0.34091	42.15816	56.4624	1.02204	0.01083	0.3466
10	0.36141	42.64887	55.9652	1.03164	0.01029	0.34401

Source: Authors Computation (2016) using E-Views 7.0

Table 5.8.3: Variance Decomposition of MSV

Period	S.E.	VOT	GEXPV	MSV	INT	EXCH
1	0.11098	10.1665	4.06054	85.773	0	0
2	0.14348	17.2673	3.89738	77.6039	0.19124	1.0402
3	0.17064	22.0581	3.98442	71.7605	0.94997	1.24704
4	0.19338	25.4373	3.72739	67.4696	2.07306	1.2927
5	0.21325	27.8157	3.36231	64.1608	3.35965	1.30159
6	0.2311	29.4995	3.00883	61.5491	4.63594	1.30669
7	0.24746	30.7119	2.70302	59.4552	5.81639	1.3135
8	0.26267	31.6064	2.44693	57.7557	6.86915	1.32178
9	0.27696	32.2855	2.23343	56.3591	7.79139	1.33062
10	0.29049	32.816	2.05439	55.1971	8.59313	1.33935

Source: Authors Computation (2016) using E-Views 7.0

Table 5.8.4: Variance Decomposition of INT

Period	S.E.	VOT	GEXPV	MSV	INT	EXCH
1	1.13822	8.45137	6.95773	1.9957	82.5952	0
2	1.53125	19.7389	6.04459	6.8212	65.2196	2.17577
3	1.88543	27.614	7.13796	8.44806	53.1063	3.69375
4	2.20838	32.5185	8.63853	10.1198	44.3064	4.41679
5	2.50069	35.591	9.98764	11.4088	38.1972	4.81535
6	2.76715	37.5674	11.1226	12.4433	33.8113	5.05534
7	3.0121	38.8897	12.064	13.2747	30.5566	5.21508
8	3.23935	39.8095	12.8461	13.95	28.0659	5.32851
9	3.45191	40.4744	13.4987	14.504	26.1098	5.41303
10	3.65216	40.973	14.0462	14.963	24.5395	5.4784

Source: Authors Computation (2016) using E-Views 7.0

Table 5.8.5: Variance Decomposition of EXCH

Period	S.E.	VOT	GEXPV	MSV	INT	EXCH
1	0.03072	31.4028	9.03954	3.62174	4.55853	51.3774
2	0.04863	38.666	4.21635	5.64375	3.5806	47.8933
3	0.06269	44.133	2.58508	6.3151	2.81707	44.1498
4	0.0747	47.7536	1.86605	6.94149	2.18555	41.2533
5	0.08534	50.0738	1.51148	7.51624	1.72693	39.1715
6	0.09495	51.5492	1.33488	8.02442	1.40527	37.6863
7	0.10376	52.5044	1.24876	8.4588	1.17777	36.6103
8	0.11191	53.1422	1.20876	8.82421	1.01256	35.8123
9	0.11952	53.5842	1.19222	9.13003	0.88874	35.2048
10	0.12667	53.9025	1.18749	9.38625	0.79304	34.7308

Source: Authors Computation (2016) using E-Views 7.0

5.9 VEC Granger Causality/ Block Exogeneity Wald Test

The VEC granger causality test shows the interrelationship among variables. In Table 5.9.1, it can be seen that unanticipated fiscal policy, unanticipated monetary policy, interest and exchange rate do not granger cause stock market both individually and collectively. In Table 5.9.2, stock market, unanticipated monetary policy, interest and exchange rate do not granger cause unanticipated fiscal policy both individually and collectively. In Table 5.9.3, none of the variables both individually and collectively granger causes unanticipated monetary policy. In Table 5.9.4, with the exception of the stock market which granger causes interest rate individually, none of the other variables granger causes interest rate both individually and collectively. Lastly, in Table 5.9.5, the stock market and unanticipated fiscal policy granger causes exchange rate while none of the other variables granger causes exchange rate both individually and collectively. Therefore, we can say that there exists a unilateral relationship between stock market and exchange rate, which is in line with the stock oriented model and stock market and interest rate and lastly unanticipated fiscal policy and exchange rate.

Table 5.9.1: Dependent Variable VOT

Variables	Chi-sq	df	Prob
D(GEXPV)	0.409838	1	0.5221
D(MSV)	1.02E-06	1	0.9992
D(INT)	0.682428	1	0.4088
D(EXCH)	0.002015	1	0.9642
All	1.014246	4	0.9076

Source: Authors Computation (2016) using E-Views 7.0

Table 5.9.2: Dependent Variable GEXPV

Variables	Chi-sq	df	Prob
D(VOT)	0.749704	1	0.3866
D(MSV)	0.794684	1	0.3727
D(INT)	0.077273	1	0.781
D(EXCH)	0.352237	1	0.5528
All	2.068464	4	0.7232

Source: Authors Computation (2016) using E-Views 7.0

Table 5.9.3: Dependent Variable MSV

Variables	Chi-sq	df	Prob
D(VOT)	0.235484	1	0.6275
D(GEXPV)	0.425355	1	0.5143
D(INT)	0.099537	1	0.7524
D(EXCH)	1.464365	1	0.2262
All	3.261813	4	0.515

Source: Authors Computation (2016) using E-Views 7.0

Table 5.9.4: Dependent Variable INT

Variables	Chi-sq	df	Prob
D(VOT)	6.911593	1	0.0086
D(GEXPV)	0.219777	1	0.6392
D(MSV)	0.274285	1	0.6005
D(EXCH)	1.415468	1	0.2342
All	7.887642	4	0.0958

Source: Authors Computation (2016) using E-Views 7.0

Table 5.9.5: Dependent Variable EXCH

Variables	Chi-sq	Df	Prob
D(VOT)	3.25613	1	0.0712
D(GEXPV)	3.403984	1	0.065
D(MSV)	0.011359	1	0.9151
D(INT)	0.245669	1	0.6201
All	4.539725	4	0.3379

Source: Authors Computation (2016) using E-Views 7.0

5.10 Empirical Analysis of Third Objective

The third objective is to determine whether fiscal and monetary policies act as substitutes or complements in their effect on stock market performance in Nigeria and it would be analyzed using the Vector Autoregressive Framework.

5.10.1 VAR Model Estimates

From Table 5.10.1 below, it shows the parameter estimates of all the variables. It can be seen from the results that there exists a positive relationship between stock market performance with itself in the first quarter but a negative relationship in the second quarter. Also, government expenditure exhibited positive and negative effects in the first and second quarters respectively, with it being significant in the second quarter where it had a negative effect. However, the

money supply variable shows a positive effect in the first and second quarters with none being significant. Exchange rate had positive but not significant effect on stock market performance for both quarters while interest rate shows a negative and significant relationship with stock market in the first quarter.

Furthermore, government expenditure shows a positive relationship with itself in the first quarter but a negative relationship in the second quarter with both being significant; also there exists a significant but positive relationship between government expenditure and money supply. Equally, the money supply implies the existence of a positive relationship with itself for both quarters and they were both significant. Interest rate and money supply had adverse relationship in the first quarter and direct relationship in the second quarter and they were both significant. Interest rate also had a positive relationship with itself and it was significant. Lastly, exchange rate had a positive and significant effect on itself.

Finally, in explaining the complementarity and substitutability objective, the result shows that there exists a positive and significant relationship between government expenditure and money supply in the second quarter with a value of 0.580 and a t-value of 1.7. Therefore we can conclude that they act as complements on their effects on the performance of the stock market. Thus, fiscal policy and monetary policy should act as complementing agents, and not substitutes, in the determinant of the performance of the stock market in the Nigerian economy.

Table 5.10.1:A Five -Variable VAR Model Estimate

	Dependent Variable				
Independent Variable	**VOT**	**GEXP**	**MS**	**INT**	**EXCH**
VOT(-1)	0.390222 [0.69820]	-4.829002 [-0.69599]	6.271556 [0.43377]	-205.6662 [-1.01608]	-4.85932 [-0.96390]
VOT(-2)	-0.078338 [-1.40416]*	-0.834961 [-1.20556]	-0.683408 [-0.47352]	-15.00695 [-0.74273]	-0.694219 [-1.37952]
GEXP(-1)	0.048218 [1.01489]	1.383604 [2.34585]**	-0.898035 [-0.73067]	16.23746 [0.94368]	0.26826 [0.62597]
GEXP(-2)	-0.018967 [-1.44454]*	-0.246459 [-1.51201]*	0.58006 [1.70774]*	3.715121 [0.78127]	0.14463 [1.22118]
MS(-1)	0.008436 [1.36222]	0.10314 [1.34151]	0.590037 [3.68283]***	1.387096 [0.61843]	-0.024144 [-0.43220]
MS(-2)	0.005422 [0.83475]	0.07177 [0.88998]	0.332702 [1.97986]**	-3.009679 [-1.27932]	0.060199 [1.02739]
INT(-1)	-0.000809 [-1.59789]*	-0.008055 [-1.28133]	-0.019651 [-1.50000]*	0.760633 [4.14734]***	-0.001872 [-0.40983]
INT(-2)	3.11E-05 [0.06119]	-0.000557 [-0.08843]	0.018614 [1.41716]*	0.065816 [0.35792]	0.001898 [0.41449]
EXCH(-1)	0.003793 [0.19731]	-0.020644 [-0.08650]	-0.31724 [-0.63787]	1.910917 [0.27445]	1.046988 [6.03751]***
EXCH(-2)	0.002285 [0.11780]	0.089736 [0.37271]	-0.044023 [-0.08774]	-6.06747 [-0.86383]	-0.227115 [-1.29825]
C	1.092422 [1.36241]	9.531611 [0.95755]	-6.466587 [-0.31175]	316.3611 [1.08942]	8.393129 [1.16045]
't' statistics in parentheses, *p< 0.1,**p<0.05,***p<0.01					

Source: Authors Computation (2016) using E-Views 7.0

5.10.2 Variance Decomposition and Impulse Response Function of the VAR Model

The VAR alone does not provide indication of the dynamic properties of the system nor the relative strength of the granger causality beyond the sample period. Thus, we draw on the variance decomposition technique to examine the breakdown of the change in value of the variable in a given period arising from its own shocks in addition to the shocks of other variables in previous periods. Furthermore, we also include the impulse response function to map the time profile of the effects of shocks in the residuals on the behaviour of the series. The impulse response function traces the response of current and future values of endogenous variables to a one standard deviation shock through the dynamic structure of the VAR. The impulse response function measures the time profile of the effect of shocks at a given point in time on the expected future value of variables in a dynamic system. This approach is well suited because not only does it allow for the relative strength of various shocks to be quantified in terms of their contributions to variations in a particular variable of interest, but it also enables the pattern and direction of the transmission of shocks to be traced.

Table 5.10.2.1: Variance Decomposition of VOT

Period	S.E.	VOT	GEXP	MS	INT	EXCH
1	0.003342	100	0	0	0	0
2	0.0052	93.88331	0.268795	2.98228	2.83307	0.03255
3	0.00652	81.79469	0.430601	9.64492	8.09996	0.02982
4	0.007581	69.0144	0.427128	17.6098	12.9205	0.02816
5	0.008455	58.86887	0.357336	24.6012	16.14	0.03262
6	0.009173	51.74493	0.306739	30.0423	17.8658	0.04027
7	0.00977	46.87877	0.301532	34.1207	18.655	0.04397
8	0.010286	43.5161	0.334256	37.1636	18.9449	0.04112
9	0.010756	41.13348	0.388984	39.4434	18.9952	0.03896
10	0.011203	39.38993	0.452917	41.1586	18.949	0.04953

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.2.2: Variance Decomposition of GEXP

Period	S.E.	VOT	GEXP	MS	INT	EXCH
1	0.04149	99.18441	0.815585	0	0	0
2	0.06463	93.90813	1.183593	2.758722	2.14332	0.00624
3	0.08124	82.59279	1.333772	9.515211	6.54759	0.01064
4	0.09427	70.45194	1.244569	17.39283	10.9003	0.01035
5	0.10494	60.68764	1.065555	24.39547	13.843	0.00835
6	0.11374	53.70798	0.908992	29.90217	15.473	0.00789
7	0.12113	48.87505	0.81109	34.05308	16.2535	0.00725
8	0.12761	45.4972	0.765973	37.15483	16.5746	0.00741
9	0.13358	43.07714	0.756396	39.47283	16.6773	0.01636
10	0.13931	41.28304	0.767541	41.20842	16.6966	0.04443

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.2.3: Variance Decomposition of MSV

Period	S.E.	VOT	GEXP	MS	INT	EXCH
1	0.08645	23.1792	0.50319	76.3176	0	0
2	0.10635	17.3251	0.33471	75.5843	6.21168	0.54418
3	0.12363	18.6396	0.31298	73.6816	5.71469	1.65105
4	0.13985	21.2163	0.34411	70.1888	5.80528	2.44543
5	0.15529	23.9894	0.39561	66.353	6.12445	3.13752
6	0.17049	26.27	0.44397	62.9567	6.68307	3.64623
7	0.18506	27.7238	0.49375	60.2883	7.50959	3.98454
8	0.19879	28.4794	0.54898	58.3179	8.47558	4.17819
9	0.21156	28.7339	0.61179	56.9071	9.49039	4.25678
10	0.22332	28.673	0.68226	55.9068	10.485	4.25303

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.2.4: Variance Decomposition of INT

Period	S.E.	VOT	GEXP	MS	INT	EXCH
1	1.210266	2.574871	0.04972	8.37918	88.9962	0
2	1.520784	2.290633	0.16977	6.60278	90.8403	0.09656
3	1.702008	2.130809	0.270139	8.30378	88.8513	0.44395
4	1.845587	2.137486	0.409572	9.18277	86.539	1.73115
5	1.950855	3.004312	0.568488	9.77629	83.1848	3.4661
6	2.031524	4.271841	0.721306	10.0714	79.6746	5.2609
7	2.089901	5.449151	0.856964	10.1724	76.7108	6.81071
8	2.129523	6.285398	0.967035	10.2101	74.5279	8.00953
9	2.15493	6.777108	1.050479	10.2447	73.0709	8.85678
10	2.170392	7.011882	1.110674	10.3009	72.1698	9.40675

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.2.5: Variance Decomposition of EXCH

Period	S.E.	VOT	GEXP	MS	INT	EXCH
1	0.03014	8.849924	1.80476	3.926091	18.1128	67.3064
2	0.04493	15.40599	2.124768	4.495107	14.4713	63.5028
3	0.05335	17.71097	2.577981	4.058987	15.123	60.5291
4	0.05812	18.62723	3.027298	3.716613	16.3919	58.2369
5	0.06078	18.5881	3.441726	3.515757	18.0618	56.3926
6	0.06227	18.09528	3.819099	3.38829	19.7688	54.9285
7	0.06315	17.60551	4.148653	3.299452	21.1972	53.7492
8	0.06375	17.37241	4.418494	3.241623	22.1879	52.7796
9	0.06425	17.4638	4.620868	3.229221	22.7174	51.9687
10	0.06473	17.82487	4.755087	3.282817	22.8625	51.2747

Source: Authors Computation (2016) using E-Views 7.0

The variance decomposition estimates are used to determine the variability of a given sector to the changes in other sectors. From the variance decomposition above, it can be seen in Table 5.10.2.1 that 39.3 percent of the variation in stock market performance (VOT) was accounted for mainly by its own shock after the 10th quarter, while GEXP, MS, INT and EXCH explained 0.45, 41.15, 18.94 and 0.04 percent respectively. From this, when compared to other variables, we can see that money supply accounts for a high variability in the stock market performance. Similarly, in Table 5.10.2.2, 0.76 percent of the variation in government expenditure was accounted for by its own shock after 10 quarters, while VOT, MS, INT and EXCH explained 41.28, 41.20, 16.69 and 0.04 percent respectively. In Table 5.10.2.3, 55.90 percent of the variation in money supply was explained by its own shock after the 10^{th} quarter while VOT, GEXP, INT and EXCH explained 28.67, 0.68, 10.48 and 4.25 percent respectively. In the same vein, Table 5.10.2.4 shows that 72.16 percent of the variation in interest rate was explained by its own shock while VOT, GEXP, MS and EXCH explained 7.01, 1.11, 10.30 and 9.40 percent

respectively after the 10th quarter. Lastly, in Table 5.10.2.5, 51.27 percent of the variation in exchange rate was explained by its own shock after the 10th quarter while VOT, GEXP, MS and INT explained 17.82, 4.75, 3.28 and 22.86 percent respectively.

In conclusion, it can be seen that monetary policy (MS) has high variations on the stock market performance in Nigeria as it contributes 41.15 while government expenditure accounts for 0.45 percent in the variations of stock market performance in Nigeria. This implies that monetary policy causes more variations and any change in it would affect stock market performance than its fiscal policy counterparts. Therefore, they should act as complements because the little impact of fiscal policy although small has its own contribution to the performance of the stock market. It can also be seen that monetary policy causes a relatively large percentage in fiscal policy variable. This further supports its complementarity assumption. Although, the stock market has a relative impact on money supply, its impact is not as much as money supply on stock market. The reversal is the case as regards stock market performance. This is because the performance of the stock market accounts for 14.04 percent variation in change in money supply. This means that there is a bidirectional relationship between monetary policy and stock market performance. Therefore monetary authorities should put in place favourable policies that would enhance the performance of the stock market.

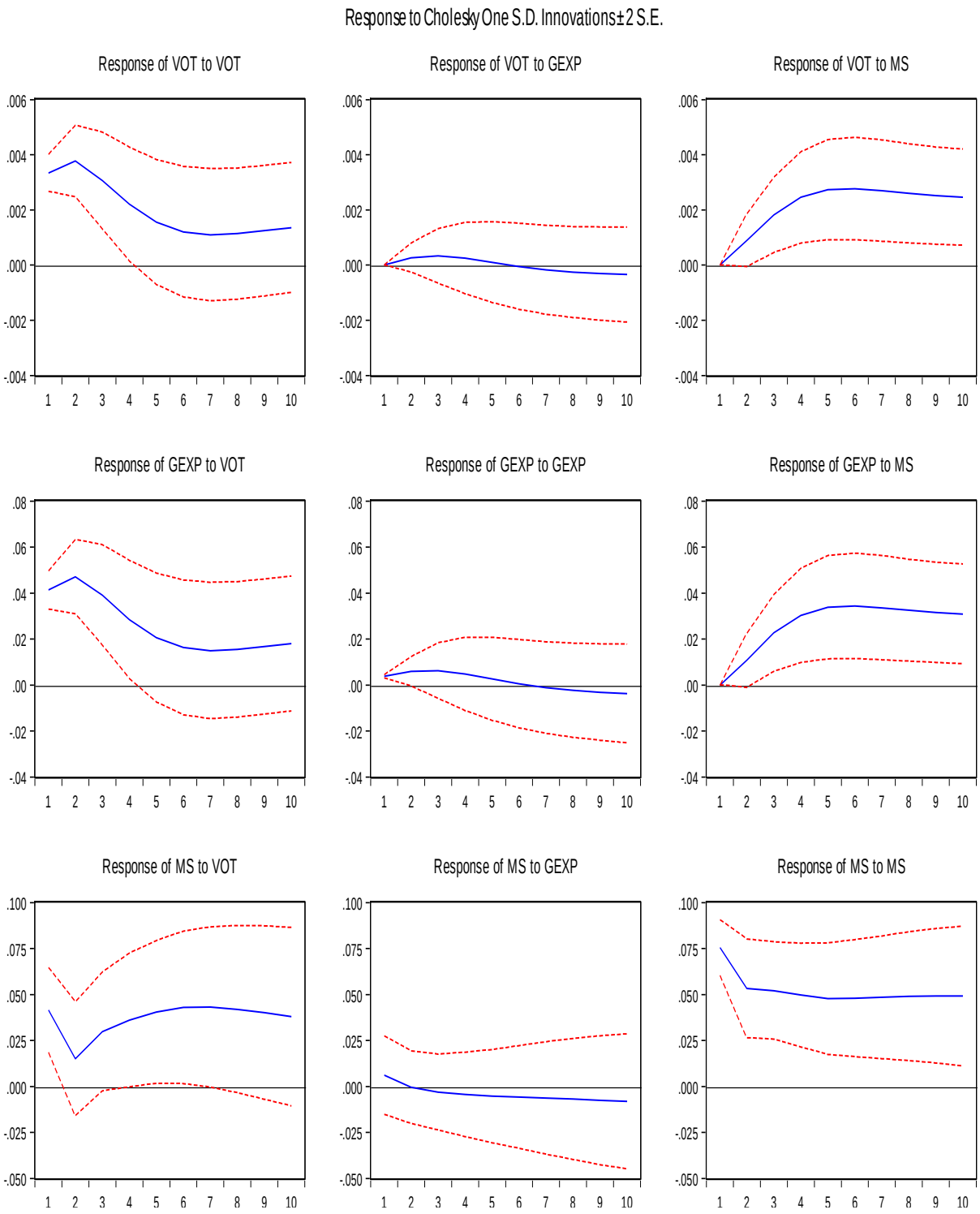


Figure 5.10.2: impulse response of VAR Framework

Source: Author's Computation (2016) using E-Views 7.0

Combined graph

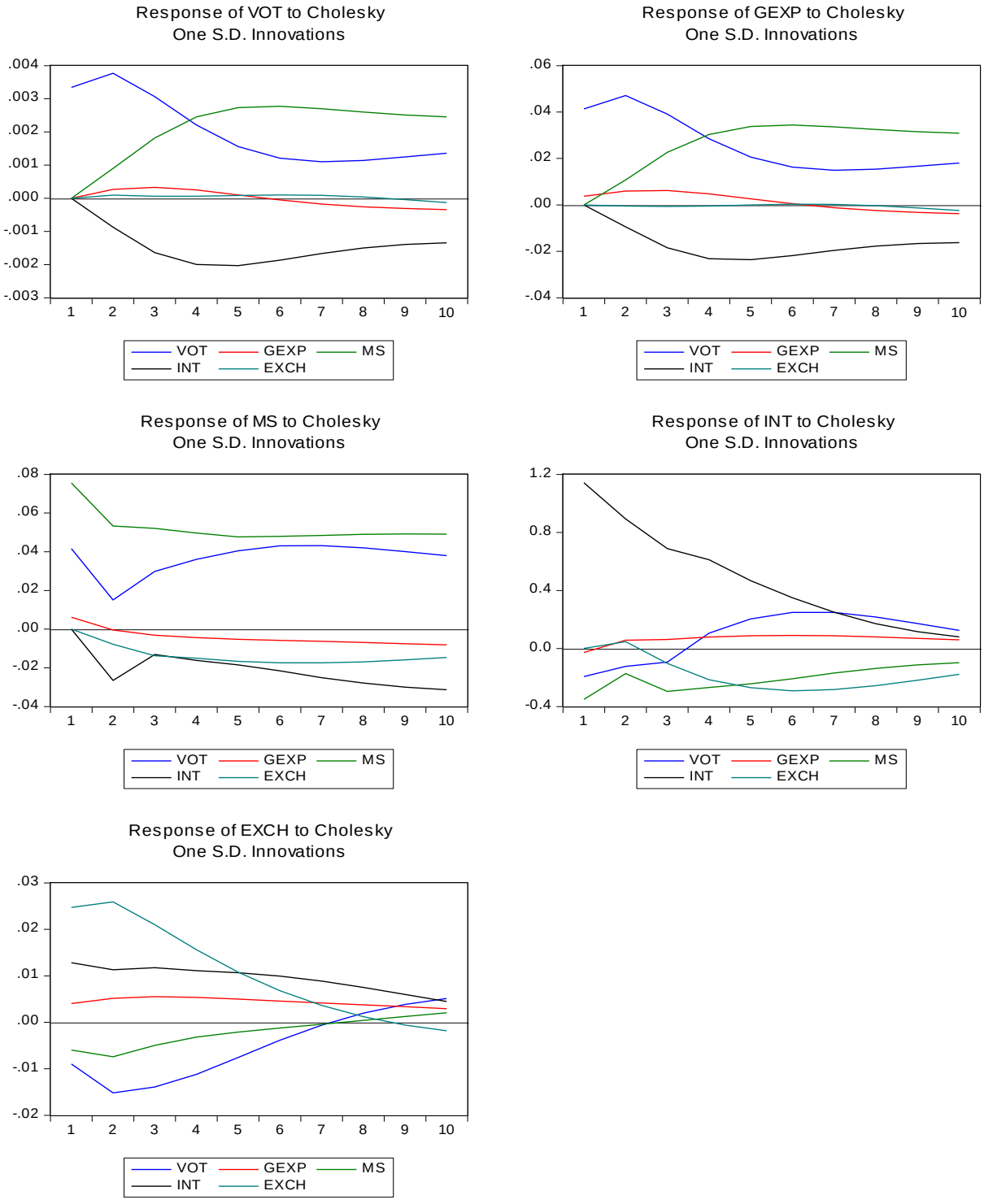


Figure 5.10.2a: combined response of impulses in a VAR Framework

Figure 5.10.2 above shows the outcome of the impulse response functions result that helps to trace out the responsiveness of the dependent variables in the VAR shocks to each of the variables. It's a response to Cholesky one standard deviation innovations. The zero line which is the origin separates both the upper bound and lower bound. The blue line which is the reaction function indicates a positive relationship when above the zero line, while below the line shows a negative relationship. The figures on the horizontal axis indicate the timing into the future and we have decided to use ten quarters into the future. Also, the impulses above shows the response of the core variables while the impulse response graphs that have everything in totality can be found in the appendix. The impulse response graph of Figure 5.10.2 and 5.10.2a above shows for both individual responses and combined responses.

In Figure 5.10.2, a positive shock of one standard deviation to value of transaction has a positive but downward effect on itself in the first ten quarters. It was noticed that the longer the period, the impact on itself decreased but it was never negative throughout the period. The response of the stock market to a positive shock from government expenditure was positive in the first five quarters although with minimal impact; it became zero in the sixth quarter and negative by the tenth quarter. This implies that fiscal policy has a minimal impact on the stock market reaction, although this effect cannot be swept under the carpet. Policies that would be made by government should put this into consideration. The response of the stock market to a positive shock of one standard deviation from money supply was also nonexistent in the first quarter but showed a positive response from the second to the tenth quarter. Thus, it can be seen that the stock market responds in a relatively high magnitude to monetary policy. Therefore, the monetary policy is very important to the performance of the stock market. Furthermore, it can be seen that a positive shock of one standard deviation of value of transaction has a positive but

downward trend on government expenditure from the first to tenth quarter. A positive shock of one standard deviation of government expenditure has a positive impact from the first to the fifth quarter but negative to the tenth quarter on itself. It can also be seen that government expenditure responded in an upward effect from a positive shock from money supply. A positive shock of one standard deviation of value of transaction on money supply witnessed a positive but downward trend from the first to the second quarter but begins to rise from the third quarter to the tenth quarter. There exists a bidirectional response between money supply and value of transaction. However, money supply responded to government expenditure positively only in the first quarter and it became negative from the second to the tenth quarter. Lastly, a positive shock of one standard deviation of money supply to itself shows a positive but downward trend in the first two quarters but gains stability from the third to the tenth quarter.

In Figure 5.10.2a, this is the impulse of all the variables in a combined graph. It can be seen that the response of the stock market to Cholesky one standard deviation innovation was in the upward positive part from the first quarter to the tenth quarter, although with a downward trend recording its highest position in the second quarter. The response of government expenditure to Cholesky one standard deviation shows a positive trend in the first five quarters and became negative from the sixth to the tenth quarter. The response of money supply to Cholesky one standard deviation shows a negative downward trend. Interest rate also experienced a positive effect although it had a downward trend from the first to the tenth quarter tending towards zero. Lastly, the response of exchange rate was positive but downward from the first quarter to the eight quarter and became negative in the last two quarters.

5.10.3 VAR Granger Causality/ Block Exogeneity Wald test

The VAR granger causality test shows the interrelationship among variables. In Table 5.10.3.1, money supply and interest rate granger cause stock market performance individually while government expenditure and exchange rate do not granger cause stock market individually. However, all the variables collectively granger cause the performance of the stock market. In Table 5.10.3.2, money supply and interest rate granger cause government expenditure individually while the other variables do not granger cause it. Collectively, all the variables granger cause government expenditure. In Table 5.10.3.3, 5.10.3.4 and 5.10.3.5, it shows that all the variables individually and collectively do not granger cause money supply, interest rate and exchange rate respectively. This implies there are no interrelationships amongst all the variables both individually and collectively.

Table 5.10.3.1: Dependent Variable VOT

Variables	Chi-sq	df	Prob
D(GEXP)	2.693833	2	0.26
D(MS)	7.699988	2	0.0213
D(INT)	6.765247	2	0.034
D(EXCH)	0.593501	2	0.7432
All	19.58957	8	0.012

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.3.2: Dependent Variable GEXP

Variables	Chi-sq	Df	Prob
D(VOT)	1.535595	2	0.464
D(MS)	7.919166	2	0.0191
D(INT)	5.1634	2	0.0756
D(EXCH)	0.543308	2	0.7621
All	14.11325	8	0.0789

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.3.3: Dependent Variable MS

Variables	Chi-sq	df	Prob
D(VOT)	0.638656	2	0.7266
D(GEXP)	3.11439	2	0.2107
D(INT)	2.376988	2	0.3047
D(EXCH)	3.217341	2	0.2002
All	8.427152	8	0.3929

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.3.4: Dependent Variable INT

Variables	Chi-sq	df	Prob
D(VOT)	1.199443	2	0.549
D(GEXP)	1.806125	2	0.4053
D(MS)	1.759136	2	0.415
D(EXCH)	2.408636	2	0.2999
All	8.175933	8	0.4165

Source: Authors Computation (2016) using E-Views 7.0

Table 5.10.3.5: Dependent Variable EXCH

Variables	Chi-sq	Df	Prob
D(VOT)	2.16039	2	0.3395
D(GEXP)	2.209427	2	0.3313
D(MS)	1.191918	2	0.551
D(INT)	0.188463	2	0.9101
All	8.09181	8	0.4246

Source: Authors Computation (2016) using E-Views 7.0

5.11 Endogenous Graph of the VAR Model

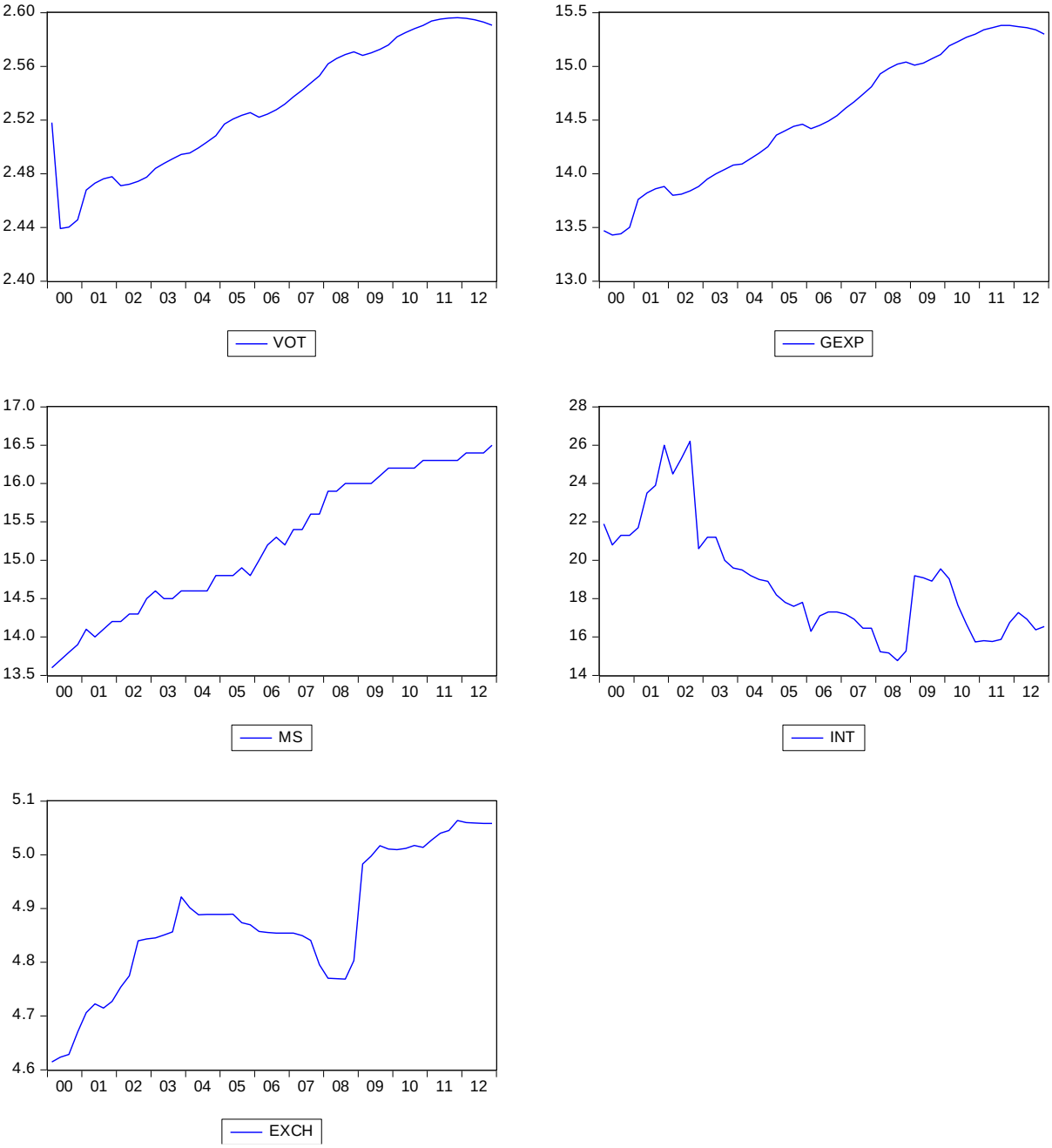
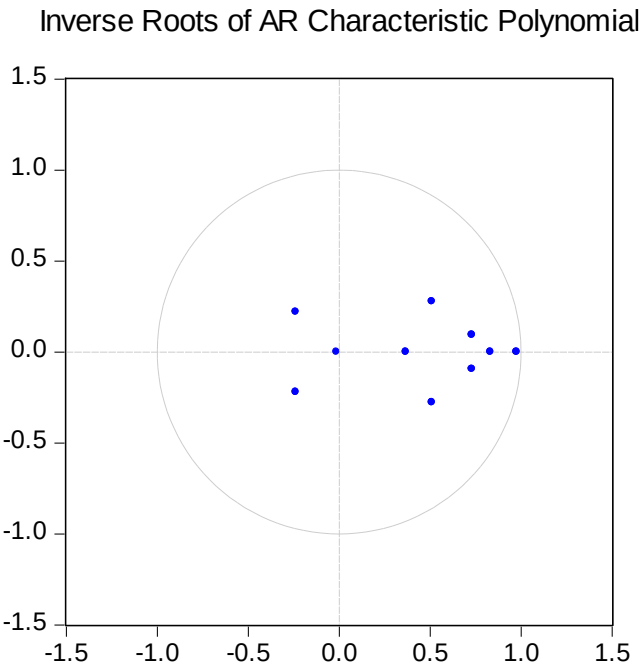


Figure 5.11: Endogenous Graph of the VAR model

In figure 5.11 above, it shows the endogenous graph of the Variables used in the VAR model. For the value of transaction which is a proxy for the performance of the stock market, we can see a fall in the beginning but it changed course and begins to show an upward movement afterwards. While for government expenditure and money supply, it shows an upward movement but the same cannot be said for interest rate and exchange rate, as intermittent swings were noticed.

5.12 Inverse Roots of AR characteristic Polynomial

Figure 5.12 below which is the inverse roots of AR characteristic Polynomial of the VAR framework, is a robustness test that tests the stability of the model. The test indicates that all roots of the characteristics polynomial are inside the unit circle, therefore, the defined VAR model is stable.



Source: Author's Computation (2016) using E-Views 7.0

5.13 Synthesis of Empirical Results

The first objective of this study was to determine the effects of anticipated fiscal and monetary policies on stock market performance. This objective was achieved using the Vector error correction method estimation technique. The results show that there exists a positive and significant relationship between the stock market in the first quarter and third quarter with its present performance. Our findings also show that Anticipated fiscal policy has a negative and significant relationship with the performance of the stock market in the long run. The Anticipated monetary policy equally has an adverse and significant relationship with the performance of the stock market in the long - term. The result also showed an interrelationship between anticipated monetary and fiscal policies in the Nigerian economy. Interest rate exhibited negative and significant relationship with stock market performance both in the short and long run. This is because, any change in interest rate can cause difficulty for investors such as fluctuating share prices, thereby affecting the profitability of firms. The exchange rate has a positive and significant relationship with the stock market performance in the short run and this supports the stock oriented theory.

The results of the variance decomposition show that anticipated fiscal policy and anticipated monetary policy had some level of variation in the performance of the stock market with anticipated monetary policy being of a higher magnitude than its fiscal policy counterpart with a value of 26 as compared with 14 for fiscal policy. This implies that both policies could lead to distortions in the performance of the stock market. Likewise, the stock market has a relative effect on both anticipated fiscal policy and anticipated monetary policy but its variation is slightly higher for monetary policy than fiscal policy with a value of 13.49 (CMS) and 12.08

(CGEXP). Our findings also showed that anticipated monetary policy and anticipated fiscal policy do not account for much variation in their interaction with each other. Lastly, anticipated fiscal policy does account for variation in interest rate with a value of 30.15, and a huge variation in exchange rate with a value of 75.22. Therefore, government should take cognizance of how its policies causes fluctuations on the exchange rate. While in the Block Exogeneity Wald test, the result shows that a unilateral relationship occurs between anticipated fiscal policy and stock market performance, anticipated monetary policy and stock market performance, interest rate and stock market, stock market and exchange rate, anticipated fiscal policy and exchange rate and lastly between interest rate and exchange rate.

Furthermore, the second objective was to determine the effect of unanticipated fiscal and monetary policies on the performance of the stock market using the Vector error correction model estimation technique. The findings show that the past performance of stock market has a positive and significant effect on the present performance of the stock market. The result shows that unanticipated fiscal policy has a positive but not significant effect on stock market performance. Also, the unanticipated monetary policy has a positive but not significant effect on the performance of the stock market. Interest rate and exchange rate had a negative but not significant impact on the performance of the Nigerian stock market. Although, the unanticipated fiscal and monetary policies were not significant in determining the performance of the stock market, fiscal and monetary authority should still make conscious effort when making policies because a spillover effect from the macroeconomy could affect the stock market's performance.

The variance decomposition result shows that both unanticipated fiscal policy and unanticipated monetary policy explains very small distortions in the performance of the stock market.

However, it was noticed that the stock market caused huge distortions in unanticipated fiscal policy, unanticipated monetary policy, interest rate and exchange rate. This implies that the stock market is more powerful when policies are unanticipated and this can lead to a spillover effect to the whole economy. Therefore, caution should be exercised when policies are being made without prior notice to economic agents. Lastly, unanticipated fiscal policy and unanticipated monetary policy have a relative level of distortion on interest rate. The granger causality result shows that unilateral relationships exist between the stock market and interest rate, stock market and exchange rate and finally between unanticipated fiscal policy and exchange rate.

The third objective which is to determine whether fiscal and monetary policies act as complements or substitutes on the performance of the stock market used the Vector autoregressive estimation (VAR) technique. The result from the parameter estimate showed that fiscal and monetary policies act as complements in the performance of the stock market in Nigeria. This is because there exist a positive and significant relationship between fiscal policy (GEXP) and monetary policy (MS). The variance decomposition results also showed that monetary policy causes huge variation in the performance of the stock market with a value of 41.1, while fiscal policy has a very minimal effect on distortions in the stock market. The result showed an interaction between monetary policy and fiscal policy with a value of 41.2. It was noticed that the stock market causes a significant level of variation in fiscal policy, monetary policy and exchange rate. From the impulse response graph, a positive but minimal response of the stock market was noticed for a shock of fiscal policy, while, a positive and increasing response was seen in the stock market from a shock of monetary policy. In the interaction between fiscal policy and monetary policy, a positive and increasing trend was noticed from the fiscal policy as a result of a shock of monetary policy, while a positive but decreasing trend was

noticed in monetary policy as a result of a shock of fiscal policy. Lastly, there exist unilateral relationship between monetary policy and the stock market, interest rate and stock market, monetary policy and fiscal policy and interest rate and fiscal policy.

In conclusion, the findings show that the immediate past performance of the stock market has an impact on the present performance. This finding is in line with the study carried out by Ogbulu and Uruakpa (2011) which says that own effects from stock prices explain present performance. Aliyu (2012) posits that anticipated monetary policy does not exert any effect on stock market returns which is not in keeping with our own findings which says that anticipated monetary policy has an adverse effect on stock market performance. Our results show that anticipated monetary policy explains a significant proportion of stock returns variability which supports the finding of Obonye and Jonah (2011) which states that monetary policy explains a relative proportion of stock returns variability. The study showed that variation in stock performance had a significant impact from its own shocks and this was also the same for the study done by Ogbulu and Uruakpa (2011) which says that own shocks from stock prices are the dominant source of variation.

Furthermore, results show a negative relationship exists between anticipated fiscal policy and stock market performance which was in line with the study done by Osahon and Oriakhi (2013) which found that negative relationships exist between fiscal policy and stock market returns and the findings of Agnello and Sousa (2011) that fiscal policy leads to crowding out effect and that there is an immediate temporary negative response of stock market performance to fiscal policy shocks. However, the findings go against those of (Kausik and Kyojun, 2001; Bekhet and Othman, 2012) which says that fiscal policy are important for the smooth functioning of the

stock market. Our result also supports the findings of (Chaiporn et al, 2011; Chen, 2007; Stefano, 2002) which reported that monetary policy announcements have a negative effect on stock prices and the findings of Ioannidis and Kontonikas (2008) which states that monetary policy shifts have significant negative effect on stock returns. While Jose and Rossen (2003) are of the view that fiscal and monetary policies are important sources of stock return variability, Ioannis et al (2001) says the interaction between the two policies is very important for stock market development. Kausik and Kyojun (2001) posits that the role of government in terms of fiscal and monetary policies is important for the smooth functioning of the stock market. Evans and Murinde (1995) found that anticipated policy actions affect stock prices.

The result shows that unanticipated fiscal policy exhibited a positive but not significant effect on stock market performance, this was the same for unanticipated monetary policy because a positive but not significant relationship was noticed. This simply means that both unanticipated fiscal and monetary policies do not have any effect on the performance of the stock market. This is in line with the Ricardian Equivalence theory which says that irrespective of whatever policies that are being made, it is redundant and has no effect on the economy or the stock market as expected. The findings of Rossanto et al (2012) and Karlene Bailey (2001) opposes our view when they found a negative interaction between fiscal policy shocks and stock market and positive stock response to monetary policy shocks, and where unanticipated monetary policy had a positive effect on stock market. While the findings of (Chen, 2007; Stefano, 2002) found that monetary shock strongly lowers stock returns and that monetary shock has a negative and transitory effect on stock returns which also does not support our findings. The variance decomposition result shows that unanticipated fiscal and monetary policies explain a relatively

small proportion of stock returns variability (corroborates the findings of Obonye and Jonah (2011).

CHAPTER SIX

SUMMARY, POLICY RECOMMENDATION AND CONCLUSION

This chapter provides a general summary and conclusion for the study, as well as recommendations for policy analysis and further studies. At the end of the chapter, limitations of this study are provided.

6.1 Summary of Findings

In this study, an attempt is made to investigate the comparative impact of fiscal policy and monetary policy on stock market performance in the Nigerian economy. The study also attempts to determine whether fiscal policy and monetary policy act as complements or substitutes for stock market performance in the Nigerian economy. An attempt was made to establish the effect of anticipated and unanticipated fiscal policy and monetary policy on stock market performance in Nigeria using the Vector Error correction model (VECM) for the first two objectives while the Vector Autoregressive model (VAR) was used for the last objective. The Nigerian economy was focused on because limited study was found for developing economies. A theoretical and empirical analysis was also undertaken to explain the relationship between the fiscal policy, monetary policy, exchange rate, interest rate and stock market performance. The study uses quarterly data covering the period 2000-2012. The major findings of the study are as follows:

i. In the first place, the study revealed that the past performance of stock market has a significant effect on the present performance of stock market in Nigeria. Anticipated fiscal policy and anticipated monetary policy also exhibit a negative effect on stock market performance in Nigeria.

ii. The study equally revealed that anticipated monetary policy causes more variation than anticipated fiscal policy in the performance of the stock market. Anticipated monetary policy explains very minimal distortion in anticipated fiscal policy. The same also is the same for anticipated fiscal policy and anticipated monetary policy, but anticipated fiscal policy is of a higher magnitude. The Nigerian stock market causes more variation on anticipated monetary policy than anticipated fiscal policy. The anticipated fiscal policy explains high variations in exchange rate.

iii. There exists granger causality between anticipated fiscal policy and stock market, anticipated monetary policy and stock market, interest rate and stock market, stock market and exchange rate, anticipated fiscal policy and exchange rate and lastly, interest rate and exchange rate.

iv. Furthermore, the analysis of the second objective show that unanticipated fiscal policy exhibits a positive but not significant effect on stock market performance in Nigeria; and unanticipated monetary policy had a positive but no significant relationship with stock market performance which is in line with the Ricardian theory.

v. The study also revealed that unanticipated monetary policy and unanticipated fiscal policy have very minimal variation on stock market performance. However, the Nigerian stock market causes huge variation in unanticipated fiscal policy, unanticipated monetary policy, interest rate and exchange rate. Unanticipated fiscal policy and unanticipated monetary policy have a relative level of variation on interest rate.

vi. Lastly, there exists granger causality between stock market and interest rate, stock market and exchange rate and lastly, unanticipated fiscal policy and exchange rate.

vii. In the third objective, the study revealed that fiscal policy and monetary policy act as complements to stock market performance in Nigeria. This is as a result of the positive and significant relationship between government expenditure and money supply.

viii. Money supply also explains a relative large percentage in variations in money supply and the impulse response shows the interrelationship between the two variables.

ix. Lastly, money supply granger causes government expenditure. These results show that there exist interactions between the two policy making institutions. This implies that both fiscal policy and monetary policy should be coordinated in order to see better improvement in stock market performance in Nigeria.

In conclusion, the results indicate that in order to be successful in conducting policy, which creates a climate that allows for growth and stability, fiscal and monetary authorities must be fully aware of the timing and effect of their policies on the economy and the stock market. The study has also highlighted the importance of the monetary policy, fiscal policy on the stock market and the mechanisms through which both policies affect the stock market. Though it was observed that several economic researches have been done in the past, and several non-governmental intervention theories have been supported. However, it has been seen over time that government assistance is sought when an economy is facing a crisis. Thus, Nigeria as an emerging economy cannot regulate its market itself without government intervention. Therefore, it can be concluded that monetary and fiscal policies have significant influence on Nigeria stock

market, but neither of them could exert their roles exclusively. Policies interact with each other and the combination puts forward a positive performance of the stock market.

6.2 Policy Implications

There are a number of policy lessons from the study. These include the following:

i. Past performance of stock market influence present performance of stock market, therefore, it is suggested that the regulatory body of the Nigerian stock market should put in place rules that would guide the affairs and performance of the Nigerian stock market. This is to ensure that both domestic and foreign investors would be encouraged to invest in the Nigerian stock market, thereby boosting its overall performance and lead to the overall growth of the Nigerian economy. Other possible reasons for the downward effect of the stock market on itself could be due to imperfections within the market itself. These could be concentration of trading on a few firms, low market liquidity and other weaknesses in the institutional framework which decrease the efficiency of the market's allocation of investment resources. These factors, in addition to the high costs associated with the raising of equity publicly, such as advertising, legal and accounting fees also inhibit the growth of the stock market and its effectiveness as a channel for savings. Improvements in the overall efficiency of the stock market thus require a deepening of the market and a further reduction in existing operational inefficiencies.

ii. Economic reforms must target macroeconomic stability, removal of structural distortions and creation of business-friendly environment to enhance domestic production capacity. Anti- inflationary policy like non-expansionary monetary and fiscal policies as well as

inflation-adjusted interest rate policy should be pursued to attract foreign investors and discourage capital flight in the country.

iii. Furthermore, the long-run impact of macroeconomic policy on capital formation through the stock market may be limited which may be because of inconsistency in macro-economic policy over the period and thus has not been able to foster a stable environment conducive to the development of the equity market. Government's economic policy pronouncements and the achievement of its economic targets send signals to stock market participants. Therefore, stable and consistent policies are necessary to engender credibility and to aid policy in achieving its desired outcome.

iv. Due to the fact that both anticipated policies have significant effect on the performance of the stock market, it is therefore a necessity for both fiscal and monetary authorities to take into account the counter-effect these policies would have on the performance of the stock market, pending the economic goal they are trying to achieve. Therefore, the effects of their policies on the stock market should not be overlooked no matter the magnitude.

v. Government, in the course of announcing policies should consider the stock market, as it can be seen that such anticipated policies exhibit negative spillover to the stock market, so that they do not have opposing effect on the goal of the Central Bank. To achieve this in a more effective way, regulatory agencies and other operational structures in the economy should work together.

vi. Since stable and sustainable stock price leads exchange rates, policy makers should be cautious in implementing stock market regulation/policies as they have a long term implication on macro variables. There is also the need to address the decay in the critical

infrastructure as this will reduce the cost of funds, operating cost, increase firms' profits and stabilize stock prices which will in turn attract foreign investors and sustain the momentum for growth.

vii. Lastly, to accelerate the growth of the stock market and the economy in Nigeria, both monetary and fiscal policies should be coordinated to ensure a positive performance in the Nigerian stock market. Investors in stocks in Nigeria should take cognizance of fiscal and monetary policies' action in their decision making process as it has important financial implications. Government must synchronize its policy actions with activities in the stock market, and this is critical as it has been established that stock market changes has varied implications for the economy in general.

6.3 Conclusion

In spite of the impressive growth in the performance of the Nigerian economy and the stock market before the global financial crisis, the country is still faced with serious socio-economic challenges at all levels of government, corporate and financial institutions. There is, therefore, the need to link the growth attained with good economic policies as well as the capacity to implement those policies in order to translate into better performance of the stock market which would hereby have spillover effects to the macro economy as a whole. Thus, in order to improve the stock market, authorities should pay more attention to its performance in order to curtail its downward trend as was experienced in the 1930 during the recession before the postulations made by Keynes solved the problem. So, in the Nigerian case, both policy instruments should be used complementarily to see an improvement in the stock market.

6.4 Area of Future Research and Limitation of the Study

This study which is to find the effects of anticipated and unanticipated fiscal and monetary policies on the Nigerian stock market is not exhaustive. This is because the study can be further researched in several ways. It can be done using other estimation techniques, other variables to capture fiscal and monetary policy, the years of estimation can be extended and it can be further researched by including other countries either in West Africa or Sub-Saharan Africa.

The study looked at the impact of anticipated and unanticipated fiscal and monetary policies on stock market performance. The results we got are based on the methods of estimating the anticipated and unanticipated components of the policies; however, if the methods of measure is different, these findings might not necessarily be the same to the one we have obtained. Although, the methods we used are widely accepted in literature, this study has not been found in the existing literature in Nigeria. Thus, it was difficult getting literature on anticipated and unanticipated effects in the Nigerian context. Lastly, significant research needs to be done in this area to provide more data for use in the analysis of both fiscal and monetary policies.

BIBLIOGRAPHY

Abakah E.J & Poku F.A (2016), Budget deficits and stock market returns: Evidence from Ghana. Journal of finance and economics, Vol. 4, No.4, 2016, pp 113-117.

Abaenewo Z.C & Ndugbu M.O (2012), Analysis of the effect of monetary policy development on equity prices in Nigeria. West African journal of industrial and academic research, Vol.5, No.1, 2012.

Adaramola A.O (2012), Exchange rate volatility and stock market behaviour: The Nigerian experience. European journal of business and management. ISSN: 2222-2839, Vol 4, No.5.

Afonso, A. & Sousa, R.M. (2009), Fiscal policy, housing and stock prices, *Working Paper Series 990, European Central Bank, ISSN 1725-2806.*

Afonso, A., & Sousa, R. M., (2011). What are the effects of fiscal policy on asset markets? *Economic Modeling 28, 1871–1890*.

Aghion, P. A. & Howitt, P. A. (1998). Endogenous growth theory. MIT press.

Agnello. L, & Sousa, R.M (2010), Fiscal policy and asset prices. *NIPE Working Paper, Vol 25.*

Aigheyisi .O.S, & Edore J.O (2014). Do government expenditure and debt affect stock market development in Nigeria? An Empirical Investigation. Research Journal of Finance and Accounting, ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)Vol.5, No.20, 2014.

Ajie H.A. & Nenbee S.G. (2010), An Econometric Analysis of Monetary Policy and Stock Prices in Nigeria: 1986-2008. International journal of economic development research and investment, Vol.1, No 1, April 2010.

Aliyu S.U (2011), Reactions of stock market to monetary policy shocks during the global financial crisis: the Nigerian case. MPRA Paper No. 35581.

Al-Jafari, M. K., Salameh, R.M., & Habbash, M.R(2011), Investigating the relationship between stock market returns and macroeconomic variables: Evidence from Developed and Emerging Markets. International Research Journal of Finance and Economics, Issue 79, pp6-30.

Alesina. A, Silvia. A, Roberto. P & Fabio. S (2002): ‘’Fiscal policy, profits and Investment’’. American Economic review, 92 (3): 571-589.

Alvan E.I & Ahmad .H (2008), The comparative performance of African stock markets; Nominal, Real and U.S. Dollar Returns. International journal of business, 13(3). ISSN: 1083-4346.

Amadasu, D.E (2012), Interest rate, inflation rate and exchange rate influence on the Nigerian stock market index: An international journal of arts and humanities Bahir Dar, Ethiopia. Vol. 1 (3). ISSN: 2227-5452.

Andruanaivo M & Yartey C.A (2009), Understanding the growth of African financial markets. International monetary fund wp/09/182.

Anghelache G.C, Jakova S & Oanea D.C (2016), Fiscal policy and capital market performance: Evidence from EU countries from central and eastern Europe. International journal of academic research in Accounting, finance and management sciences, Vol.6, No.2, 2016, pp 34-43.

Anyanwu J.C. (1998), stock market development and Nigerian economic growth. Nigerian Financial Review, 7(2); 6-13.

Aye, G.C., Balcilar, M., & Gupta, R.: Long and short run relationships between house and stock prices in south Africa, a nonparametric approach. Journal of housing research.

Babak, M, Navid. B, Shahriar. E,& Roza.K (2012), An Empirical Study of Relationship between Monetary Policy and Stock Market Performance in Malaysia. *Australian Journal of Basic and Applied Sciences, Vol 6, No. 12, pp 142-148, ISSN 1991-8178.*

Bailey K (2001), Macroeconomic fluctuations, economic policy and the Jamaican stock market. Social and economic studies, Vol. 50, No. ¾, special monetary studies issue (Central banking in the carribean in the 21st Century), pp 173-207.

Bekhet A.H & Othman (2012), Examining the role of fiscal policy in Malaysian stock market. Internatioanl business research, Vol. 5, No. 12, ISSN: 1913-9012.

Bernanke .B, & K. Kuttner (2005). What explains the stock market’s reaction to Federal Reserve policy? *Journal of Finance, Vol 60, No. 3, pp 1221-1257.*

Bjornland, H. C. & Leitemo, K, (2009). Identifying the interdependence between US monetary policy and the stock market. *Journal of Monetary Economics, Vol 56, No. 2, pp 275-282.*

Bohl, M.D., P.L. & Werner, T. (2007), Do central banks react to the stock market?: The case of the Bundesbank. Journal of Banking and Finance, 31: pp719-733.

Branson, W.H, (1983) "Macroeconomic determinants of Real Exchange Rate Risk" in R.J. Herring (eds), *Managing foreign Exchange Risk*,". *Cambridge University Press,M.A.*

Buchanan M.J (1976), Perceived wealth in bonds and social security: A comment. Journal of political economy, Vol 84.2, 337-342.

Capital market authority (2010), A comparative analysis of the Performance of African srock markets for the period 2008-2009, Vol II. Research policy analysis and planning department.

Capital market Bulletin 2013

Caporale, G.M., N. Pittis & N. Spagnolo (2002), "Testing for Causality-in-Variance: An Application to the East Asian Markets", *International Journal of Finance & Economics* 7 (3), pp. 235-245

Chairporn. V & Yaowaluk .T (2011): The impact of monetary policy decisions on stock returns: Evidence from Thailand. Journal of international financial markets, institutions and money, Vol.22, Issue 3, pp 487-507.

Chakradhara P (2014), Do interest rates matter for stock prices? Economic and political weekly, Vol. 43, No. 17, pp 107-115.

Chen, N.F, Roll R & Ross S.A (1986), Economic forces and the stock market. Journal of Business, Volume 59, PP 383-403.

Chen S (2007), Does monetary policy have asymmetric effects on stock returns? Journal of money, credit and banking, Vol 39, No 2-3.

Chen. C & Minghong (2013), A financial crisis study: how fiscal and monetary policy affects the stock market returns considering the specific countries. NEKP 02.

Chude, N.P & Chude D.I (2013), Effect of money supply on the stock market returns in Nigeria. Journal of business and organizational development. Vol 5, No 2.

Conover. C.M, Jensen. G.R, Johnson. R.R & Mercer. J.M (2005), Is Fed policy still relevant for investors? Financial Analysts journal, Vol.61, No.1, pp 70-79.

Courage M, Andrew M & Kin S (2013), effects of exchange rate volatility on the stock market: A case study of South Africa. Mediterianean Journal of social sciences, MCSER Publishing, Vol 4, No 14.

Cukierman A. (1984), Reviewed work; Essays in economics: Theory and policy by James Tobin. Journal of money, credit and banking, Vol.16, No.4, pp 557-563.

Darrat A.F (1990), The impact of federal debt upon stock prices in the united states. Journal of post Keynesian economics, Vol. 12, No. 3, pp375-389.

David D (2002), The interaction between monetary and fiscal policies. Canadian public policy, Vol 28, No 2, pp187-201.

Dewan M (2013), An econometric analysis of the impact of monetary policy on stock market performance in Bangladesh. World review of business research, Vol 3, No 3, pp 16-29.

Dilek L & Elcin A(2014), Granger causality relation between interest rates and stock markets: Evidence from emerging markets. European journal of business and social sciences, Vol.2, No 10, pp 63-73.

Dimitrova D (2005), The relationship between exchange rates and stock prices: studied in a multivariate model. Issues in political economy, Vol. 14, August 2005.

Dornbusch, R & Fischer, S (1980), "Exchange Rates and the current Account", *AER*, Vol. 70 (.5) pp 960-971.

Durham, J. B. (2003). Monetary policy and stock prices returns. *Financial Analysts Journal, Vol 59, No.4, pp 26-35.*

Ehrmann, M. & M. Fratzscher (2004). Taking stock: Monetary policy transmission to equity markets. European Central Bank, Working Paper Series 354.

Emenuga C.A (1994), Systematic factors and returns on equities in the nigerian securities market: PhD Thesis, University of Ibadan.

Evans D & Murinde V (1995), The impact of monetary and fiscal policy actions on the stock market in Singapore. Savings and development, Vol 19, No 3, pp 297-313.

Eze S.O (2008), The effect of monetary policy on stock market performance in Nigeria. JEL Classification: E44, E52, G11, G18.

Faiza S, Yasir M, Farhan S, Kamran A. & Saba S (2012), Budget deficit and stock prices: Evidence from Pakistan and india. Interdisciplinary journal of contemporary research in business, Vol.4, No. 5.

Fama E. (1965), The behavior of stock prices: Journal of business, Vol. 38.1.

Fama, E. (1970), "Efficient Capital Markets: A Review of Theory and Empirical Work," *Journal of Finance Vol 25*, pp 383-417.

Fama E. (1977), Asset returns and inflation: Journal of monetary economics, Vol 13, pp 327-348.

Fama, E. & French, K.R (1989), Business conditions and expected returns on stocks and bonds. Journal of Financial Economics, 25, pp.23-49.

Feldstein M. (1976), Perceived wealth in bonds and social security: A comment. Journal of political economy, Vol. 84.2, pp 331-336.

Foo Z.T (2009), Impact of interest rate and exchange rate on the stock market index in Malaysia: A cointegration analysis. A project report for a masters thesis in university sains Malaysia.

Francesco .G (2004), European Central Bank and Federal Reserve USA: monetary policy effects on the returns volatility of the Italian Stock Market Index Mibtel.

Frankel, J. (1983) "Monetary and Portfolio Balance Models of Exchange Rate Determination," In: Bhandari J. Putnam B. (eds.), *Economic Interdependence and Flexible Exchange Rates* (Cambridge, M.A. MIT Press) pp 84-114

Furlanetto F (2004), Does monetary policy react to stock prices? Some international evidence. JEL Classification: E44, E52, E58.

Garcia. R & Schaller. H (2006), Are the effects of monetary policy asymmetric? Academic journal article.

Goodness C, Mehmet B, Rangan G, Charl J, Stephen M, & Zeynel A (2012), Fiscal Policy Shocks and the Dynamics of Asset Prices: The South African Experience. University of Pretoria *Department of Economics Working Paper Series*

Gowriah. S, Boopen. S, Lamport. M & Seetah. K (2014), The effects of monetary and fiscal policies on the stock exchange: Evidence from an island economy. The business and management review, Vol 4, No.4.

Granger, C.W., B. Huang & C. Yang (2000), "A Bivariate Causality between Stock Prices and Exchange Rates: Evidence from Recent Asian Flu", *Quarterly Review of Economics and Finance*, vol. 40, pp. 337–354.

Gregoriou, A. Kontonikas, A. Macdonalds, R, & Montagnoli, A. (2009), Monetary Policy Shocks and Stock Returns: Evidence from the British Market.

Greenwald B & Stiglitz J.E (1988), Examining alternative macroeconomic theories. Brooklyn papers on economic activity, Vol 1, pp 207-270.

Hafedh B, Badye O & Normandin M (2010), Stock returns and monetary policy; Are there any ties? JEL Classification; C32, E44, E52, G12.

Handoyo R, Mansor J & Azlan S (2013), The impact of monetary and fiscal policy shock on Indonesian stock market. School of economics, University Kebangsaan Malaysia. ISSN: 2231-962X.

Harold Ngalawa (2009), Dynamic effects of monetary shocks in Malawi. Paper presented at the 14th Annual Conference of the African econometric Society, 8-10, July 2009, Abuja, Nigeria.

Herskowitz D.S (1970), Fiscal policy, the quantity of money and the stock market. Financial analysts journal, Vol 26, No 2, pp 35-42.

https:// en.m. Wikipedia.org, Interaction between monetary and fiscal policies

Horngren L (1995), Monetary policy in theory and practice. Quarterly review 1995:3, Sveriges Riksbank.

Ioannis. C, David. D, & George. F. (2011), Stock Market Response to Monetary and Fiscal Policy Shocks: Multi-Country Evidence. JEL: C32, G15, E44, E52, E62, H50

Ioannidis C. & Kontonikas A. (2007), The impact of monetary policy on stock prices, *Journal of Policy Modeling*, Vol 30, pp 33-53.

Ime T.A & Queensley C (2014), Impact of interest rates on stock prices: An analysis of the all share index. International journal of finance and accounting, Vol. 3, No (2), pp 96-101.

Jorion, P. (1991), The pricing of Exchange Rate Risk in the Stock Market‖. Journal of Financial and Quantitative Analysis, 26:363-376.

Jose T & Rossen V (2003), Fiscal policy and asset returns. A presentation to the society for economic dynamics conference 2003.

Jose M.G (2010), Monetary and Fiscal policy Interactions during the Financial Crisis. A presentation to the European Central Bank 2010.

Jansen D.W, Zijun W & Jian Y (2007), Fiscal policy and asset markets: A semi parametric analysis. JEL Classification; C32, E44, E52, G12.

Jinho .J (2001), The Dynamics of Korean Stock Market in Response to Fiscal and Monetary Shocks around Foreign Currency Crisis

Jordi .G. & Luca .G. (2013). The effects of monetary policy on stock market bubble. An International Journal of Arts and Humanities, Bahir Dar, Ethiopia. Vol. 1 (3), August, 2012:357-366.

Jose T, Rossen V (2001), The neglected effects of fiscal policy on stock and bond returns. Economics department, University of California, Los Angeles.

Jose M.G (2010), Monetaray and fiscal policy interactions during the financial crisis. Speech made by Jose Manuel Gonzalez- Paramo, member of the executive board of the ECB. Madrid, 2010.

Joshi P & Giri A (2015), Fiscal deficits and stock prices in India: Empirical evidence. International journal of financial statistics, Vol.3, pp 393-410.

Kausik.C & Kyojun. Koo (2001), Volatility of stock returns. Economic and political weekly, Vol.36, Issue No.40.

Koh T & Maysami R (1997), A cointegration analysis of the impact of economic forces and global market integration on the singapore stock market. Nanyang Business school, Nanyang Technological university, Nanyang avenue, Singapore.

Konstantin K, Montagnoli A, Napolitano O, & Siliverstovs B (2008), Assessing the Impact of the ECB's Monetary Policy on the Stock Markets: A Sectoral View. No.213.

Kontonikas. A, MacDonald. R & Saggu. A (2010), Stock market reaction to fed funds rate surprises: State dependence and the financial crisi. SIRS Discussion papers.

Laopodis, N. T. (2006), Dynamic interactions among the stock market, federal funds rate, inflation, and economic activity. *The Financial Review, Vol 30, pp 513-545*

Liew, V.K (2004), which lag length selection criteria should we employ? Economics Bulletin, Vol.3, No.33, pp 1-9.

Liya W. (2010), The effect of government policy on chinas stock market. A dissertation of the university of St. Gallen, Graduate school of business administration, economics, law and social sciences.

Mountford, A., & Uhlig, H., (2009). What are the effects of fiscal policy shocks? *Journal of Applied Econometrics Vol* 24, pp 960–992.

Michael C.B, Robert F.C, Yu H, & Susan M.L (2010), Stock Market Performance, the exchange rate and the brazillian economy. Research in applied economics, Macrothink institute, ISSN 1948-5433, vol. 2, No 2, E3.

Michael K, Douglas L, Dirk M, & Susanna M (2010), The Global Integrated Monetary and Fiscal Model (GIMF) – Theoretical Structure. International Monetary fund working paper, Vol 10, No.34.

Mihasonirinia A. & Yartey C (2009); Understanding the growth of African Financial markets; International monetary fund working paper, wp/09/182.

Mishkin F.S (2001), The Transmission Mechanism and the Role of Asset Prices in Monetary Policy NBER Working Paper No. 8617.

Moore H. (1962), Stock prices and the business cycle: Journal of portfolio management spring 1975, Vol. 1, pp 59-64.

Naoyuki Y, Farhad T.H, Ali H & Ahmad D.P (2014): Response of stock markets to monetary policy. An Asian stock market perspective. ADBI working paper series 497.

Nigerian Stock Exchange yearly and quarterly Bulletin 2007, 2008.

Nwidobe B.M (2014), The random walk theory: An empirical test in the Nigerian capital market. Asian Economic and Financial Review, 2014, Vol 4. 12. Pp 1840-1848.

Obonye G & Jonah B. (2011), Monetary Policy Shocks and Stock Returns Reactions: Evidence from Botswana.

Ogbulu M.O & Uruakpa C.P (2011), Monetary polcy and stock prices in nigeria, A cointegration and error correction approach. ABSU Journal of arts, management, education, law and social sciences, Vol1.1, pp60-85.

Okoli M.N (2012), Return- volatility interactions in the Nigerian stock market. Asian economic and financial review. Asian economic and social society, Vol. 2, No.2, pp 389-399.

Okoli M.N (2012), Setimating the effects of exchange and interest rates on stock market in Nigeria. African Journal online, Vol.17, No.1.

Okpara C.G (2010), Monetary Policy and Stock Market Returns: Evidence from Nigeria. J Economics, Vol 1, No. 1, pp 13-21.

Okpara C.G & Odionye C.J (2012), Analysis of the relationship between exchange rate and stock prices. Evidence from Nigeria. International journal of current research, Vol. 4, issue 03, pp175-183. ISSN: 0975-833X.

Olowe R.A (2007), The relationship between stock prices and macroeconomic factors in the Nigerian stock market. African review of money finance and banking, pp 79-98.

Ogbulu M.O & Uruakpa C.P (2011), Monetary Policy and Stock Prices in Nigeria: A cointegration and error correction approach. ABSU journal of Arts, Management, Education, Law and Social Sciences (jamelss) Vol 1.1 (2011); 60-85.

Osahon O.S & Oriakhi D.E (2013), Fiscal Deficits and Stock Prices in Nigeria: An Empirical Evidence. JEL Classification: H62, H68, G10.

Osamwonyi I.O & Osagie E.I (2012), The relationship between macroeconomic variables and stock market index in Nigeria. J Economics, 3(1), 55-63. JEL Classification: E44, G12.

Osisanwo B.G & Atanda A.A (2012), Determinants of stock market returns in Nigeria: A time series analysis. African journal of scientific research, Vol. 9.1, 2012.

Paul H.C (2002), Stock prices: Random Versus Systematic Changes. EBSCO Publishing.

Pallegedara A (2012), Dynamic relationships between stock market performance and short term interest. Empirical evidence from Sri Lanka. MPRA paper, No 40773.

Phylaktis K & Ravazzola F (2001), Stock prices and exchange rate dynamics. JEL Classification: F21, F31, F36.

Rafael .R. & Ivan .Z. (2010), The use of SVAR analysis in determining the effects of fiscal shocks in Croatia. JEL: E62, H30, H150.

Rangan G, Charl J, & Kanyane M (2013); A time varying approach to analyzing fiscal policy and asset prices in south Africa. Working papers 201303, University of Pretoria, Department of Economics.

Ram, R. (1986). Government Size and Economic Growth: A New Framework and Some Evidence from Cross Section and Time Series Data. *The American Economic Review*, *76,* 191-203.

Ramos, X & Roca-Sagales, O. (2008), Long term effects of fiscal policy on the size and distribution of the pie in the UK. Fiscal Studies, 29 (3), pp. 387-411.

Ravn. M & Sola. Martin (2004), Asymmetric effects of monetary policy in the united states. Econpapers review, 2004, Issue Sep, pp 41-60.

Richards N, Simpson J & Evans J (2009), The interaction between exchange rates and stock price: An Australian Context. International journal of economics and finance, Vol 1, No 1.

Rigobon, R, & Sack .B (2003). Measuring the reaction of monetary policy to the stock market. Quarterly Journal of Economics, Vol 118, No.2, pp 639-670.

Rigobon, R., & Sack .B (2004), The impact of monetary policy on asset prices. *Journal of Monetary Economics, Vol 51, pp 1553-1575*

Rossanto. D, Mansor. J & Mohd. A (2012), Impact of monetary policy and fiscal policy on Indonesian stock market. Expert journal of economics, Vol. 3, Issue 2, pp 113-126.

Sachs J. D (1979), Wages, profits and macroeconomic adjustment: A comparative study. Brroklyn paper on economic activity, Vol 2, 1979.

Samuel A, Zhao X & Attamills E (2012), Impact of macroeconomic policies on the Ghana stock exchange: A cointegration Analysis. International business research, Vol. 6, No. 3. ISSN 1913-9012.

Sargent T.J (2008), Rational expectation. The concise encyclopaedia of economics. www. Econlib.org.

Sayyed M.Z (2012*),* Evaluating the Effects of Monetary Policy Shocks on GCC Countries

Securities and Exchange Commission yearly Reports

Senbet, L (2008), "African stock markets" In African finance for the 21st Century. High–level seminar organized by the IMF Institute in collaboration with the Joint Africa Institute (Tunis – Tunisia, March 4- 5, 2008)

Sergio S (2012), Temporary and Persistent Fiscal Policy Shocks. The Graduate Institute of International and Development Studies (IHEID). JEL Classification Numbers: C10, E43, F42, F62, H68.

Smith L.H (1990), Stock prices behavior in the American economy. American economic review. Proceedings 71, pp 419-430.

Sneeney A. & Warga .R (1986), Stock returns, interest rate and the direction of causality. Journal of finance, Vol. 35, pp 1073-1103.

Stefano N (2002), Monetary policy and stock prices; Theory and Evidence. JEL Classification: E 44, E52, G14.

Terfa, A.M (2009), Stock market reaction to selected macroeconomic variables in the Nigerian economy. CBN Journal of Applied Statistics, Vol. 2, No.1.

Thorbecke, W (1997) "On Stock Market Returns and Monetary Policy," Journal of Finance, Vol 52, No. 2, pp 635-654.

Tobin J. (1969), A general equilibrium approach to monetary policy. Journal of money, credit and banking, Vol 1, pp 15-29, 1969.

Troy D & Leeper E (2009), Monetary-fiscal policy interactions and fiscal stimulus. RWP 09-12. JEL Nos; E31, E52, E6, E62.

Udegbunam R.. & Eriki P.O. (2001), Inflation and Stock Price Behaviour: Evidence From the Nigerian Stock Market. Journal of financial management and analysis, XX(14) (1), 1-10.

Umoru D & Asekome M.O (2013), Stock prices and exchange rate variability in Nigeria: Econometrics analysis of the Evidence. European scientific journal, Vol 9, No. 25, ISSN 1857-7431.

United Nations Development Programme (UNDP): African Stock Markets Hand book 2003

United Nations Development Programme (UNDP): African Stock Markets Hand book 2004

Unro L (2004), U.S Asset returns and fiscal policy: New empirical investigation. Quarterly journal of business and economics, Vol. 43, No. ¾. Pp 31-47.

Valerie A.R (2009), Identifying government spending shocks: its all in the timing. Working paper 15464, http;//www.nber.org/papers.

Van Aarle, B., Garretsen, H., & N. Gobbin (2003). Monetary and fiscal policy transmission in the Euro-Area: Evidence from a structural VAR analysis. Journal of Economics and Business, Vol 55, No. 5, pp 609-638.

Vance. V.H & Lawrence D.S (1988), Federal deficits and the stock market. Economic Review.

Vafa .M, & Matin .A. (2011), The impact of policy shocks on financial structure: Empirical results from Japan. MPRA paper No.39185.

Wright F.J (1976), Monetary policy and the stock market: is there a direct link? Financial analyst journal, Vol. 32, No. 3, pp 27-32.

www.nse.com.ng/ Market Bulletin

www.sec.gov.ng/ Capital Market Bulletin

www.cbn.gov.ng/ Annual Statistical Bulletin

Yartey, C. A. (2007), Well-developed Financial Intermediary Sector Promotes Stock Market Development: Evidence from Africa, *Journal of Emerging Market Finance*, Vol. 6, No. 3, pp. 269–89.

Yartey C.A & Adjassi C.K (2007), Stock market development in sub Saharan Africa: critical issues and challenges, IMF Working paper 07/209

Yoshino, N, Taghizadeh, F, Hassanadeh, A, & Prasetyo A (2014), Response of stock markets to monetary policy: An Asian stock market perspective. ADBI working paper 497, Tokyo.

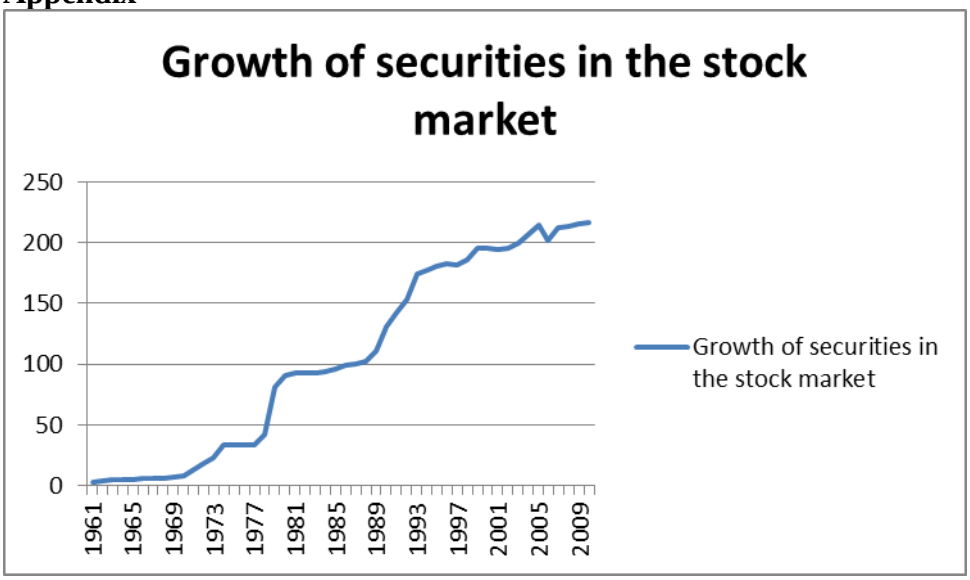
Yu H (2013), Effects of fiscal policy and monetary policy on the stock market in Poland. Open access economies, ISSN 2227-7099, www.mdpi.com/journal/economies.

Yu H & Chen Y (2004), Impact of macroeconomic policies and financial market performance on output in Singapore: A VAR Approach. The journal of developing areas, Vol. 37, No 2, pp 73-98.

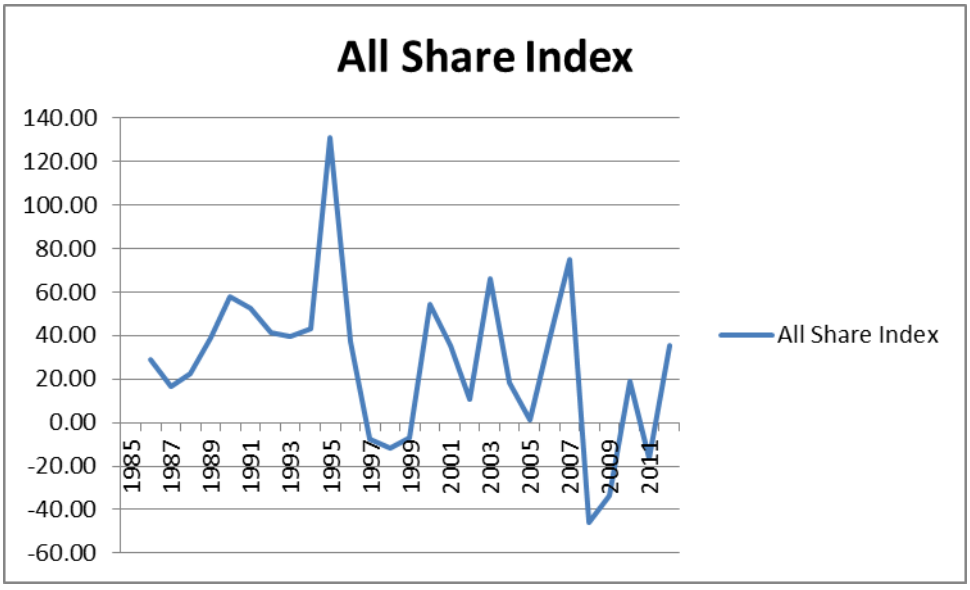
Zoli E (2005), How does fiscal policy affect monetary policy in emerging market countries? Bank of International Settlements, Working papers, No 174.

Zubair A (2013), Causal relationship between stock market index and exchange rate: Evidence from Nigeria. CBN journal of applied statistics, Vol.4, No.2.

Appendix



Growth of securities in the stock market
Source: CBN Statistical Bulletin (1961-2010)



Percentage Change in All Share Index Of the Nigerian Stock Market 1985 -2012
Source: CBN Statistical Bulletin (1985-2012)

Total Value Of traded Securities in the Nigerian Stock Market 1961- 2010					
Year	**Govt Stock (N'm)**	**% of Total Val**	**Other securities (N'm)**	**% of Total Value**	**Total Value (N'm)**
1961-1965	41.50	84.65	5.50	15.35	47.00
1966-1970	72.50	97.26	2.10	2.74	74.60
1971-1975	246.60	96.37	5.50	3.63	252.10
1976-1980	1,238.20	98.83	17.20	1.17	1,255.40
1981-1985	1,616.20	95.99	66.40	4.01	1,682.60
1986-1990	1,501.50	81.48	265.20	18.52	1,766.70
1991-1995	180.90	13.97	3,079.60	86.03	3,260.50
1996-2000	260.50	0.55	73,634.60	99.45	73,895.10
2001-2005	17,424.60	2.14	709,754.30	97.86	727,178.90
2006-2010	1,680.50	0.07	6,416,013.40	99.93	6,417,693.90

some selected African stock market indicators 2006-2010										
	s/n of listed companies					market capitalization				
country	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Botswana	18	18	19	20	21	3,946.98	5,887.21	3,555.77	3,991.06	4,075.95
Cote d'Ivore	40	38	38	38	38	4,155.26	8,352.89	7,070.75	6,141.90	7,099.22
Egypt	603	435	373	305	211	93,477.33	139,289.00	85,885.39	89,952.51	82,494.46
Ghana	32	32	35	35	35	3,232.88	2,380.22	3,394.38	2,507.53	3,531.49
Kenya	51	51	53	55	53	11,378.04	13,386.59	10,916.56	10,755.99	14,460.87
Morocco	65	74	77	78	73	49,360.03	75,494.55	65,744.97	62,909.97	69,152.53
Namibia	9	9	7	7	7	542.78	702.00	618.67	846.32	1,176.28
Nigeria	202	212	213	214	215	32,819.36	86,346.84	49,802.82	33,324.90	50,882.97
South Africa	401	422	425	363	360	715,025.25	833,547.93	491,281.77	704,821.88	1,012,538.25
Swaziland	6	6	7	5	5	199.86	203.09			
Tunisia	48	50	49	49	54	4,446.38	5,355.08	6,373.76	9,120.14	10,681.71
Zambia	14	16	19	19	19	1,185.51	2,345.89			2,816.73
Zimbabwe	80	82	81	94	76	26,556.64	5,332.78			11,476.48

Stock market indicators for some selected emerging markets 2006-2010										
	s/n of listed companies					market capitalization US $(M)				
country	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Argentina	103	107	107	101	101	79,730.00	86,684.00	52,309.00	48,932.00	63,910.00
Brazil	392	442	432	377	373	711,099.00	1,370,377.00	589,384.00	1,167,335.00	1,545,566.00
Chile	244	238	235	232	227	174,556.00	212,910.00	132,428.00	209,475.00	341,584.00
China	1440	1530	1604	1700	2063	2,426,326.00	6,226,305.00	2,793,613.00	5,007,646.00	4,762,837.00
Egypt	603	435	373	305	211	93,477.00	139,289.00	85,885.00	89,953.00	82,495.00
Georgia	231	161		146	143	668.00	1,389.00	327.00	733.00	1,059.00
Ghana	32	32	35	35	35	3,233.00	2,380.00	3,394.00	2,508.00	3,531.00
India	4796	4887	4921	4955	4987	818,879.00	1,819,100.00	645,478.00	1,179,235.00	1,615,860.00
Jordan	227	245	262	272	277	29,729.00	41,216.00	35,847.00	31,865.00	30,864.00
Malaysia	1027	1036	977	953	957	235,366.00	325,663.00	187,066.00	255,952.00	410,534.00
Mexico	131	125	125	125	130	348,345.00	397,725.00	232,581.00	340,565.00	454,345.00
Nigeria	202	212	213	214	215	32,819.00	86,347.00	49,803.00	33,325.00	50,883.00
Poland	267	328	349	354	569	149,054.00	207,332.00	90,233.00	135,277.00	190,235.00
Romania	2478	2096	1824	1824	1383	32,784.00	44,925.00	19,923.00	30,325.00	32,385.00
Russian Federation	309	328	314	279	345	1,057,189.00	1,503,010.00	397,183.00	861,424.00	1,004,525.00
South Africa	401	422	425	363	360	715,025.00	833,548.00	491,282.00	704,822.00	1,012,538.00
Turkey	314	319	284	315	337	162,399.00	286,572.00	117,930.00	225,735.00	306,662.00
Ukraine	249	276	251	288	183	42,869.00	111,757.00	24,358.00	16,790.00	39,457.00

Stock market indicators for some selected developed markets 2006-2010										
	s/n of listed companies					market capitalization US $(M)				
country	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Australia	1751	1913	1924	1882	1913	1,095,858.00	1,298,429.00	675,619.00	1,258,456.00	1,454,547.00
Austria	96	102	85	83	72	191,300.00	228,707.00	72,300.00	53,578.00	67,683.00
Belgium	153	163	167	166	161	396,220.00	386,362.00	167,447.00	261,429.00	269,342.00
Canada	3790	3881	3755	3761	3805	1,700,708.00	2,186,550.00	1,002,215.00	1,680,958.00	2,160,229.00
Denmark	201	198	216	206	196	231,015.00	277,746.00	131,526.00	186,852.00	231,746.00
France	717	707	966	941	901	2,428,571.00	2,771,217.00	1,492,327.00	1,972,040.00	1,926,488.00
Germany	656	658	638	601	571	1,637,826.00	2,105,506.00	1,107,957.00	1,297,568.00	1,429,707.00
Italy	284	301	294	291	291	1,026,639.00	1,072,692.00	520,855.00	317,317.00	318,140.00
Japan	3362	3844	3299	4161	3553	4,726,269.00	4,453,475.00	3,220,485.00	3,377,892.00	4,099,591.00
Netherlands	226	121	110	121	113	779,645.00	956,469.00	387,906.00	542,533.00	661,204.00
Spain	3339	3498	3536	3435	3310	1,323,090.00	1,800,097.00	946,113.00	1,297,227.00	1,171,615.00
Sweden	321	272	341	333	331	573,250.00	612,497.00	252,542.00	432,296.00	581,174.00
Switzerland	256	257	253	216	246	1,212,508.00	1,247,516.00	862,663.00	1,070,694.00	1,229,357.00
United Kingdom	2913	2588	2415	2179	2056	3,794,310.00	3,858,505.00	1,851,954.00	2,796,444.00	3,107,038.00
United States of America	5133	5130	5603	4401	4279	19,425,855.00	19,947,284.00	11,737,646.00	15,077,286.00	17,138,978.00

Impulse response for all variables