DETERMINANTS OF STOCK RETURNS IN THE NIGERIAN STOCK EXCHANGE (NSE)

BY

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BEING A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILMENT OT THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN ACCOUNTING AND FINANCE

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DECLARATION

I declare that the work titled Determinants of Stock Returns in the Nigerian Stock Exchange has been done by me under the supervision of Dr. Shehu Usman Hassan and Mr. Luka Mailafiya of the Department of Accounting, Ahmadu Bello University, Zaria. All the information collected from the literature has been duly acknowledged in the text and a list of references is provided. No part of this thesis was presented elsewhere for the award of any certificate. Finally, I take the sole responsibility of all errors therein.

……
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CERTIFICATION

This thesis titled Determinants of Stock Returns in the Nigerian Stock Exchange by USMAN Ibrahim Shehu, meets the regulations governing the award of the degree of Master of Science in Accounting and Finance of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

Glory is to the Master of the heavens and the earth. I hereby dedicate this piece of work to my late Father, Mallam Shehu Usman and my Mum, Hajiya Yarbaba Binta Shehu, for being my parents and their immense contributions to the success of my entire academic and non academic career. May ALLAH SWT reward my Mum and late Dad with JANNATUL NA'EEM, AMEEN!

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In the name of Allah the most gracious and the most merciful. His peace and blessings be upon His messenger Prophet Muhammad (SAW) and the people of his house.

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ABSTRACT

This study examined the determinants of stock returns in Nigerian stock exchange. The study employs monthly data from 2004 to 2012 and the determinants are interbank call money rate, exchange rate, money supply, interest rate and foreign portfolio investment while the stock returns is represented by all share index,. The ordinary least square estimation (OLS) model is used in establishing the relationship between the dependent and independent variables. Empirical evidence reveals that all the determinants are positively predicting stock returns except exchange rate which is inversely associated with the returns. However, all the determinants are strongly significant in explaining the stock return in Nigeria. It was recommended that the policy makers CBN and SEC should come up with an appropriate interbank call money rate that will enable prospective investors to borrow with a manageable and profitable interest rate for investment in the Nigerian stock market thereby boosting the returns of investment in the market. Also, the market should be liberalized to allow foreign investors participated tremendously to improve the level stock returns.

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CHAPTER ONE
INTRODUCTION

1.1Background to the Study

The Central Bank of every country is the agency which formulates and implements monetary policy on behalf of the government in an attempt to achieve a set of objectives that are expressed in terms of macroeconomic variables. These variables include rate of growth in real activity, exchange rate, price level or inflation, the balance of payment, real output and employment. One of the objectives is to alter the short term interest rate in order to achieve the macroeconomic goals of government. The monetary policy goals of the Central Bank of Nigeria (CBN hereafter) as often stated in publications and testimony of its officials, are "price stability" and "sustainable economic growth". Monetary policy makes use of various instruments which include interest rate, reserve requirements (cash requirements or cash ratio and liquidity ratio), selective credit controls, and rediscount and Treasury bill rates, among others.

Monetary policy is broadly classified into two expansionary policy and contractionary policy. An expansionary policy increases the total supply of money in the economy rapidly or decreases the interest rate. When the central bank wants to carry out an expansionary monetary policy, it goes to the security market to buy government bonds with money, thus increasing the money stock or the money in circulation in the economy. Expansionary policy is traditionally used to combat unemployment in a recession. A contractionary policy on the other hand decreases the total money supply or increases it only slowly, or raises the interest rate. When the central bank wants to implement a contractionary monetary policy, it goes to the security market to sell government bonds for money thus decreasing the money stock or the money in circulation in the economy.

This probably leads to some certain unexpected changes on the macroeconomic variables such as interest, exchange rates. Stock market or stock exchange is an institution through which company shares and government stocks are traded. The stock exchange 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). It is a capital market institution and is essentially a secondary market in that only existing securities, as opposed to new issues, could be traded on.

The impact of the stock market on the macro economy comes primarily through two channels. The first, as suggested by Greenspan (1996) is that movements in stock prices influence aggregate consumption through the wealth channel. Second, stock price movements also affect the cost of financing to businesses. A number of macroeconomic such as inflation, exchange rate, federal fund rate, current account balance, unemployment rate, fiscal balance, money supply, interest rate and interbank call money rate variables that influence stock markets have been documented in the empirical literature without a consensus on their appropriateness; these include (Lanne 2002, Goyal 2004, and Ang and Maddaloni 2005).

The determinants of stock returns like gross domestic product (GDP), inflation, exchange rate, federal fund rate, current account balance, unemployment rate, fiscal balance, money supply, interest rate are among the most frequently examined variables in the developed world. However, the study focuses on three of these variables (interbank call money rate, exchange rate and money supply rate) because, Nigeria does not belong to the developed economy rather, falls as one of the developing one. More so, are believed to be good proxies of monetary policy shocks as guided by literature.

The fundamental principle for the relationship between the interest rate and stock market returns is that stock prices and interest rates are negatively correlated. Higher interest rate resulting from tightening monetary policy usually has negative effects on stock market returns. This is due to the fact that higher interest rate reduces the value of equity as indicated by the dividend discount model and consequently, makes fixed income securities more attractive as an alternative to holding stocks. As a result, this may reduce the propensity of investors to borrow and invest in stocks and also, raises the cost of doing business and hence affects profit margin. On the other hand, lower interest rates resulting from expansionary monetary policy also boost stock market.

Furthermore, as concluded by Hashemzadeh and Taylor (1988), a decline in interest rates also leads to an increase in the present value of the future dividends. Interactions between stock market returns and exchange rate exist as a result of changes in foreign investments. Rates of return on foreign investment in stocks are converted from one currency into another currency through changing spot exchange rates. When rates of return in a depreciating currency are translated into an appreciating currency, the adjusted rates of return decline. On the other hand, when rates of return in an appreciating currency are translated into a depreciating currency, the adjusted rates of return increase. Foreign portfolio investors pay close attention to timing their return conversions based on the anticipated exchange rate movement. Furthermore, increasing foreign investments in a country's stock market causes the local currency to appreciate with respect to related foreign currency through larger foreign currency inflows. Conversely, sales of a country's stock by foreign investors cause foreign capital outflows. In turn, it makes local currency to depreciate against a related foreign currency, the depictions of such relationships between stock and foreign currency markets have likely flows of bidirectional causality. The

expectation is that international fund managers will readjust their stock market investment decision when depreciation and uncertainty adversely affect stock returns.

Ever since the CBN was established and mandated to take control of the financial sector of the economy (CBN core mandate 2007 as amended), the bank through its monetary committees and other committees, uses variety of control tools both direct and indirect in order to achieve the primary objectives of its establishment. Periodic amendments are made to the policy guidelines in the light of developments in the financial markets and performance of the economy during the period under review. Thus, each time a communiqué is released, there are set of reactions to that effect with respect to the given macroeconomic variable in question. The adjustment made on either of the variables may have a direct effect on set of institutions and indirect on others. For instance, where the monetary policy rate (MPC) rate/the minimum rediscount rate (which ever), is increased to a certain level, it increases the cost of borrowing and perhaps slows investment. This makes firms to rush to capital market to source for funds and to finance their investments.

The effect of monetary policy on equity markets has been the subject of a long standing literature, which has received renewed interest in recent years. The subject attracted considerable attention in the world and Nigeria in particular. Moreover, monetary policy can substantially affect stock market valuation. For this, it is considered as an important subject in finance literature. Also, the stock market is a central part of the transmission mechanism of monetary policy, and as such it is of relevance to monetary economists and finance economist (Ehrmann & Fratzscher, 2006).

The CBN takes a number of monetary policy decisions, which include a change in the monetary policy rate (MPR), in the exchange rate, the level of money supply. CBN may decide through its Monetary Policy Committee (MPC) may decide to make a change in the Monetary Policy Rate (MPR). The MPR is the official interest rate of the CBN, which anchors all other interest rates in the money market and the economy. MPC's decision on the MPR affects the level of economic activities and prices in the country through a number of channels. When the Bank makes an announcement on the MPR, it affects the expectations of people and economic agents about the future direction of the economy. Such decisions also affect the prices of financial assets such as shares and the exchange rate of the naira to other currencies as well as the ability of people and economic agents to save and spend money. For instance, when the interest rate is increased, people are encouraged to save instead of spend their money. An increase in interest rate would also lead to foreigners paying more to buy Nigerian currency, thereby making foreign goods to be cheaper than goods produced in the country, and vice versa. This could encourage imports and discourages exports of goods and services. This has a limiting effect on our level of external reserves. Thus, when the CBN makes a change in interest rate, it affects the exchange rate. Although the change in exchange rate may directly affect domestic prices of imported goods and services, this effect may not be immediate.

CBN changes the level of money supply through the control of the base money. Base money consists of currency and coins outside the banking system plus the deposits of banks with the central bank. Reducing the base money, means the bank sells financial securities to other banks and the no-bank public so as to reduce the ability of deposit money banks to create new money. A reduction in money supply affects the ability of banks to create new money through giving

loans to their customers. In this way, the central bank could be said to be pursuing a contractionary monetary policy. In a situation where investors cannot get new loans to expand their investments, it reduces the level of total output in the economy. A reduction in output affects the level of employment and prices as less money is available for purchasing goods. In this instance, prices remain stable or fall. The central bank can also pursue an expansionary monetary policy when it reduces the cash reserve ratio and buy securities from the open market.

The rapid growth in international portfolio investments in recent years reflects the globalization of financial markets. The impetus for globalized financial markets initially came from the governments of major countries that began to deregulate foreign exchange and capital markets. The Nigerian Stock Exchange is a private and non-profit organization limited by guarantee. It was incorporated via the support of businessmen and the federal government through the CBN owned by about three hundred (300) members. The members include financial institutions, stock brokers and individual Nigerians of high integrity who contributed to the stock market and the economy at large (NSE fact book 2008). The exchange provides an avenue for foreign investors after the replacement of Nigerian Enterprise Promotion Decree of 1989 with the Nigerian Investment Promotion Commission Decree No.16 of 1995 (Onyiuke 2008). Because of the room provided, foreign investors injected a total of US $654 million in Nigerian banks between 2005 and 2006 during the banking sector consolidation exercise. About 47% of the exchange total capitalization in 2007, is traced to the foreign investors.

1.2 Statement of the Problem

Researchers have differing views whether the Central Bank should use monetary policy to influence the performance of stock market. Historically, some (monetarist economists) support the usage of monetary policy to regulate the performance of stock market by arguing that this discretionary monetary policy can help the economy to achieve macroeconomic objectives such as, price stability, low unemployment, low inflation rate and high economic growth. On the other hand, contrasting views often point out that some possibly ineffective monetary policy during the "credit trap" period created a different outcome from the intended outcome. The critics' key arguments revolve around low monetary policy transparency with regard to the real economy and the time lag between when the monetary policy changes were brought about and the time it takes to have a positive effect in the real economy.

The response of asset prices to central bank policy is a key component for analyzing the impact of monetary policy on the economy stock market movements which will be an important determinant of monetary policy decisions. Greenspan (2004) opines that central banks should remain focused on achieving price stability and maximum sustainable growth, suggesting that policy makers should respond to stock prices according to their influence on the outlook for output and inflation.

Bernanke (2002) postulates that if all things being equal, the changes in financial asset prices and returns induced by the actions of monetary policy makers lead to changes in economic behavior that the policy was aiming at. Thus, understanding how monetary policy affects the broader economy necessarily entails understanding both how policy actions affect key financial markets, as well as how changes in asset prices and returns in these markets in turn affect the behavior of households, firms, and other decision makers.

By this one can argue that, some consensus of how the monetary policy works has been reached based on US and European developed countries data, particularly changes in monetary policy have a significant effect on the performance of stock market.

A natural question is whether this consensus view on the monetary policy changes holds for the emerging stock markets like Nigeria. However, there exists different legal framework, cultural background as well as the operating environment. Besides, most authors claim that monetary policy (monetary policy transmission mechanism) significance has a tendency to improve with time. (Molnar, Rybinski, Wozniak, 2002).

One of the major sources of macroeconomic uncertainty that affects the firms is the foreign exchange rate volatility. Many economies were exposed to the exchange rate volatility as a result of the financial liberalization, deregulation and as well as the considerable increase in economic globalization, all businesses are affected directly or otherwise by international activities. Exchange rate volatility influences the value of the firm since the future cash flows of the firm will change with the fluctuations in the exchange rates. Luehrman (1991) states that depreciation of a currency of a country affects the competitiveness of the firms engaged in international competition by leading an increase in the demand for its export goods. In other words, exchange rate changes may affect the competitive position of company and hence industries in the international arena known as the operating exposure or economic exposure (Shapiro 1996). As a result of such, sales, and cash flow may change. Investors may evaluate this as an important factor. Can these changes in exchange rate influence the stock market performance?

The primary link between monetary policy and the economy is the market for balances held at the central banks. Banks and other depository institutions maintain reserve accounts with the CBN which trades on these balances at an interest rate known as monetary policy rate. The rate is the mother of all interest rates and is controlled by CBN through its pronouncements in relation to these balances. The CBN sets a rate at a level it believes will lead to achieving its monetary policy objectives and adjusts that target in line with evolving economic developments.

The instability and unpredictability of interbank call rates have been of concern to investors, analysts, brokers, dealers and regulators as the major players in the Nigerian money market. Market participants determine the interbank call rate according to their expectations of the current and future liquidity condition in the market. Therefore, this rate sends important signals to the CBN to understand the market pressure. The interbank call rate also has a close link with other interest rates in the financial market and the foreign exchange rate. Interbank call rate shock which represents the variability of interbank call rate changes which could be perceived as a measure of uncertainty of the interbank call rate shows how much economic behaviors are not able to perceive the directionality of the actual or future shock of interbank call rate. The question here is that, what effect will the Nigerian interbank call money rate (NIBOR) have on the stock market return?

The growing importance in the African economy due to increasing market openness, continuing unfolding strong trade relationship with outside world rising foreign investment, expanding GDP growth rate and enduring expansion in export and oriented industry and services calls for investigation into certain factors and its relation to the stock market returns. The openness of

Nigerian's economy is recognised as a cause of volatility of its market. Nigeria presents a typical example of an open economy which engages in international trade transaction. Moreover, with advert of globalization, developing economies are becoming more integrated into developed economies with the results of increasing flow of imports and exports. Nigeria is not an exception. A cursory examination of foreign exchange rate and interest rate history in Nigeria shows some considerable level of instability. Therefore, it would be interesting to explore the effect of its foreign exchange and interest rate changes on its stock market returns. Again, much work on the effect of the exchange rate and interest rate changes in the developing country like Nigeria has not been done. The study is therefore looks at the effect of foreign exchange and interest rate as part of determinants of stock market returns in Nigeria.

Finally, it is clear even from casual observations that security prices in different countries don't move together very much. This suggests that investors may be able to achieve a given return on their investments at a reduced risk when they diversify their investments internationally rather than domestically. Rational investors would select portfolios by considering returns as well as risk. Investors may be willing to assume additional risk if they are sufficiently compensated by a higher expected return. This study is going to examine the stock return quantum or the potential gains from holding of optimal international portfolios in the Nigerian stock exchange.

1.3 Objectives of the Study

The main objective of the study is to investigate the determinants of stock return of the Nigerian Stock Exchange. The specific objectives are to:

i. determine the impact of exchange rate on the stock return of the Nigerian stock Exchange.

ii. examine the effect of interbank call money rate (NIBOR) on the stock return of the Nigerian Stock Exchange.

iii. evaluate the impact of money supply on the stock return of the Nigerian Stock Exchange.

iv. identify the contribution of interest rate on the stock return of the Nigerian Stock Exchange.

v. examine the effect of foreign portfolio investment (FPI) on the stock return of the Nigerian Stock Exchange.

1.4 Hypotheses of the study

For the purpose of achieving the above objectives, the following hypotheses are formulated in null form.

i. Exchange rate has no significant impact on the stock return of the Nigerian Stock Exchange.

ii. Interbank call money rate has no significant impact on the stock return of the Nigerian Stock Exchange.

iii. Money supply has no significant impact on the stock return of the Nigerian Stock Exchange.

iv**.** Interest rate has no significant impact on the stock return of the Nigerian Stock Exchange.

v. Foreign portfolio investment has no significant impact on the stock return of the Nigerian Stock Exchange.

1.5 Scope of the study

This study focused on the determinants of stock return (interbank call money rate, exchange rate, interest rate, foreign portfolio investment and money supply) of the Nigerian stock market. The

study covers the period of 2004 to 2012, both years inclusive using monthly data. The rationale behind the selection of this period is that the economy has witnessed great changes which include political and economical changes, among others.

1.6 Significance of the study

This study will be of great importance to basically two categories of people viz-a-viz government and investors as a whole (that is individual and institutional investors). The government, through its agencies such as CBN, among others will have a clue as to how adverse or favorable their decisions are on the micro and macro economics. This is so because informed investors are watchdogs of MPC meetings at all times and it helps them on whether to invest or otherwise. Moreover, understanding the links between monetary policy and asset prices is crucially important for understanding the policy transmission mechanism. At investors level, however, the questions on when, where and how to invest become very vital, as interbank call money rate is the mother of all rates in the economy.

The findings of the study are also expected to contribute tremendously to literature in the area of finance. It will also validate theories that anchored economic variables and Nigerian stock exchange.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter extensively conceptualizes monetary policy actions as viewed by CBN and various scholars. The aim is to have adequate and comprehensive review. Monetary policy shocks literatures relevant to the problem under investigation were also reviewed. The review also covers the variables of the study. Empirical Studies on monetary policy shocks on stocks were reviewed, focusing more attention on the research problem. The section also provides theoretical framework in which the study is underpinned.

2.2 Conceptualization

CBN came into being in 1959, to play mainly a traditional role of regulating the stock money in a way to enhance social welfare of the nation. In this regard the bank uses monetary policy that is usually centered towards the attainment of full employment, economic growth and price stability, among others. In order to maintain price stability and healthy balance of payments position, the monetary management is characterized by the use of instruments such as credit ceilings, selective credit controls, administered interest, exchange rate and the prescription of cash reserve requirements. Recently, the bank employed market-based instrument and restrained the interest rate through the use of the minimum rediscount rate, now referred to as monetary policy rate (MPR) due to some structural changes in both the economy and capital market as well as globalization, in order to meet with both foreign and local investors' requirements and also meet the international standard.

Monetary policy in broad terms is seen as the combination of measures designed to control, cost, availability and supply of credit in an economy with regards to the economic activity that prevails in that economy. For most of world economies, Folawewo and Osinubi, (2006), assert that the basic objectives of monetary policy are price stability, promotion of employment, maintenance of balance of payments, growth in output and sustainable growth.

It is important to note that prior to the period 2007, the MPR is referred to as Minimum Rediscount Rate (MRR). The MRR is the official interest rate of the CBN, which anchors all other interest rates in the money market and the economy. CBN's decision on the MPR affects the level of economic activities and prices in the country through a number of channels. A decision by the CBN to change the MPR affects the market interest rate in different ways. When the Bank makes an announcement on the MPR, it affects the expectations of people and economic agents about the future direction of the economy. Such decisions also affect the prices of financial assets.

Increase in interest rate would also lead to foreigners paying more to buy our local currency, thereby making foreign goods to be cheaper than goods produced in the country, and vice versa. This could encourage imports and discourages exports of goods and services (CBN series 2006). However, this has a limiting effect on the level of external reserves. Thus, when the CBN makes a change in interest rate, it affects the exchange rate, which could directly affect domestic prices of imported goods and services. Moreover, the change in interest rate could generate an indirect effect on the prices of goods and services which compete with goods that are domestically produced or those goods and services that use imported raw materials. Consequently, a change in

interest rate has effect on the component of the general price level of those goods that are imported and this affects all economic agents in the country.

The charge for exchanging currency of one country for currency of another is the exchange rate. Exchange rate movements frequently focus on changes in credit market conditions, reflected by changes in interest rate differentials across countries, and changes in the monetary policies of central banks. The profit-maximizing investors in an efficient market will ensure that all the relevant information currently known about changes in macroeconomic variables are fully reflected in current stock prices, so that investors will not be able to earn abnormal profit through prediction of the future stock market movements (Chong and Koh, 2003). The conclusions drawn from the efficient market hypothesis (EMH) includes early studies by Fama and Schwert (1977), Nelson (1977), and Jaffe and Mandelker (1976), all affirming that macroeconomic variables influence stock returns concentrating primarily on the US stock exchanges.

Singh, Mehta and Varsha (2010), view Money as a collection of liquid assets that is generally accepted as a medium of exchange and for repayment of debt. In that role, it serves to economize on the use of scarce resources devoted to exchange, expands resources for production, facilitates trade, promotes specialization, and contributes to a society's welfare (Thornton, 2000).

There are some empirical evidences that found an influence of money supply on stock returns for instance, Fama (1981) and Jensen, Mercer and Johnson (1996). Increased nominal money supply leads to a portfolio rebalancing toward other real assets. This upward reallocation results in upward pressure on stock prices. Therefore, stock returns respond to unanticipated changes in nominal money supply. On the other hand, purely nominal increases in money supply may lead

to great inflation uncertainty, and could have an adverse consequence on the stock market. Hence, money growth could be regarded as a leading indicator of future inflation, which in turn affects stock returns. Furthermore, increase in money supply leads to a falling in real interest rates. Moreover, firms are faced with lower discount rates against future cash flows, and also respond to increasing income by adjusting their investments so as to generate greater sales and profits resulting in higher future cash flows and higher stock prices. The above economic rationale supporting the linkage between stock returns and money supply is sufficient to include money supply as a relevant economic force that can impact stock returns.

2.3 Legal Backing of Monetary Policy in Nigeria

The legal backing for monetary policy by the Bank derives from the various statutes of the bank such as the Central Bank of Nigeria Act of 1958 as amended in CBN Decree No. 24 of 1991, CBN Decree 1993 (Amendment), CBN Decree No. 3 of 1997 (Amendment), CBN Decree No. 4 of 1997 (Amendment), CBN Decree No. 37 of 1998 (Amendment), CBN Decree No. 38 of 1998 (Amendment), CBN Decree 1999 (Amendment). Further, section 12 sub-sections (1) to (5), of the CBN Act of 2007 (as amended) provides that: in order to facilitate the attainment of price stability and to support the economic policy of the Federal Government, there shall be a Committee of the Bank known as the Monetary Policy Committee (in this Act referred to as "the MPC"). The MPC shall consist of - the Governor of the Bank who shall be the Chairman, the four Deputy Governors of the Bank, two members of the Board of Directors of the Bank, three members appointed by the President; and two members appointed by the Governor. The MPC shall have responsibility within the Bank for formulating monetary and credit policy.

The appointment of a member of the MPC pursuant to sub-section 2 (d) and (e) of this section, the remuneration , filling of temporary vacancies, qualification, tenure of office and disqualification shall be subject to the same terms as are stipulated for a Director under sections 10 and 11 of this Act. The provisions of the Second Schedule to this Act shall have effect with respect to the proceedings of the MPC. The conduct of Monetary Policy in Nigeria and all activities of the Central Bank of Nigeria relate with the core mandate of the bank and therefore are best understood from this perspective. Consequently, in pursuance of its functions in compliance with the core mandate, the CBN undertakes monetary policy in order to: Maintain Nigeria's external reserves to safeguard the international value of the legal currency; Promote and maintain monetary stability and a sound and efficient financial system in Nigeria. Act as banker and financial adviser to the Federal Government; and act as lender of last resort to banks.

2.4 Monetary Policy Development in Nigeria

Prior to the banking sector consolidation exercise that was concluded in December 2005, the framework for monetary policy in Nigeria had witnessed some transformation. This included the shift from the use of direct monetary policy control to indirect (market-based) monetary management, and the switch from short-term framework to a two-year medium-term framework in the conduct of monetary policy. Although the objectives of monetary policy remained basically the same and monetary aggregates remained the intermediate target for achieving the ultimate objective of inflation during this period, there were some fundamental changes in the strategies and instruments employed in the conduct of monetary policy in order to cope with the evolving financial environment. These changes are classified as follows: direct control era, Period of Indirect or Market Approach, Regime of Short-Term Monetary Policy Framework,

Regime of Medium-Term Monetary Policy Framework, Monetary Policy, Post-Banking Consolidation.

Direct Control Era (Pre-Sap Period)

Prior to the introduction of the Structural Adjustment Programme (SAP) in the mid 1980s, the monetary policy framework placed emphasis on direct monetary controls. This was essentially due to the relatively underdeveloped nature of money and capital markets in the country then. The framework relied heavily on sectoral credit allocation; credit ceilings and cash reserve requirements, administrative fixing of interest and exchange rates; as well as imposition of special deposits. During this period, the set monetary targets were hardly realized. Instead, the strategy created a lot of distortions and bottlenecks in resource allocation, resulting in wide spread inefficiencies in resource allocation and utilization.

Short-Term Monetary Policy Framework (1986 – 2001)

Consistent with the broad objectives of monetary policy, a number of monetary targets and instruments were adopted during the short-term (one-year) monetary policy framework (1986 – 2001). OMO, conducted wholly using the Nigerian Treasury Bills (NTBs), continued to be the primary instrument of monetary policy. This was complemented by the cash reserve requirement (CRR) and the liquidity ratio (LR).

Other policy instruments employed included the discount window operations, mandatory sales of special NTBs to banks and a requirement of 200 per cent treasury instrument to cover for banks' foreign exchange demand at the Autonomous Foreign Exchange Market (AFEM). Interest rate policy was deregulated through the proactive adjustment of minimum rediscount rate (MRR) to signal policy direction consistent with liquidity conditions. Surveillance activities of the CBN

focused mainly on ensuring sound management and maintenance of a healthy balance sheet position on the part of Deposit Money Banks. On the external front, the official and inter-bank exchange rates were unified in 1999. In spite of the reforms in the articulation and execution of monetary policy during this period, most of the monetary and financial targets were substantially missed. The actual growth rates in broad measure of money supply (M2) and aggregate bank credit for the years, 1999 – 2001, were higher than the targets by wide margins. Although inflation performed better in two of the three years, aggregate output was sluggish during the period. The major problem could be attributed to the expansionary fiscal policies of the three-tiers of government and the resultant liquidity overhang, as well as lack of coordination of monetary and fiscal policy implementation.

Monetary Policy Framework (2002 – 2005)

In 2002, the CBN commenced a two-year medium-term monetary policy framework, aimed at freeing monetary policy from the problem of time inconsistency and minimizing over-reaction due to temporary shocks. The new monetary policy framework, still in operation, is based on the evidence that monetary policy actions affect the ultimate objectives with a substantial lag. Under the new framework, monetary policy guidelines are open to half-yearly review in the light of developments in monetary and financial market conditions in order to achieve medium- to long-term goals.

The major objectives of monetary policy since the 2002/2003 period have been to subdue inflation to a single-digit level and maintain a stable exchange rate of the naira. Attention has also been focused on the need for a more competitive financial sector geared towards improving the payments system.

The OMO has continued to be the primary tool of monetary policy, and is complemented by reserve requirements, discount window operations, foreign exchange market intervention and movement of public sector deposits in and out of the DMBs. The CBN has also continued to ensure banking soundness and financial sector stability, not only to ensure the effective transmission of monetary policy to the real sector but also to enhance the efficiency of the payments system.

The measures taken to strengthen the banking sector and consolidate the gains of monetary policy included the introduction of a 13-point reform agenda in the banking sector in July 2004 (the key point of which was the ₦25 billion minimum capital base for DMBs). The 2004/2005 monetary policy and credit guidelines were fine-tuned in 2005 in the light of changing environment. New policy measures introduced included maintenance of a tight exchange rate band of plus/minus 3 per cent, two-week maintenance period of cash reserve requirement and the injection/withdrawal of public sector deposits from the DMBs. The various measures put in place, complemented by improved fiscal discipline at the federal government level, impacted positively on the monetary aggregates in 2004 and 2005, resulting in achievement of set targets during the period. The CBN was able to achieve the targets by being pro-active in the implementation of sound monetary policies, including zero tolerance on government borrowing from the CBN.

Monetary Policy, Post-Banking Consolidation (2006-2007)

Two key features have defined the monetary policy landscape in the post consolidation period, 2006/07: persistence of excess liquidity despite reversal of historic conditions, for example, ways and means and emergence of a new but very important source of excess liquidity -increased

private inflows. The objectives of monetary policy during this period have however remained unchanged. Current monetary policy strategy involves (amongst others): Zero tolerance on ways and means advances, Gradual run-down of CBN holding of TBs, Aggressive liquidity mop-up operations-frequent OMO sales supported by discount window operations, Unremunerated reserve requirements, increased coordination between the Bank and the fiscal authorities, Restructuring of debt instruments into longer tenor debts, increased deregulation of forex market, and Occasional forex swap.

The strategy is complimented by on-going reforms of monetary policy in particular and the financial system in general. The reform of the financial system, a key component of which was bank consolidation, was intended to minimize macroeconomic instability arising from banking systemic distress; motivate intermediation through the deepening of the capital market; finance productive sector growth in the private sector, particularly non-oil growth; minimize the counterfactual shocks of creating distortions in the money markets and the financial system; encourage investment inflows through effective participation of the industry in the global financial system, among others.

As a direct consequence of the exercise, the capital base of Nigerian banks (combined) increased from about US$2.5 billion in June 2004 to about US$5.8 billion at end-December 2005. This has been accompanied by rising inflow of foreign investment in the sector till date. Virtually all the banks have been listed in the Nigerian Stock Exchange (NSE) with the capital market becoming more liquid and more capitalized.

The banks now have the potential to finance big investment transactions as their single obligor limits have increased, while regulation and supervision have become more effective given that ownership has been diluted with more regulators having the legal authority to oversee them. The CBN now focuses on a fewer number of banks. This has raised efficiency of supervision resulting in zero tolerance towards infractions and improved corporate governance. Greater transparency is being enforced and the deployment of IT infrastructure has significantly helped the process.

2.5 The efficient markets hypothesis

The Efficient Market Hypothesis (hereafter EMH) is one of the cornerstones of modern financial economics. An efficient market, is one in which security prices fully reflect all available information. The market is efficient if the reaction of market prices to new information should be instantaneous and unbiased. Efficient market hypothesis is the idea that information is quickly and efficiently incorporated into asset prices at any point in time, so that old information cannot be used to forecast future price movements. In addition, EMH is classified into three segments based on the availability of information.

The weak form EMH stipulates that current asset prices already reflect past price and volume information. The information contained in the past sequence of prices of a security is fully reflected in the current market price of that security. It is named weak form because the security prices are the most publicly and easily accessible pieces of information. It implies that no one should be able to outperform the market using something that "everybody else knows".

The semi strong form EMH states that all publicly available information is already incorporated into asset prices. In other words, all publicly available information is fully reflected in a security's current market price. The public information stated not only past prices but also data reported in a company's financial statements, company's announcement, economic factors and others. It also implies that no one should be able to outperform the market using something that "everybody else knows".

The strong form EMH stipulates that private information or insider information too, is quickly incorporated by market prices and therefore cannot be used to reap abnormal trading profits. Thus, all information, whether public or private, is fully reflected in a security's current market price. That means even the company's management (insiders) are not able to make gains from inside information they hold. They are not able to take the advantages to profit from information such as take over decision which has been made ten minutes ago. The rationale behind this is that the market anticipates, in an unbiased manner, future development and therefore information has been incorporated and evaluated into market price in a much more objective and informative way than insiders.

2.5.1 Asset Pricing Inefficiency

Inefficient asset pricing could be a catalyst to inefficient resource allocation among competing productive investment opportunities. Under-pricing can serve as positive signal to the market (Giammariano and Lewis, 1989) to compensate the uninformed and get them to participate in the new offer (Rock, 1986; Allen & Faulhaber, 1989; Grinblatt & Hwang, 1989; Welch, 1989). The stock market is information-sensitive. Prices tend to take a declining trend few days to the

release of a firm's new offer and the price recovery starts few days after the completion of the offer, especially if the offer is fully subscribed (Barclay and Litzenberger, 1988). Easley, Hridkjaer and O'Hara (2001) agree that market is information sensitive at least to the extent that private (insider) information affect asset returns and advised that it should not be ignored for efficient asset pricing.

Moore & Beltz (2002) identifies firm's market value to book value, its current price to earnings ratio and the historical growth rate in earning per share as possessing strong influence on the equity price of the firm. They also argue that the identified factors have varying effects on the price and the effects vary from time to time, sector to sector and even from firm to firm within the same industry. For instance, they argue that equity prices of individual firm in heavy industries (chemical, petroleum, metal and manufacturing) are exclusively influenced by the firm's beta and market to book value while firms in the technology sector are influenced by the historical growth rate in earning per share as well as beta and market to book value ratio. The equity price in transportation industry is affected by beta and price to earnings ratio. Though, Moore & Beltz (2002) constructed a tree relating the impact of each identified factors in each of the selected model but did not construct a model that could be used in assessing direct impact of the identified factors on the equity price.

Some consider asset pricing as a challenge. Hordahl & Packer (2006) argue that a clear understanding of the asset's stochastic discount factor and future payoffs is necessary to understand the factors that determine the price of an asset. Unfortunately, only Government instruments provide their stochastic discount factor in advance while the future pay-offs are not observable directly but could be derived from some other data.

Corwin (2003) identifies uncertainty and asymmetric information as a strong influence on the firm's equity pricing and as a matter of fact lead to underpriced instrument. In the light of the preceding literature review, many factors both micro and macro-economics, have impact on equity pricing in the stock market, the impact differs from firm to firm, industry to industry, economy to economy and from time to time, but one comforting conclusion is that most of the factors appear to have the same behavior regardless of time, industry or firm constraints. For instance, increased inflation and interest rates, declining dividends, earnings, and poor management leave negative impact on equity pricing and vice-versa (Christopher, Rufus and Ezekiel, 2009).

2.5.2 Effectiveness of Monetary Policy

Debate about monetary policy is a long-standing issue in the academic. There have been some changes in academic opinion on how to define the role of monetary policy in relation to the assets market. One of the most striking in the 1940s to 1960s was the Keynes's general theory. They argue that the monetary policy was ineffective by itself and the immediate effect of changing monetary policy on the total demand of the market would have limited effect. In short, their opinion is that fiscal policy has more effect on the economy than monetary policy (Lunde, and Zebedee 2009). However, "monetarists" research led by Friedman and Schwartz (1963) and Friedman and Meiselman (1963) argue that inflation was a monetary phenomenon and that the monetary authority such as government should use monetary policy to achieve long-term inflation stability.

Dunn and Pressman (2005) argue that the economists have a different view from both "monetarist" and "Keynes" arguments. According to them, both theories have not taken into account the consequences of institutional changes in the industrial structure. Galbraith (2004) thinks that monetary policy is not an effective way of controlling inflation and managing demand. He thinks that firms seem to make investment decisions based on long-term strategies and that "most investment will be extremely unresponsive to moderate interest rate increases". Conversely, he argues that monetary policy does work, but it works at the expense of reducing consumption and increasing unemployment. History has shown that the U.S. Federal Reserve monetary policy has been to increase the interest rate in the booming time, to cool down the market, and to decrease the interest rate in the recession time. Galbraith considered this strategy irrelevant to help stabilize the economy because he was of the belief that monetary policy only works theoretically, not in real life situation. He posit that, high interest rates do not slow business investments, profit is the major objective that businesses look at and lower interest rates may help the mortgage market. "Monetary policy's widespread economic effect is absent or insignificant" as conclude by (Galbraith 2001).

In some countries, the use of monetary policy has been extremely effective. Germany experienced hyperinflation during the Weimar Republic which maintained a very stable monetary regime resulting in low levels of inflation. During the 1980s, the U.S. Federal Reserve Bank applied a "contractionary" monetary policy with an aim to stabilize high inflation resulting in a significant drop in inflation. Similarly, the Reserve Bank of Canada used an inflation target during the 1990s and the economy experienced a negative inflation rate for the first time since the 1930s.

During the crisis time, reserve banks around the world adopted an "expansionary" monetary policy by dropping the interest rate to stimulate market cash flow activities. For example, the U.S. Federal Reserve Bank dropped its federal fund rate from 5.25% to 0.25% and U.K. Official Bank Rate decreased from 5.25% to 0.5%. In fact, during the crisis time when the interest rate was frequently changed, the stock market volatility increased also.

2.6 Monetary Policy and the Stock Market Return

Patelis (1997) examines a set of monetary policy variables following Fama and French (1988) method of testing the monetary policy effects and finds a significant result. He documents that using "monetary policy" as a variable plays a role as a predictor of future excess return of stocks in the U.S. market. He claims that stock return takes into account future economic output. Therefore, when monetary policy affects the real economy, the stock market should reflect this.

The investigation of the transmitting effect from monetary policy to real assets through the stock market is an important channel of transmission of wealth (Campbell and MacKinlay 1996). Firstly, monetary policy changes have a direct effect on stock returns by changing the discount rate used by market participants (affecting the cost of capital and risk-free determinants). Secondly, tighter monetary policy leads to an increase in the rate at which firm's future cash flows are capitalized causing stock prices to decline. These factors should affect the economic flow of money as a whole. Clerc and Pfister (2001) posit that monetary policy is capable of influencing asset prices in the long run. Any change in interest rates especially unanticipated change affects growth expectations and the rates for discounting investment future cash flows.

Bernanke and Gertler (1989) argue that where an adverse monetary policy shock raises the information and agency costs associated with external finance and results in reduced access to bank loans and external finance, in general. This forces the firm to decrease its level of investment, and ultimately reduces cash flows and rates of return.

Bernanke and Kuttner (2005) point out that the stock market can be an independent source of volatility which policy makers may want to respond to. The stock price in booming and busting cycles may have significant consequences for economic health.

2.7 Empirical Evidence

There are a great number of literatures on the relationship between monetary policy and stock market returns which, in general, centers on issue of whether monetary policy has an impact on stock returns. However, this study focuses on the relationship between monetary policy shock and stock returns. Researchers who have investigated long-run relationships between macroeconomic variables and stock market indices focused their attention on determining the dynamic relationships between a priori variables and a representative stock market index (Mukherjee and Naka (1995), Hondroyiannis and Papapetrou (2001), Shamsuddin and Kim (2003)).

De Long & Olney (2009) asserted that ever since stock markets came into existence in the world, economists have been saddled with the difficult task of making these financial intermediaries work effectively. This is because stock prices are among the most closely watched asset prices in the economy and are viewed as being highly sensitive to economic conditions. The level of the stock market is a key variable which indicates the pulse of economic activity in a country and

together with other variables such as the real Gross Domestic Product, the unemployment rate, the inflation rate, the interest rate and the exchange rate give a summary of the macro economy. Stock prices have also been known to swing rather widely, leading to concerns about possible "bubbles" or other deviations of stock prices from fundamental values that may have adverse implications for the economy.

Durban (2000) claimed that many financial crises in the past have been traced to a crash in the stock markets and one of the consequences of financial crises are decline in the level of the stock markets. It is worth noting that, stock markets are so important in any economy such that the level of the stock markets is the key economic indicator. Stock market indicators such as market capitalization, all-shares index, value and volume of stocks traded in the stock exchange are announced on the news frequently. This shows the great importance of the stock markets to any economy in the world. Many African countries are still classified as underdeveloped in economic journals and publications of the IMF and the World Bank because their stock markets are still in their infancy stage.

Common stock markets in the world include S&P 500 in the United States, the FTSE 100 in the United Kingdom, the Nikkei Stock Average in Japan, the Hang Seng in Hong Kong, DAX in Germany, CAC 40 in France and the Nigeria Stock Exchange, formerly Lagos Stock Exchange. The market (Nigerian Stock Exchange) is a free one where buying and selling of shares is at a price determined by supply and demand notwithstanding the other macroeconomics. Quoted Companies do borrow from banks to meet their short term cash requirements. According to Nigerian Stock Exchange (2008), almost all the Nigerian formal deposits went through the banking system before 1961, while the then colonial masters invested major capital balances for

the country on the London stock exchange. However, the establishment of the Central Bank of Nigeria (CBN) in 1959, paved way to the incorporation of Lagos Stock Exchange in 1960 and commenced operations in 1961.

2.7.1 Interbank Call Money Rate and Stock Return

Bouakez, Essid and Normandin (2010) investigate whether stock returns respond to monetary policy shocks based on monthly United State their study uses monthly data covering the 1982:11 to 2007:11 period in the NYSE, NASDAQ, and AMEX markets using ordinary least squares (OLS) and Structural Vector Auto- Regressions (SVAR) that relaxes the restrictions commonly imposed in earlier studies and identifying monetary policy shocks by exploiting the conditional heteroscedasticity of the structural innovations. Their findings indicate that stock returns do not influence the Federal Reserve's policy. The empirical results are in line with the normative implications of the model developed by Gilchrist and Leahy (2002), who do not find a strong case for including asset prices in monetary policy rules. This happens as a result of the movements of asset price that are positively correlated with movements in output and inflation, and thus, monetary policies that focus only on these two variables subsume most of the gains from reacting to asset prices.

In UK, Beredin, Hyde, Nitzsche and Reilly (2007), find that unanticipated monetary policy changes have a significant impact on aggregate stock returns. Gregoriou, Kontonikas, MacDonald and Montagnoli (2009) examine the impact of anticipated and unanticipated interest rate changes on aggregate and sectoral stock returns in the UK. The sample period for the investigation is June 1999 to March, 2009, where its provides 119 monetary policy committee

meetings and OLS as well as GMM panel estimators are employ for data analysis. The monetary policy shock is generated from the change in the three-month sterling LIBOR futures contract. The results from time-series and panel analysis indicate before the credit crunch the stock market response to both expected and unexpected interest rate changes is negative and significant, while the relationship becomes positive during the credit crisis. The latter finding highlights the inability, so far, of monetary policy-makers to reverse, via interest rate cuts, the negative trend observed in stock prices since the onset of the credit crisis. The result is contrary to that of Bernanke and Kuttner (2005) using US data.

Jensen and Mercer (2002) examined Monetary Policy and the Cross-Section of Expected Stock Returns which allow for variation of asset returns across different states. They use three measures of monetary policy shocks—(i) changes in the Federal Reserve discount rate, (ii) changes in the target federal funds rate, and (iii) the Boschen and Mills (1995) monetary policy index—to separate Federal Reserve policy into expansive and restrictive periods. However, the different periods are exogenously specified and do not measure the response to unexpected monetary policy announcements. The framework in their work endogenously detects different states and estimates the corresponding state-dependent response of stock prices to monetary policy.

Daviga and Gerlach (2006) tested the response of stock prices to Federal Reserve policy shocks using a Markov-switching framework. Their sample consists of eighty scheduled announcements associated with Federal Open Market Committee meetings from the beginning of 1994, when the Federal Reserve began to announce its policy decisions, through the end of 2003. The framework identifies two distinct regimes. The first is a state where the S&P 500 index shows a significantly

negative response to unexpected changes in the target federal funds rate in the thirty-minute window bracketing Federal Open Market Committee (FOMC) announcements, a result consistent with previous work. However, the model identifies a second regime from September, 1998 to September, 2002, in which the response of stock prices to policy shocks is insignificant and over ten times more volatile relative to the other regime. This is similar to the findings of (Jensen and Mercer 2002).

In other studies such as Maio and Tavares (2007) who analyze the effects of monetary policy shocks over the cross-section of equity returns, employing Standard & Poor's (S&P) composite index differentiating between small and large stocks and value versus growth stocks. The results document a contemporaneous impact of changes in the Federal Funds rate that is significantly larger for the returns of small stocks relative to large stocks, and for value stocks relative to growth stocks. In addition, they find that the dispersion in the responses to monetary shocks is mostly explained by the effects on portfolio cash flow news, rather than portfolio discount rate news.

An analysis of the effect of monetary policy actions over the cross-section of equity returns based on earlier theoretical work for the monetary transmission mechanism using a VAR methodology is done by (Maio 2011). The results show that the monthly impact of changes in the Federal Funds rate is significantly greater for the returns of more financially constrained stocks than on the returns of stocks with a more favorable financial position. The study find that the negative effect of Fed Funds Rate shocks on stock returns comes from a corresponding negative effect on future expected cash flows (cash flow news) rather than from an impact on

future equity risk premia (discount rate news). One can argue that cash flow news is the main return component affected by changes in the fed funds rate.

2.7.2 Exchange Rate and Stock Return

Classical economic theory suggests a relationship between the stock market performance and the exchange rate behavior. Dornbusch and Fisher (1980), affirm that currency movements affect international competitiveness and the balance of trade position, and consequently the real output of the country, which in turn affects current and future cash flows of companies and their stock prices. Movements in the stock market may also affect exchange rates. Equities, being part of wealth, may affect the behaviour of exchange rates through the demand for money according to the monetarist models of exchange rate determination (Gavin, 1989).

Elton and Gruber (1988) applied arbitrage pricing theory (APT) on Japanese stock returns and several macroeconomic variables like industrial production, money supply, crude oil price, short-term interest rates and show that there exists a positive relationship between stock prices and short-term interest rates.

Kwan and Shin (1999) utilize a VECM to find that the Korean stock price indices were co-integrated with a set of macroeconomic variables, which included exchange rates and money supply, and that the set of variables provided a direct long-run equilibrium relationship with each stock price index. They also find that stock price indices were not a leading indicator for the macroeconomic variables.

Maysami and Koh (2000) when investigating the long-term equilibrium relationships between the Singapore stock index and selected macroeconomic variables and Singaporean stock returns

and find, using a VECM, that the Singapore stock market is interest and exchange rate sensitive. They also find that the Singapore stock market was significantly and positively co-integrated with the stock markets of Japan and the USA.

Hondroyiannis and Papapetrou (2001) examined macroeconomic influences on the stock market for Greece. Among the macroeconomic variables investigated were interest rates and exchange rates. They also find that stock prices do not lead changes in real economic activity but that the macroeconomic activity and foreign stock market changes partially explained Greek stock price movements.

Chadha et al (2003) estimate augmented Taylor rules using GMM and find that both stock prices and real exchange rate deviations from their equilibrium values in addition to the instrumented future inflation and output gaps are significant in the FOMC reaction function. Stock prices and the real exchange rate enter significantly and robustly for different choices of lead lengths for both inflation and output gaps. However, they argue that the significance may be due to these variables proxying the part of expected inflation and output gaps that is not well explained by the instruments. The monetary policy shock has a strong impact on stock returns, as stock prices immediately fall by around one and a half percent for each (normalized) ten basis-point increase in the federal funds rate.

In Nigeria, Victor and Kuwormu (2011) investigates the relationship between macroeconomic variables and stock market returns using monthly data that spans from January 1992 to December, 2008. Macroeconomic variables used in this study are consumer price index (as a proxy for inflation), crude oil price, exchange rate and 91 day Treasury bill rate. The ordinary

least square estimation (OLS) model is used in establishing the relationship between the variables and stock market returns. Empirically the study reveals that there is a significant relationship between stock market returns and consumer price index (inflation). Conversely, crude oil prices, exchange rate and Treasury bill rate do not appear to have any significant effect on stock returns.

Bilson et al. (2001) tested whether local money, goods prices and real activity have explanatory power over stock return of 20 exchange emerging markets for the period 1985 to 1997. The results indicate that the exchange rate variable is clearly the most influential macroeconomic variables. They conclude that devaluation of the domestic currency has a negative relationship with return. Similarly, Amare and Mohsin (2000) examine the long-run association between stock prices and exchange rates for nine Asian countries (Japan, Hong Kong, Taiwan, Singapore, Thailand, Malaysia, Korea, Indonesia, and Philippines). The study uses monthly data from January 1980 to June 1998 and employed cointegration technique. The long-run relationship between stock prices and exchange rates was found only for Singapore and Philippines. They attributed this lack of cointegration between the said variables to the bias created by the omission of important variables. When interest rate variable was included in their cointegrating equation, they found cointegration between stock prices, exchange rates and interest rate for six of the nine countries.

Kim (2003) uses monthly data for the 1974:01-1998:12 periods in the U.S.A. and the empirical Results of the study reveal that S&P's common stock price is negatively related to the exchange rate. Ozair (2006) examines the causal relationship between stock prices and exchange rates in

the USA using quarterly data from 1960 to 2004. The results show no causal linkage and no cointegration between these two financial variables.

In Australia, Zettelmeyer (2004) studied the effects of the surprise monetary policy on asset prices in this market. They use the three month bank bill rate to measure the market expectation of interest rates. They tested the daily reaction of monetary policy surprises and how they affect the exchange rate. The authors found an unexpected increase of 100 basis points in the interest rate helped increase the exchange rate by 2% to 3%. He argues that, the daily changes in bank bill rate are a good measure of market expectation on monetary policy decision (Zettelmeyer, 2004).

Kearns and Manners (2006) improve on Zettelmeyer's study in several ways. They investigate the effects of monetary policy on the exchange rate using the event study method to study four countries: Australia, Canada, New Zealand and the United Kingdom. The main contributions of the paper are as follows: First, they employ higher frequency data (intraday) to run the regressions. Second, they used more recent data from 1998 to 2005. The study finds an unanticipated tightening of 25 basis points which led to a rapid appreciation in bond prices around 0.35 percent. They also find that the path surprises had a higher effect on the exchange rate compared to target surprises.

Abdalla and Murinde (1997) investigate stock prices-exchange rate relationships in the emerging financial markets of India, Korea, Pakistan and the Philippines using monthly data from 1985 to 1994. The empirical results show unidirectional causality from exchange rates to stock prices in India, Korea and Pakistan. On the contrary, the reverse causation was found for the Philippines.

Phylaktis and Ravazzolo (2005) investigate the long-run and short-run dynamics between stock prices and exchange rates and the channels through which exogenous shocks impact on these markets through the use of cointegration methodology and multivariate Granger causality tests. The study examines Six Pacific Basin countries which include Hong Kong, Indonesia, Malaysia, Singapore, Thailand and Philippines, over the period 1980 to 1998. The data consist of monthly stock market index prices (1990=100) expressed in local currency, local bilateral spot exchange rates expressed as domestic currency per U.S. dollar, and consumer price index (1990=100). All the observations were obtained from the International Financial Statistics data base in Data stream 12 and are end-of-the month observations. The stock market index prices used are as follows: the Hang Seng Price Index for Hong Kong; the Jakarta Stock Exchange Composite Price Index for Indonesia; the Kuala Lumpur Composite Price Index for Malaysia; the Philippines Stock Exchange Composite Price Index for the Philippines; the Singapore Straits Times Price Index for Singapore; the Bangkok Stock Exchange Price Index for Thailand; and finally the S&P's Composition Index for the US. The results of the study produce evidence which suggests that stock and foreign exchange markets are positively related and that the US stock market acts as a conduit for these links. Furthermore, these links are not detected to be determined by foreign exchange restrictions. Recursive estimation evidence shows that the financial crisis had a temporary effect on the long-run comovement of these markets.

Evidences from Japan suggest that some macroeconomic variables such as exchange rates among others have no effect on the stock market. For example, Kurihara (2006) chooses the period March 2001-September 2005 to investigate the relationship between macroeconomic variables and daily stock prices in Japan. He takes Japanese stock prices, U.S. stock prices, exchange rate

(yen/U.S. dollar), the Japanese interest rate etc. The study reveals that domestic interest rate does not influence Japanese stock prices. However, the exchange rate and U.S. stock prices affect Japanese stock prices. Consequently, the quantitative easing policy implemented in 2001 has influenced Japanese stock prices.

Adjasi, Harvey and Agyapong, (2008) examined whether movements in exchange rates have an effect on stock market in Nigeria. The study utilizes Exponential Generalized Autoregressive Conditional Heteroskedascity (EGARCH) model in order to establish the relationship between exchange rate volatility and stock market volatility over the period of 1995:03 2006:06. The study obtained its data from the IMF Direction of Trade Statistics Yearbook and the Nigeria Statistical Service as well as the Nigeria Stock Exchange quarterly publications. The findings show that there is negative relationship between exchange rate volatility and stock market returns and depreciation in the local currency leads to an increase in stock market returns in the long run. Whereas in the short run it reduces stock market returns. Additionally, there is volatility persistence in most of the future rate. The study though, conducted in one of the African economies, but the result may not be applicable in Nigeria due to some institutional differences. Further, Adjasi and Biekpe (2005) investigated the relationship between stock market returns and exchange rate movements in seven African countries. Cointegration tests showed that in the long--run exchange rate depreciation leads to increases in stock market prices in some of the countries, and in the short--run, exchange rate depreciation reduces stock market returns.

Mishra (2004) opines that there was no Grangers' causality between exchange rate and stock return. The study of Mishra (2004) indicated that stock return, exchange rate return, the demand for money and interest rate are related to each other, though no consistent relationship exist

between them. Furthermore, forecast error variance decomposition evidenced that exchange rate return affects the demand for money; interest rate causes exchange rate to change, exchange rate affects the stock return, demand for money affects stock return; interest rate affects the stock return, and demand for money affects the interest rate.

Ali, Rehman, Yilmaz, Khan, and Afzal (2010) confirm the findings of Mishra (2004). They examine the causal relationship between macro-economic indicators and stock market prices in Pakistan. The data from June, 1990 to December, 2008 have been used to analyze the causal relationship between various macro-economic variables and stock market prices. The set of macro-economic indicators includes; inflation, exchange rate, balances of trade and index of industrial production, whereas the stock market prices have been represented by the general price index of the Karachi Stock Exchange, which is the largest stock exchange in Pakistan. The statistical techniques used include unit root Augmented Dickey Fuller test, Johansen's co-integration and Granger's causality test. The study finds co-integration between industrial production index and stock exchange prices. However, no causal relationship was found between macro-economic indicators and stock exchange prices in Pakistan. By implication, performance of macro-economic indicators cannot be used to predict stock prices; moreover stock prices in Pakistan do not reflect the macro-economic condition of the country.

Pan, Fok, and Liu (2007) take the data of seven East Asian countries over the period 1988 to 1998 to examine dynamic linkages between exchange rates and stock prices. The result of the study reveals that there is a bidirectional causal relation for Hong Kong before the 1997 Asian crises. Also, there is a unidirectional causal relation from exchange rates and stock prices for

Japan, Malaysia, and Thailand and from stock prices to exchange rate for Korea and Singapore. During the Asian crises, there is only a causal relation from exchange rates to stock prices for all countries except Malaysia. Ibrahim and Aziz (2003) analyze dynamic linkages between stock prices and four macroeconomic variables for Malaysia and use monthly data over the period 1977-1998. The findings show that the exchange rate is negatively associated with the stock prices.

Erbaykal and Okuyan (2007) study exchange rates-stock price relations for 13 developing economies using different time period for each country. The findings provide evidence to indicate causality relations for eight economies. While there is a unidirectional causality from stock price to exchange rates in the five of them, bi-directional causality exists for remaining three economies. They also find no causality for these financial variables in Turkey and this finding is not consistent with Aydemir and Demirhan (2009). The reason of difference may be the time period used.

In their investigation, Aydemir and Demirhan (2009) examined the causal relationship between stock prices and exchange rates in Turkey for the period 2001 to 2008. The results of empirical study indicate that there is bidirectional causal relationship between exchange rate and all stock market indices. While the negative causality exists from national 100, services, financial and industrial indices to exchange rate, there is a positive causal relationship from technology indices to exchange rate. On the other hand, negative causal relationship from exchange rate to all stock market indices is also being noticed. On the other hand, Sevuktekin and Nargelecekenler (2007) reveal positive and bidirectional causality between these two financial variables in Turkey, using monthly data from 1986 to 2006.

Doong, Shuh-Chyi, Yang and Wang, (2005) investigate the dynamic relationship between stocks and exchange rates for six Asian countries (Indonesia, Malaysia, Philippines, South Korea, Thailand, and Taiwan) over the period 1989-2003. According to the study, these financial variables are not cointegrated. The result of Granger causality test shows that bidirectional causality can be detected in Indonesia, Korea, Malaysia, and Thailand. Also, there is a significantly negative relation between the stock returns and the contemporaneous change in the exchange rates for all countries except Thailand.

Muhammad and Rasheed (2002) examine the exchange rates and stock price relationships for Pakistan, India, Bangladesh and Sri Lanka using monthly data from 1994 to 2000. The empirical results show that there is a bi-directional long-run causality between these variables for only Bangladesh and Sri Lanka. No associations between exchange rates and stock prices are found for Pakistan and India.

Ajayi and Mougoue (1996) search the relationship between exchange rates and stock indices for eight advanced economies using daily data from 1985 to 1991. According to results of study, there are significant short-run and long-run feedback relations between these two financial markets. An increase in stock price has a negative short-run effect as well as a positive long-run effect on domestic currency value. Also, currency depreciation has both negative short-run and long-run effect on the stock market.

Ajayi, Friedman and Mehdian (1998) take daily market indexes and exchange rates to investigate causal relations between stock returns and changes in exchange rates for seven (7) advanced markets from 1985 to 1991 and eight (8) Asian emerging markets from 1987 to 1991. The

empirical results show that there is a unidirectional causality between the stock and currency markets in all the advanced economies while no consistent causal relations exist in the emerging economies. They explained the different results between advanced and emerging economies with the differences in the structure and characteristics of financial markets between these groups.

Smyth and Nandha (2003) investigate the relationship between exchange rates and stock prices for the same countries over the period 1995-2001. They find that there is no long run relationship between variables. Also, the empirical results reveal unidirectional causality running from exchange rates to stock prices for only India and Sri Lanka. That is, changes in exchange rates affect stock prices through influencing firms' exports in India and Sri Lanka. In view of the review conducted above, interbank call money rate influences stock returns in the Nigerian stock exchange. This is because most of the studies supported the position.

2.7.3 Money Supply and Stock Return

Sellin (2001) argues that the money supply will affect stock prices only if the change in money supply alters expectations about future monetary policy. He argues that a positive money supply shock will lead people to anticipate tightening monetary policy in the future. The subsequent increase in bidding for bonds will drive up the current rate of interest. As the interest rate goes up, the discount rates go up as well, while the present value of future earnings decline; and as a result stock prices decline.

Furthermore, Sellin (2001) argues economic activities decline as a result of increases in interest rates, which further depresses stock prices. The real activity economists, on the other hand, argue that a positive money supply shock will lead to an increase in stock prices. They argue that a

change in the money supply provides information on money demand, which is caused by future output expectations. If the money supply increases, it means that money demand is increasing, which, in effect, signals an increase in economic activity. Higher economic activity implies higher cash flows, which causes stock prices to rise (Sellin, 2001).

Mehar (2000) suggests that the central bank of a country can also play an important role in the determination of stock prices (or market capitalization) through change in the money supply. A higher liquidity in the market creates higher demand for shares in the market, thus, increasing market capitalization. There is substantial empirical evidence that found an influence of money supply on stock returns. For instance, Fama (1981) and Jensen, Mercer and Johnson (1996) argue that increased nominal money supply leads to a portfolio rebalancing toward other real assets. This upward reallocation results in upward pressure on stock prices. Therefore, stock returns respond to unanticipated changes in nominal money supply.

Homa and Jaffe (1971) estimate the relationship between the supply of money and an index of common stock prices, seeking a forecasting tool in the implementation of investment strategies. Their findings indicated that the price of any common stock is determined by three variables: the level and growth rate of dividends, the risk-free rate of interest, and the risk premium. The risk-free rate of interest being a function of money supply, they concluded that the average level of stock prices is positively related to the money supply.

Hamburger and Kochin (1972) start with the standard valuation model and added current price level and the corporate bond rate to capture the direct and indirect impacts of money supply on the stock market. They conclude that changes in monetary growth could have a number of

different effects on the stock market. However, Pesando (1974) finds empirical and theoretical problems in the models used by Hamburger and Kochin as well as Homa and Jaffe. The study concludes that the inability of these models to generate accurate forecasts of stock prices was evidence against a structural and stable relationship between money supply and common stock prices.

Gupta (1974) adopts a probabilistic approach to predict the turning point in stock prices within a predetermined time period. Using monthly data over a 23-year period, and a turning point observed in the money supply, he found that that 59% of the peaks in the stock market could be accurately predicted. Contrary to the above studies, Kraft and Kraft (1977) employ time series analysis and find no causal relationship between money supply and stock prices. In addition, Pearce and Roley (1985) examine the effects of money supply news on stock prices, finding a negative relationship between unanticipated increases in the money supply and stock prices using US data. Their sample period is 1977- 1982 this was the period when the federal targeted none borrowed reserves. They find that money surprises had a negative and statistically significant on equity prices in both the pre-October 1979 to post-October periods. Also Hardouvelis (1987) considered the period 1974 to 1984 using the same US data and find that money supply has a significant negative effect for both of the sub-periods 1979-82 and 1982-84 on stock prices.

McQueen and Roley (1993) examine the stock market responses to macroeconomic news across different economic states. They used monthly time series of unemployment rate, money supply announcements, inflation rate and discount rate. The authors provide evidence that the stock market's response to macroeconomic news depends on the state of the economy. These results had been confirmed by Li and Hu (1998) showing that stock market responses to macroeconomic

shocks varies across different stages of the business cycle. Furthermore, the authors provided evidence that the size of the firm matters. They show that during restrictive monetary policy periods, small capitals tend to perform poorer compared to the large capitals.

Lastrape (1996), estimates short run responses of interest rate and equity prices to money supply shocks in the G7 countries and Holland. The study utilizes Vector autoregression in analyzing the data. The investigation reveals that money supply shocks have a positive effect on the equity prices for all the countries with the exception of France and UK.

Singh, Mehta and Varsha (2010) examined the causal relationship between index returns and certain crucial macroeconomic variables namely employment rate, exchange rate, GDP, Inflation and money supply in Taiwan. The study uses Taiwan 50 Index during the year 2003 to 2008. The analysis is based on stock portfolios rather than single stocks. Empirical findings revealed that inflation rate, exchange rate, and money supply were having negative relationship with returns for portfolios of big and medium companies.

Tursoy,Gunsel and Rjoub (2008) test the Arbitrage Pricing Theory (APT) in Istanbul Stock Exchange (ISE) for the period of February, 2001 up to September, 2005 on monthly basis. Using ordinary least square (OLS) technique, the study reveals that Money Supply has significant effect on stock returns in Istanbul Stock Exchange (ISE). On the other hand, Maskay (2008) analyzes the effect of change in money supply on stock Prices. The study provides positive money supply shock increases stock prices and vice versa. Also efficient Market Hypothesis that anticipated changes in the money supply matter more than unanticipated changes in the money supply in determining stock prices.

Nguyen, Islam and Ali (2011), investigate Bengladashi stock market where they study money supply and stock returns for the period 12 years between,1999 to 2010. The data were analyzed using Threshold Autoregressive Vector Error Correction (TAR VEC) model. The study revealed that the counter cyclical monetary policies affect investors differently in different phases of business cycles. The empirical results further reveal a weak exogeneity from money supply to share price index using Granger causality tests suggesting the lack of central bank credibility in influencing share prices; thus, its short-run counter-cyclical monetary policy is totally ineffective in influencing the equity markets. In the context of Bangladeshi economy, it appears that strong political will and commitment would be needed to establish a more competitive and efficient market economy, whereby among other things, the Bangladesh Bank's credibility can be established, that would be conducive for economic progress.

Alatiqi and Fazel (2008), posit that lack of a stable negative causal relation from money supply to interest rates, and from interest rates to stock prices, results in no significant long-term causal relation from money supply to stock prices. Therefore money supply does not have any explanatory power in predicting changes in stock prices. The study uses Engle-Granger cointegration test and the Granger causality test. The study aimed at investigating the predictive power of money supply in stock prices between the periods 1965-2005. It employs data from the S&P 500 to measure the stock prices. The result is interesting but it might not have been the same if the data were from Nigeria.

Biniv (2007) examines the relationship between the money supply and stock market prices in the US economy. The data were obtained from Federal Reserve Economic Data (FRED) of the

Federal Reserve Bank of St. Louis website. Quarterly data from the 1st quarter of 1959 to the 2nd quarter of 2006 are used in the study as well as regression as a tool of analysis. The study reveals that a positive money supply shock increases stock prices and vice versa. The results also support the opponents of Efficient Market Hypothesis that anticipated changes in the money supply matter more than unanticipated changes in the money supply in determining stock prices.

Mohammed, Ali, Abdullahi and Azman (2011), confirm the result by investigating the impact of macroeconomics variables on the Malaysian stock market from January 1995 until December 2009 (15 years) using multiple regression as a tool for data analysis. The result shows that there is a positive relationship between money supply and stock prices.

Mukherjee and Naka (1995) argue that if an increase in money supply leads to economic expansion via increased cash flows, stock prices would benefit from economic growth lead by such expansionary monetary policy. In the case of Japan, the study shows that money supply is positively related to stock market. Consistently, Maysami and Koh (2000) support the view of Mukherjee and Naka (1995) for both long run and short run dynamic interaction between money supply and stock returns for the case of Singapore. Asogu (1998) examines the influence of money supply and government expenditure on Gross Domestic Product. He adopted the St Louis model on annual and quarterly time series data from 1960 -1995. He finds money supply and export as being significant. This finding according to Asogu, corroborates the earlier work of Ajayi (1974) and Nwaobi (1999), who examined the interaction between money and output in Nigeria between the periods 1960-1995. The model assumed the irrelevance of anticipated monetary policy for short run deviations of domestic output from its natural level. The result indicates that unanticipated growth in money supply would have positive effect on output.

Others in Nigeria who have confirmed a strong relationship between money supply and growth include (Odedokun 1996; Okedokun 1998; Ojo 1993). The findings might have been different if money supply and stock prices were explored.

Ahmed (2008) investigates the nature of the causal relationships between stock prices and the key macro economic variables representing real and financial sector of the Indian economy for the period March, 1995 to March, 2007 using quarterly data. These variables are the index of industrial production, exports, foreign direct investment, money supply, exchange rate, interest rate, NSE Nifty and BSE Sensex in India. Following Johansen approach, cointegration and Toda and Yamamoto Granger causality test have been applied to explore the long-run relationships while BVAR modeling for variance decomposition and impulse response functions has been applied to examine short run relationships. The results of the study reveal differential causal links between aggregate macro economic variables and stock indices in the long run. However, the revealed causal pattern is similar in both markets in the short run. The study indicates that stock prices in India lead economic activity except movement in interest rate.

Bhattacharya and Mukherjee (2002) study the nature of the causal relationship between stock prices and macro aggregates in India for the period 1992-93 to 2000- 2001.Their results show that there is no causal relationship between stock price and money supply, among other macroeconomic variables, but there exists a two-way causation between stock price and rate of inflation.

Palmer (1970) asserts that there exists a clear relationship between money supply and stock prices. The results show that one per cent change in the rate of growth of the nation's money

supply is associated with a change of approximately 2 per cent in stock prices. The study period is January, 1959 to August, 1969. Stock prices were measured by the Standard and Poor's 425 Industrial Stock Index. Data were compiled on a monthly basis and gathered from Federal Reserve Bulletins and Standard and Poor's Security Price Indexes.

Thaker, Rohilina, Hassama and Amin (2009) examine the short-run and long-run causal relationship between Kuala Lumpur Composite Index (KLCI) and selected macroeconomic variables namely inflation, money supply and nominal effective exchange rate during the pre and post crisis period from 1987 until 1995 and from 1999 until 2007 by using monthly data. The methodology used in this study is time series econometric techniques i.e. the unit root test, cointegration test, error correction model (ECM), variance decomposition and impulse response function. The findings show that there is cointegration between stock prices and macroeconomic variables. The results suggest that money supply among others seem to significantly affect the KLCI. These variables considered to be emphasized as the policy instruments by the government in order to stabilize stock prices they argued.

In the UK, Tessaromatis and Triantafillou (1999) investigate the effects of money supply announcements on stock returns. The study finds that, unexpected changes in the money supply have a significant effect on asset prices. The data were collected from the UK stock exchange for the period April, 1982 to October, 1986. These results are in accordance with the results obtained by using American data.

Bennaceur, Boughrara and Ghazouani (2007) carry out a study of eight Middle- East and North African countries using the VAR technique to study the effects of monetary policy on the stock

markets. Their findings show that the aggregate impacts of interest rate shocks are 0.2 in Jordan and 0.1 in Oman whereas it did not go over 0.01 in Bahrain and Saudi Arabia. An investigation of positive shock of money supply on stock returns shows that in Tunisia, Egypt and Bahrain, an unanticipated increase in money supply conduces to a rise of stock returns by 0.5, 1.2, and 0.4 respectively. However, the results show that the increase takes place after 1 month in Egypt, 2 months in Bahrain and 10 months in Tunisia. The positive effects disappear in Bahrain and Egypt just one month after their occurrence.

In Egypt, the impact disappears after 3 months while in Morocco stock returns decreased slightly after the first month, but recover rapidly until they reach their pre-shock levels in the second month. They assert that in Bahrain, Oman, Jordan and Saudi Arabia, the monetary policy seems to have a significant impact on stock market returns. The monetary policies of Tunisia, Morocco and to a less extent than that of Egypt do not impact significantly on equity prices. In sum, the response of stock markets in Middle East and North African, (elsewhere MENA) region is far from being homogenous across countries. In some countries, stock market returns depict an upward tendency while in other countries; it declines or does not react at all.

The responses to unexpected changes of monetary policy can be both positive and negative. They can be either positive if changes are perceived favorable to businesses or negative if changes are perceived unfavorable. Thus, a restrictive monetary policy (a rise in the interest rate) brings down equity prices because of the following reasons: Firstly, because the income flow which the share price measures is now discounted at a higher rate of long-term interest than before. Secondly, the demand for bonds increases at the expense of equities when bond yield grows up. Thirdly, higher interest rates may bring about an increase in corporate financial

expenses, thereby reducing their profits. The monetary policy in Bahrain, Jordan, Saudi Arabia and Oman appears to be effective in influencing the stock market prices. For Bahrain, Jordan, Oman and Saudi Arabia, the Impulse Response Functions (IRFs) indicate that subsequent to a positive shock in interest rate, the country stock prices decrease significantly after 3 months for Bahrain, 8 months for Saudi Arabia, 12 months for Oman and 15 months for Jordan, respectively. Only Bahraini's stock returns respond to both interest rate and M1 shocks as predicted. Oman, Jordan and Saudi Arabia stock returns react negatively to a positive shock in interest rate with different patterns.

Egypt and Tunisia stock returns are positively impacted by a positive innovation in Money supply, but not to an unanticipated increase in interest rate. Stock returns react negatively and surprisingly to an innovation in money supply but with no long lasting effect and the reaction of the Turkish stock returns to a tight or expansive monetary policy appeared to be totally absent. The reason why Egypt and Tunisia enjoy strong links between their monetary policy and stock market prices are: First, these countries have pegged their currencies to the US Dollar and then endorse the US monetary policy. Besides, the stock markets of these two countries are relatively the biggest in the region using market capitalization over GDP. The monetary policies reactions of the MENA countries, to stock market prices movements, reveal to be heterogenous. While Saudi Arabia and Jordan respond significantly to unexpected events in their respective stock markets, the other countries do not exhibit significant reactions.

2.7.4 Interest Rate and Stock Return

In examining the impact of stock market returns determinants on the Straits Times Industrial Index (STII), Ying Wu (2001) categorized them into two groups namely money supply and

interest rates. His findings was that money supply does not register any pattern of influences on the STII but interest rate does play a significant role in determining the STII on the monthly investment perspective. When time series data from January, 1982to December, 2002 on selected macroeconomic variables of major stock indices of United States and Singapore were used to examine the long–run equilibrium relationship between the two countries, Wing et al. (2005) discovered through a cointegration test that Singapore's stock prices generally display a long-run equilibrium relationship with interest rate and money supply but similar relationship does not exist in the US market.

In finding the evidence of stock market sensitivity to interest rates and inflation in the United Kingdom, Nicholas (2003), analysed the behaviour of nominal and real interest rates and monthly total return of 35 industry indices and 10 sector indices as well as four financial times indices by applying linear regressions and their results indicated that interest rate movements are important determinants of equity return variability and all the industries other than forestry and paper, sectors and market portfolios are negatively related to interest rate changes. It was also established that utilities have the highest sensitivity to movements in nominal interest rates because of their high exposure to inflation. Statistical outputs conclude that there are significant differences between interest rate and inflation sensitivities across all economic sectors Using the arbitrage pricing theory (APT) on Japanese Stock returns and several macroeconomic variables like industrial production, money supply crude oil price, short term interest rates), it was discovered by Elton and Gruber (1988) that there exists a positive relationship between stock prices and short-term interest rates. Chen et al. (1989) examine the effect of discount rate changes on the volatility of stock prices and on trading volume. The authors discovered that unexpected discount rate changes contributed to higher, though short-lived, volatility and trading

volume. It was unearthed by Smirlock and Yawitz (1985) that interest rate changes can impact equity prices in two ways i.e. by affecting the rate at which the firm's expected future cash flows will be capitalized, and by altering expectations about future cash flows. They discovered that an increase in interest rates causes stock prices to decline and a decline in interest rates causes stock prices to rise. Further, they conclude that if both capitalization rates and expectations about future cash flows are impacted by interest rates, these effects would influence equity prices.

Mishkin (2007) stated that monetary policy effects on stock market performance is based on the following conditions; if the central bank reduces interest rate, the return on bonds will fall, and investors will be willing to accept a lower return on an investment in equity which is an alternative asset. The resulting decline in the required rate of return would lower the denominator in the Gordon growth model which will raise stock prices. Secondly, a reduction in interest rates is likely to stimulate the economy, so that the growth rate in dividends is likely to increase. The rise in dividend growth rate also causes the denominator in the Gordon growth model to decrease, which will also lead to a rise in stock prices.

2.7.5 Foreign Portfolio Investment and Stock Return

Foreign investors either trade securities on individual markets or they buy securities/funds from Emerging Markets (Ems) that trade on foreign stock exchanges. The extent of direct participation in local exchanges depends on market investability manifested by market breadth, depth, liquidity, efficiency, regulation, information, removal of perceived barriers (risks), transparency of investment and repatriation rules. Indeed, some countries including Korea and India have placed ceilings per foreign investor as well as global limits (all foreign investors combined) on equity participation in each firm. Over time, most EMs have reformed their economies, markets

and institutions to improve investability. However, by its very nature, such a process is gradual. It is also extremely difficult to isolate a defining moment in what usually is a series of steps. Hence, it is impossible to pinpoint the exact date of market liberalization since such a date simply does not exist. Indeed, there is some variance in terms of liberalization dates used across various studies.

Merton (1987) focuses on market segmentation arising from incomplete information and shows that the expected returns decrease with the size of the investor base due to more efficient risk sharing. Globalization would not only affect the investor base but also alter the investor composition (domestic versus global) as foreigners actively trade the security. Indeed, the impact of change in investor base and more importantly, the change in investor composition is critical since the local securities will be priced more favorably by foreign investors. Indeed, the essence of the cost of capital/segmentation hypotheses is the move from local pricing and shareholder bas to global pricing and global shareholder base.

One of the most important contributions of FPIs is the globalization of domestic market and the consequent impact on cost of capital and project evaluation. Although a number of studies have investigated the structure of global markets, the emphasis has been on major markets. The first study on EMs by Errunza, Losq and Padmanabhan (1992) investigated the two polar cases as well as the intermediate case of mild segmentation for a group of securities from eight emerging markets. Although their results conform to our a priori expectations that emerging markets should plot somewhere in the continuum of full integration and complete segmentation, the tests were not designed to capture the changing degree of market integration. Indeed, we need to

understand how the degree of integration has evolved through time to be able to associate it with capital flow liberalization and stock return.

Bekaert and Harvey (1995) econometrically combined the two polar specifications of full integration and complete segmentation to characterize the time path of integration for a group of twelve EMs. Their specification captures one of the two most important international asset pricing model (IAPM) based factors, namely the impact of barriers to free flow of portfolio capital, that affect the degree of market integration. The other important factor relates to the availability of substitute assets (e.g. ADRs, CFs, Multinational firms) that would allow investors to duplicate the returns on unavailable EM assets through homemade diversification, thereby effectively integrating EMs even though explicit barriers to portfolio flows are in place. Errunza, Hogan and Hung (1995) focused on the impact of substitute assets on time-varying ability of U.S. traded assets to substitute restricted EM assets. In addition to estimating the degree and variation through time of market integration, they document the contribution of country funds and ADRs in promoting internationalization of EMs. The major result of these studies can be summarized as follows:

i. Barriers and availability of market substitutes affect the degree and time of integration.

ii. Integration has increased over time. However, there are important differences in the evolution of market integration across EMs.

iii. Impact of removal of barriers alone is mixed.

iv. Country funds have played an important integrating role even under the presence of barriers.

These results support the theoretical prediction that the presence of barriers per se do not imply segmentation just as their removal does not necessarily increase market integration. The implication for empirical studies is that one must use indicators that include substitute assets as well as changes in capital flows and barriers.

The review of empirical literature in respect of interbank call money rate, exchange rate and money supply, interest rate and foreign portfolio investments as independent variables of this study and stock market returns as dependent variable reveal mixed positions. Some studies found negative but significant association between them while others found a positive and insignificant relationship. Though, the latter position prevails over the former. Therefore, the determinants influences and predict stock returns of Nigerian stock exchange.

2.8 Theoretical Framework

Researches on the effects of monetary policy and its relevant theories are well captured in finance and economics literature. Theories such as quantity theory of money and Rational Expectation theory have been reviewed in which Rational Expectation theory is adopted for the study to anchor the monetary policy shocks and stock returns.

Quantity theory of money, this theory is profound by Fisher (1930). It is the classical view of how money is used in the economy, and the variables it affects. The quantity theory of money is one which explains how the nominal value of aggregate income is determined. The most important feature of this theory is that it suggests that interest rates have no effect on the demand for money. Fisher examined the link between the total quantity of money (the money supply) and

the total amount of spending on final goods and services produced in the economy. The concept that provides the link between Money supply, price level and aggregate output (income) is referred to as velocity of money, the rate of turnover of money; that is, the average number of times per year that a unit of money is spent in buying the total amount of goods and services produced in the economy.

Fisher held the view that in the short run, monetary influence was dictated by interest rates that were sticky initially though rising subsequently while in the long run, the channel of influence was real cash balance. He argued that when wealth increases as a result of a rise in the stock of money, people try to reduce their cash balances by purchasing goods and services. Using the exchange equation of MV= PY, where velocity (V) and output (Y) are held constant, doubling money stock (M) would lead to the doubling of the price level (P). This means that when money stock increases following an increase in gold stock and rise in reserve, for example, in the short run, commodity prices will increase since it is assumed that output and velocity were fixed initially. This implies that, the rate of inflation in the economy is entirely due to changes in the money supply.

Theory of rational expectations was formulated by Lucas in the early 1970s. Theory posits that stock prices change so that after an adjustment to reflect dividends, the time value of money, and differential risk, they equal the market's best forecast of the future price. Therefore, the only factors that can change stock prices are random factors that could not be known in advance. Thus, changes in stock prices follow a random walk. The theory uses statistical methods to show that workers and businesses shape the economy by interpreting and updating information about the economy's future. As a result, government monetary policies can be anticipated, and this

expectation may alter the predicted outcome of those policies. Lucas used the rational expectations theory to challenge many orthodox economic assumptions of the 1970s, particularly the theories of British economist John Maynard Keynes and the effectiveness of government intervention in the economy. In a typical rational expectations model, the public adjusts its behavior to announced monetary policy.

The theory suggests that the current expectations in the economy are equivalent to what the future state of the economy will be. This contrasts the idea that government policy influences the decisions of people in the economy. There are two main parts to rational expectations. First, Lucas began with the old assumption that recessions are self-correcting. Once people start hoarding money, it may take several quarters before everyone notices that a recession is occurring. That is because people recognize their own hardships first, but it may take a while to realize that the same thing is happening to everyone else. However, once they do recognize a general recession, their confusion clears, and the market quickly takes steps to recover. Producers will cut their prices to attract business, and workers will cut their wage demands to attract work. As prices deflate, the purchasing power of money is strengthened, which has the same effect as increasing the money supply.

Secondly, government intervention can only range from ineffectualness to harm. Therefore, any government attempt to expand the money supply cannot happen before a businessman's decision to cut prices anyway. Keynesians are therefore robbed of the argument that perhaps the central bank might be useful in hastening a recovery, since Lucas showed that the central bank is not much faster than the market in discovering the problem.

However, for the purpose of this study, the theory of rational expectations is considered as the theory that underpins the study. The justification for the adoption of the theory is the objective of the study that is in line with provision of the theory which is to investigate the impact of monetary policy shocks on the performance of the Nigerian Stock market.

CHAPTER THR
RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology adopted for the study. It includes research design, sources of data, population and the sample of the study. In addition, it presents the techniques for data analysis and finally the justification of both methods and techniques used.

3.2 Research Design

There are different types of research design depending on the nature and paradigm of the study. For the purpose of this study, correlational research design is adopted to capture the dependent and independent variables. This will be able to explain the relationship between the determinants and stock return.

3.3 Sources and Methods of Data Collection

There are two main sources of data collection for any study. These are primary and secondary sources. For the purpose of this study only the secondary data sourced from CBN and NSE official websites is used. The interbank money rate, exchange rate, money supply, interest rate and foreign portfolio investment are sourced from CBN bulletin, while the stock price index is extracted from NSE official websites.

3.4 Techniques of Data Analysis

In order to analyze the data, the study employs econometric technique to analyze the relationship among the variables. In order to analyze the data, the study employs econometric technique to

analyze the relationship among the variables. The ordinary least square (OLS) time series multiple regression technique is employed in the estimation. Before the regression analysis, the study test for the Stationarity using Augmented Dickey Fuller (ADF) of the variables to avoid spurious regression result as well as cointegration using Engle-Granger procedure. The Augmented Dickey-Fuller test is employed to determine the level or degree of integration of the variables and also to correct for higher order serial correlation by adding lagged differenced terms on the right hand side of the equation. That is, how many times the variables need to be differenced to attain Stationarity.

3.5 Variables Measurement

The measurement of all the variables of the study are presented and discussed below:

(i) Returns of the Stock Market (dependent variable)

The study employs monthly all share index of the Nigerian Stock Exchange as a measure of market performance from 2004 to 2012. All Share Index which is the broad market indicator of the stock market measures the overall performance of the stock market. This index is computed by the Nigerian Stock Exchange. The monthly All Share Index was then converted to continuously compounded market returns using the equation below:

$$R_{m,t} = \ln\left[\frac{ASI_t}{ASI_{t-1}}\right] \text{ x } 100 \qquad (1)$$

where R_{mt} is the return on the market at time t; ASI_t is the NSE ASI at time t; ASI_{t-1} is the NSE ASI at time t-1; and ln is the natural logarithm. According to Ahmad, Rehman and Raoof (2010).

(ii) Interbank call money rate that is NIBOR (independent variable)

The first independent variable used in the study is monthly interbank call money rate (NIBOR). This variable has been widely used in the literature as a good proxy for measuring monetary policy shocks. In the UK, however, for example, Gregoriou et al (2009), in their study employ London Interbank offered Rate (LIBOR) as a proxy. The NIBOR was transformed to natural logarithms.

(iii) Exchange Rate

This is the exchange rate as calculated by the Central Bank of Nigeria (CBN). The figure is obtained directly from its official website. The rate is also transformed into natural logarithms of the exchange rate at month t.

(iv) Money Supply

Money supply here is also the one in which the CBN does calculate and is obtained from the same site as in the case of Exchange rate. Money is a collection of liquid assets that is generally accepted as a medium of exchange and for repayment of debt. In that role, it serves to economize on the use of scarce resources devoted to exchange, expands resources for production, facilitates trade, promotes specialization, and contributes to a society's welfare (Thornton, 2000). The study employs monthly money supply. Natural logarithm was used for the purpose of transformation.

(v) Interest Rate

Interest rate is a monthly average interest rate of all deposit money banks extracted from CBN bulletin. Natural logarithm was used for the purpose of transformation.

(vi) Foreign Portfolio Investment

Foreign Portfolio Investment is a monthly value of total foreign portfolios in the market extracted from CBN bulletin. Natural logarithm was used for the purpose of transformation

3.5.1 Model Specification

The model specified to examine the hypotheses of the study is presented below:

$$LNNSE_t = \beta\square + \beta_1 LNEXCH_t + \beta_2 LNINTBC_t + \beta_3 LNMSS_t + \beta_3 LNITR + \beta_3 LNFIP + \varepsilon_t \quad (3)$$

Where

$LNNSE_t$ = the natural logarithm of return on the NSE All Share Index at time t

$\beta\square$ = constant

β_1- β_3 = coefficient of independent variables

$LNINTBC_t$ = Natural Logarithm of monthly Interbank Call Money Rate at time t

$LNEXCH_t$ = Natural Logarithm of monthly Exchange Rate at time t

$LNMSS_t$= Natural logarithm of monthly Money Supply at time t

$LNITR_t$= Natural logarithm of average monthly Interest Rate of DMBs at time t

$LNFIP_t$= Natural logarithm of monthly Foreign Portfolio Investment at time t

ε_t = error term

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents and discusses the data collected in the course of the study. It also consists of the presentation and analysis of secondary data extracted from central bank official web site. Multiple regression was used to estimate the relationship between the independent variables (interbank call rate, exchange rate and money supply) and dependent variable (NSE Index). The chapter concluded with discussion of major findings and policy implications of the findings.

4.2 Data Presentation

The data employed in regressing both the dependent and independent variables of the study consists of all share index as dependent variable, while interbank call rate, exchange rate and money supply, interest rate and foreign portfolio investment as independent variables of the study. The data is a time series data producing one hundred and eight (108) observations. The data is presented in appendix A .

4.3 Descriptive Statistics

This section presents and discusses statistics description, normality test of Jarque Bera and stationery test of unit root test. Correlation matrix is also analyzed and presented in table 4.1 below. It indicates the minimum, maximum, mean and the standard deviation of the variables under review. The description helps in showing the nature of the data. Table 4.1 indicates the minimum, maximum mean and the standard deviation of all the variables of the study. The description helps in showing the nature and behavior of the data used for the study.

Table 4.1 Descriptive Statistics

Stat/variables	LNNSE	LNINTBC	LNEXCH	LNMSS	LNITR	LNFIP
Mean	10.1849	.1464	4.9127	15.4486	14.9383	1.1498
Maximum	11.09	10.07	5.07	16.44	19.99	2.98
Minimum	9.40	-21.47	4.77	14.29	10.10	.04
Std Dev	.37672	4.79477	.09035	.10844	3.26578	.72840
Skewness	.648	-.407	.178	-.089	-.083	.650
Kurtosis	.143	5.311	-1.222	-1.617	-1.601	.032

Source: Result output from SPSS.

Table 4.1 presents the descriptive statistics for the variables. They exhibit a positive mean return for all the variables of the study. Also the sum squared deviation row represents the net change over within the sample period of the study. It shows that all the variables by about 15.13%, 2315.1%, 0.80% and 51.08% for all share index, interbank call rate, exchange rate and money supply respectively. In terms of skewness, all share index and exchange rate have return distribution that are positively skewed, whereas interbank call rate and Money supply shows a negative skewness which implies that they have a long left tail. Finally, all the variables are relatively normally distributed as indicated by their respective p values of Jarque Bera statistics.

4.3.1 Correlation Matrix

The purpose of correlation matrix is to ascertain the degree of association between the dependent and independent variables and as well between the independent variables themselves.

Table 4.2: Correlation Matrix

	LNNSE	LNEXCH	LNINTBC	LNMSS	LNITR	LNFIP
LNNSE	1.000					
LNEXCH	.374	1.000				
LNINTBC	-.468	.013	1.000			
LNMSS	.491	.011	.585	1.000		
LNITR	.737	-.166	-.051	.079	1.000	
LNFIP	.502	.005	-.190	-.270	.009	1.000

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.2 presents the correlation between the variables under study. It indicates that there exists A negative relationship between interbank call money shock, exchange rate shock to LNNSE Return (INTBC, and EXCH to LNNSE,), though the correlation between LNNSE, INTB and EXCH is not significant. While that of All share index return and money supply (LNNSE return and MSS) is positive and significant at 5%. Thus, with an increase in interbank call, exchange rate (EXCH), the all share index return (LNNSE return) within the period of the study decreases and vice versa. For money supply (LNNSE to MSS), the relationship is positive as mentioned earlier and therefore, any increase in the money supply that positively correlated will lead to an increase also in all share index. However, interest rate is associated with stock return at 74% showing strong relationship. Again, foreign portolio investment is positively and strongly correlated with stock return indicating any increase in the portfolio by foreign investors increases the returns on shares in the NSE.

4.3.2 Unit root test results

Time series data are generally non-stationary and therefore, running a regression without controlling for that problem will yield spurious regression results, meaning that the results may appear good but do not make economic sense (Victor and Kuwornu, 2011). They argue that economic time series tend to have a strong trend which causes these series to depict rising or falling patterns. The general practice is to use the Augmented Dickey Fuller (ADF) test developed by Dickey and Fuller (1979) in order to determine the level or degree of integration of the variables and also to correct for higher order serial correlation. Table 4.3 contains the results obtained from the ADF Test.

Table 4.3 Results of unit root test in first order difference

VARIABLE	ADF	P-value	Order of Integration
LNSI	-9.53896	0.0000	1
INTB	-21.3384	0.0000	1
LNEXC	-10.1903	0.0000	1
LNMS	-11.2999	0.0000	1
LNITR	-8.3322	0.0000	1
LNFIP	12.231	0.0000	1

Source: eviews output

The results in table 4.3 above indicate that the series variables are integrated of order one I(1) as well as stationary at first differences given their respective p-values that are all significant a 1%. In empirical analysis as posited by Townsend, (2001) using time series data, it is very vital to establish either the presence or otherwise of unit root. This is so because econometrics has

provided that regression analysis using time series data variables with unit root produce spurious regression results.

Granger and Newbold, (1974) concluded that some time series are trended over time and regressions between trended series may produce significant parameters but may be spurious or meaningless. Consequently, the result of the unit test reveals that the data used for this study are stationed.

The study also tested the cointegration using Engle-Granger procedure after integrating them to the same order. The results reveal that the ADF has a statistics of -16.65811 and a probability of 0.0000 meaning that it is significant. The implication of this is that there exists cointegration between the variables. Thus the association between the regressand and the regressors is of long term relationship.

4.4 Presentation and Discussion of Regression Result

The Regression result obtained from the data of the study is presented in table 4.4 below:

Table 4.4: Summary of the Regression Result

Statistics / **Variables**	**Beta Coefficients**	**t-values**	**Sig.**
LNDINTBC	0.035	4.600	0.050
LNEXCH	-0.935	-13.000	0.000
LNMSS	0.810	11.010	0.000
LNITR	0.032	14.388	0.001
LNFIP	0.043	4.707	0.048
R			**0.80**

R^2		**0.64**
Adj R^2		**0.62**
F. Statistic		**38.085**
F-Sig.		**0.000**
Durbin-Watson		**2.076**

4.4.1 Exchange rate and NSE return (All share index)

The regression result in table 4.4 shows that exchange rate is negatively and strongly significant in explaining the changes of NSE return. This signifies that the higher the exchange rates shock of Naira to US Dollar, the lower the NSE returns. The implication of this result is that for every 1% increase in exchange rates, NSE returns reduces with ₦3.90k. This finding may be as a result of large export of crude oil from the country. It could also be as a result of the influence of the exchange rate fluctuations on the value of a portfolio of domestic and multinational firms. This result produced an evidence of rejecting hypothesis one of the study which states that exchange rates has no significant impact on the return of the Nigerian Stock Market. The study confirms the findings of Solnik (1987), Maysami and Koh (2000), Amare and Mohsin (2000), Bilson et al (2001), Kim (2003), Ibrahim and Aziz (2003), Altray (2003), Adjasi and Biekpe (2005), Doong et al. (2005), Adjasi, Harvey and Agyapong (2008), Sharma and Mahendru (2010),Victor and Kuwornu (2011) and contrary to those of Wu (2000), Ozair (2006) and Muhiuddin (2008), among others.

4.4.2 Interbank call rate and Stock Return

It is hypothesized that monetary policy changes (surprise) represented by change in interbank call rate (NIBOR) has no significant impact on the return of Nigerian Stock Exchange also represented by ASI return. The results reveal that interbank call rate (NIBOR) has significantly impacted on NSE return ($p>0.05$). Thus, INTB explains the variation in NSE return. This is in line with Daviga and Gerlach (2006), Jensen and Mercer (2002), Bouakez, Essid and Normandin (2010), but contrary to findings of Maio (2011), Gregoriou et al (2009) and Bredin et al (2007) using UK data and Maio and Tavares (2007), Bohl, Siklosb and Sondermann (2007) and Bernanke and Kuttner (2005) employing US data. Therefore, the result produced an evidence of not rejecting the null hypothesis two (2) of the study. Finally, the finding of this study for this particular variable is in contrast with the findings of previous studies, which document either a positive Gregoriou et al (2009) and Bredin et al (2007) or negative and significant response of stock returns to an unanticipated monetary (Maio and Tavares, 2007).

4.4.3 Money supply and NSE return

The study hypothesized that money supply (MS) has no significant impact on the return of the Nigerian stock exchange, which is confirmed by the results in Table 4.1. Money supply has positive beta coefficient of 0.004, signifying that the impact generated by money supply transmitted to the return of NSE is significant at 1%level of significance. This may be as a result of much money in circulation in which prospective investors are buoyant to patronize shares. This result provides an evidence of rejecting hypothesis three of the study. Alatiqi and Faze (2008) reported similar results to the one obtained in this study and contrary findings that money supply does not have any explanatory power in predicting changes on stock prices using Kuwait

data and Seema Mehta and Varsha (2010) using Indian data. Whereas Shiblee (2009), Ali, Abdullah and Azman (2011), provide positive evidence using Malaysian and Syrian data respectively. Others such as Maskay (2008), Tursoy, Gunsel and Rjoub (2008) have an opposite result. However, Ibrahim and Aziz (2003), document that stock prices have a negative association with money supply.

4.4.4 Interest Rate and Stock Return

It is hypothesized that interest rate has no significant impact on the stock returns of NSE. The regression result reveals that interest rate is positively and strongly impacting on stock return at 1% level of significant. This implies that changes in interest rate plays a significant role in predicting and explaining stock returns in NSE. It signifies that the higher the interest rate the lower the level of patronage by the prospective investors because of cost of debt and the lower vice-versa. This result provides an evidence of rejecting hypothesis four of the study. The finding is in line with those of Kim (2003), Ibrahim and Aziz (2003), Altray (2003) and contrary to those of Ozair (2006) and Muhiuddin (2008).

4.4.5 Foreign Portfolio Investment and Stock Return

It is posited that foreign portfolio investment has no significant impact on the stock returns of NSE. The regression result reveals that foreign portfolio investment is positively and strongly impacting on stock return at 5% level of significant. This implies that changes in foreign portfolio investment plays a significant role in predicting and explaining stock returns in NSE. It signifies that the higher the foreign portfolio investment the higher the quantum of stock in the market. This result provides an evidence of rejecting hypothesis four of the study. The finding is

in line with those of Errunza and Losq (1985), Henry, (1998) and contrary to Maskay (2008), Tursoy, Gunsel and Rjoub (2008).

4.5 Policy Implications of the Findings

Given the findings above, the policy implications of the study is categorized into three folds;

(i) Exchange rate plays a prominent role in guiding the investors towards investing in the Nigerian capital market or looking for alternative investment especially in the real sector of the economy. The findings of this study in relation to exchange rate shock may serve as a yard stick of coming up with policies that will restrain or maintain appropriate exchange rate through stabilizing the rate to enable prospective investors engage in international businesses and raise funds for the purpose of investing in the Nigerian stock market to increase share returns.

(ii) The second finding of this study which reveals that interbank call rate (NIBOR) shock has not significantly impacted on NSE return will be of help to policy makers like CBN in forming policies that will drive the economy positively. The policy makers in CBN may use this finding to come up with appropriate policies other than the present ones on interbank rate that will enable prospective investors to borrow with a manageable and portable interest from banks for investment in the Nigerian stock market which will boost the returns of investment in the market.

(iii) Finally the finding of this study is expected to guide the CBN in coming up with policies and measures of controlling and monitoring the quantum of money to be available in the economy which will go a long way in affecting other economic indices such as inflation, exchange rates, open market operation, treasury bills transactions, government bonds to mention but a few.

(iv) The developing countries should create an environment that would encourage the return of flight capital and attract (and retain) foreign capital flows on a permanent basis. The most important measures are to ensure consistency and credibility of the reform program and sustain high and competitive economic growth rate. Positive change would work better than special incentives, rules, regulation or controls on capital flows that can potentially provide conflicting signals and undermine the liberalization effort. Indeed, EMs that wish to minimize hot money flows would be well served by a smoother transition to market economy and steps to reduce uncertainty rather than controls.

(v) Some prudent regulatory measures to correct market failures should be considered. In many EMs, the preconditions necessary for a well functioning market are not present. The preconditions relate to the infrastructure; quality, timely and orderly information flows and investor sophistication. The infrastructure includes good quality accounting standards, well defined property rights, a well functioning legal system, credible contract enforcement and properly qualified and trustworthy personnel. Quality, timely and orderly information flows relate to the asymmetries that allow undue advantage to insiders and may result in manipulation, a public scandal and the consequent loss of confidence in the marketplace. The investor sophistication deals with educating the individual investor about the long run nature of securities investments, the risk rewards of owning risky assets, portfolio management and in general reducing their disadvantage vis-à-vis insiders and professional investors. Regulatory measures (e.g. deposit insurance) that minimize the risk of market collapse are desirable to build investor confidence and prevent losses of non-market forces (e.g. fraud, manipulation).

(vi) Finally, sequencing of reforms should depend on the initial state of the country under consideration. Nonetheless, control over fiscal deficit (inflation) has been widely accepted as the first step. Further, there seems to be reasonable consensus on the issue of domestic financial liberalization vis-à-vis external financial liberalization. Since capital flight responds to differential real interest rates, it is well accepted that the external financial liberalization should not precede domestic reforms. The current thought with respect to the opening of the trade account is less clear.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study investigated determinants of stock return of Nigerian Stock Exchange market employing exchange rate interbank call rate (NIBOR), money supply, interest rate and foreign portfolio investment. The study used monthly data for all the variables and consisting of NSE return as the dependent variable, whereas, the determinants were employed as independent variables. NSE return is a tool which enables investors to measure the performance of a stock market. It is transformed into natural logarithms. The exchange rate, interbank call rate (NIBOR) and money supply are obtained directly from the CBN official website.

The study hypothesized significant relationship between the three explanatory variables (exchange rate, interbank call rate, and money supply) and one explained variable (NSE return). The study covers the period of nine (9) years from 2004 to 2013 totaling to 108 observations.

Descriptive statistics and correlation matrix were used in the study to describe the data and correlation between the dependent and independent variables respectively. The study furthermore, employed Augmented Dickey Fuller in order to check for stationerity of the data as well as the level of integration. Multiple regression is used as a technique o data analysis. Among the five independent variables used in the study, only exchange rate reported to have a negative significant effect on the ASI stock return. However, the overall result reveals that the five independent variables are consistently significant in explaining and ASI return.

5.2 Conclusions

In view of the findings, the study concludes as follows:

Firstly, the study concludes that exchange rate shock influences stock return in the Nigerian stock market. This may be as a result of the effect of exchange rate on international trade of the country, since Nigeria is highly dependent on importation. Moreover, while currency depreciation encourages exports, at the same time it increases cost of production and intermediate goods.

Secondly, though the relationship between, NIBOR and stock market return is positive, hence, the study concludes that Interbank call money rate do not explain the volatility of the NSE return.

Thirdly, the study concludes that money supply has also no significant effect on the return of the NSE.

Fourthly, Investors diversify to reduce risk; the extent to which the risk is reduced by diversification depends on the covariances among individual securities comprising the portfolio. Since security returns tend to covary much less across countries than within a country, investors can reduce portfolio risk more by diversifying internationally than purely domestically.

Finally, the study also provides statistical and empirical evidence on the selection of the regressors in predicting as well as explaining their influence on the return of the NSE.

5.3 Recommendations

The following are recommendation made from the findings and conclusions of the study.

i. The CBN should be monitoring the availability of foreign currency especially ($) US dollar and the British pounds in the economy to maintain stability of the rate and improve the purchasing power of the Nigerian currency (Naira) to enable investors buy more shares and as well increase share returns.

ii. In view of the finding that interbank call money rate does not influence stock returns in NSE, it is therefore, recommended that the CBN should intensify efforts towards sustaining a low rate of interest to enable investors borrow money from the banks and invest by buying shares to increase returns in the market.

iii. The CBN should monitor and stabilize money supply (M2) into the economy so that investors will not be faced with the problem of liquidity or otherwise as a result of inflationary factors to enable them patronize stock for the market to increase returns.

iv. The CBN should work hard in monitoring, supervising and maintaining appropriate monetary policies for improving the well being of the economy and hence increasing the standard of living of investors to enable them invest aggressively in the NSE.

5.4 Limitations

The study intends to cover more years using monthly data, but it was not possible due to the fact that some data (interbank call money rate) are not available and has to be limited to only nine years.

5.5 Suggestions for Further Research

i. The study only covered the impact of monetary policy shocks on performance of NSE employing some monetary policy shocks metrics interbank call rate exchange rate and money supply. Other study can employ other variables using the same methodology and investigate the performance of the NSE.

ii. Other study can employ other tools of analysis in measuring the performance of the NSE in order to find out if similar findings would be arrived at.

BIBLIOGRAPHY

Abdalla, I. S. A. and Murinde, V., (1997). Exchange rate and stock price interactions in Emerging financial markets: Evidence on India, Korea, Pakistan and the Philippines, *Applied Financial Economics* 7, 25–35.

Adjasi, Charles, Harvey, Simon K. and Agyapong, Daniel (2008). Effect of exchange rate Volatility on the Nigeria Stock Exchange, *African Journal of Accounting, Economics, Finance and Banking research vol.* 3. No. 3.

Adjasi, C. K.D., and B.N. Biekpe. (2005). Stock Market Returns and Exchange Rate Dynamics in Selected African Countries: A bivariate analysis, *The African Finance Journal, July, Cape Town, South Africa*.

Ahmed, Shahid (2008), Aggregate Economic Variables and Stock Markets in India, *International Research Journal of Finance and Economics Issue* 14.

Ajayi, R. A., Friedman, J., and Mehdian, S. M., (1998). On the relationship between stock returns and exchange rates: Test of granger causality, *Global Finance Journal* 9 (2), 241–251.

Ajayi, R. A., and Mougoue, M., (1996). On the dynamic relation between stock prices and Exchange rates, *Journal of Financial Research* 19, 193–207.

Alatiqi, Sara and Fazel, Shokoofeh (2008). Can money supply predict stock prices? *Journal For Economic Educators,* 8(2), Fall.

Ali, Imran Rehman, Kashif Ur, Yilmaz, Ayse Kucuk, Khan, Muhammad Aslam and Afzal, Hasan (2010). Causal relationship between macro-economic indicators and stock Exchange prices in Pakistan *African Journal of Business Management* Vol. 4 (3), 312-319.

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

Allen, F. and G.R. Faulhaber, (1989). Signaling by under pricing in The IPO Market, *Journal of Financial Economics,* 23.

Altay, E. (2003). The Effect of Macroeconomic Factors on Asset Returns: A Comparative Analysis of the German and the Turkish Stock Markets in an APT Framework, Martin-Luther-Universität Halle. Betriebswirtschaftliche Diskussionsbeiträge.Nr. 48/2003.

Aydemir, Oguzhan and Demirhan, Erdal (2009). The Relationship between Stock Prices and Exchange Rates Evidence from Turkey. *International Research Journal of Finance And Economics Issue* 23.

Banerjee, Prashanta K. and Adhikary, Bishnu.K. (2006). Dynamic Effects of Interest Rate and Exchange Rate Changes on Stock Market Returns in Bangladesh. 1-26.

Barro, R. (1977).Unanticipated Money Growth and Unemployment in the United States American *Economic Review*.

Barrows, C.W., Naka, A., (1994). Use of macroeconomic variables to evaluate selected Hospitality stock returns in the US. *International Journal of Hospitality Management* 13 (2), 119–128.

Barclay, M., and R. Lichtenberger. (1988). Announcement Effects of New Equity Issues and the use of Intraday Price Data. *Journal of Financial Economics* 21.

Basistha, Arabinda and Kurov, Alexander (2008). Macroeconomic Cycles and the Stock Market's Reaction to Monetary Policy.1-33.

Beenstock, M. and Chan, K. (1988). Economic Forces in the London Stock Market Oxford *Bulletin of Economics and Statistics.* Vol. 50, No 1, 27-39.

Bernanke, B.S., and Gertler, M. (2001). Should central banks respond to movements in asset? Prices? American Economic Review Papers and Proceedings 91: 253-257.

Bernanke, B. and Kuttner, K. (2005). What Explains the Stock Market's Reaction to Federal? Reserve Policy *Journal of Finance* 60: 1221-1257.

Bernanke, B., and Gertler M., (1989). Agency Costs, Net Worth, and Business Fluctuations. *American Economic Review* 79, 14-31.

Bredin, D., Hyde, S, Nitzsche, D., and G. O'Reilly, (2007). UK Stock Returns and the Impact of Domestic Monetary Policy Shocks, *Journal of Business Finance and Accounting,* 34, 872-888.

Bhattacharya B and Mukherjee J. (2002). Causal relationship between stock market and Exchange rate, foreign exchange reserves and value of trade balance: A case study For India, available at www.igidr.ac.in.

Blattner, T., M. Catenaro (2008). The predictability of monetary policy. Occasional Paper Series 83, European Central Bank.

Bjørnland, H.C. and K. Leitemo (2009). Identifying the Interdependence between US Monetary Policy and the Stock Market. *Journal of Monetary Economics* 56, 275–282.

Bjørnland, Hilde C. (2005). Identifying the interdependence between US monetary policy and The stock market. Bank of Finland Research Discussion Papers 17, 9-48.

Blinder, a (1998). *Central banking in theory and practice*, Cambridge: MIT Press.

Blinder, Alan S., Elie R.D. Canetti, David E. Lebow and Jeremy B. Rudd. (1998) Asking About Prices: A New Approach to Understanding Price Stickiness. First Ed. New York: Russell Sage Foundation.

Booth, J.R., Booth, L.C., (1997). Economic factors, monetary policy and expected returns on Stocks and bonds. *Economic Review,* Federal Reserve Bank of San Francisco 2, 32–42.

Bulmash, S.B., Trivoli, G.W., (1991). Time-lagged interactions between stock prices and Selected economic variables. *Journal of Portfolio Management* 17 (4), 61–67.

Campbell, J.Y. and J. Ammer (1993). What Moves the Stock and Bond Markets? A Variance Decomposition for Long-Term Asset Returns. *Journal of Finance* 48, 3–37.

Campbell, J., Lo, A., and MacKinlay, C., (1996).*The Econometrics of Financial Markets*. Princeton University Press.

Central Bank of Nigeria (2009). Monthly Report, January.

Central Bank of Nigeria (2007). Annual Report and Statement of Account, December.

Central Bank of Nigeria (2007). Capital Market Dynamics in Nigeria: Structure, Transaction Cost and Efficiency 1980-2006. A publication of the Central Bank of Nigeria.

Central Bank of Nigeria, (2002). Statistical Bulletin, 2(2), December.

Chen, M.H., Kim, W.G., Kim, H.J., (2005). The impact of macroeconomic and non-Macroeconomic forces on hotel stock returns. *Hospitality Management* 24 (2005) 243-258.

Choo, Wei-Chong Lee, See-Nie and Ung, Sze-Nie (2011). Macroeconomics Uncertainty and Performance of GARCH Models in Forecasting Japan Stock Market Volatility, Centre for Promoting Ideas, US. Available at www.ijbssnet.com.

Chong CS, Goh KL (2003). Linkages of economic activity, stock prices and monetary policy: the Case of Malaysia.

Clerc, Laurent and Christian Pfister (2001). The Role of Financial Factors in the Transmission of Monetary policy, Bank for International Settlements, BIS Papers No 19. Available at http://www.bis.org/publ/bppdf/bispap19h.pdf.

Cochrane, John H., and Piazzesi, Monika. (2002). the Fed and Interest Rates: High- Frequency Identification. *Working Paper 8839. NBER.*

Cook, T. and T. Hahn (1989). The effect of changes in the federal funds rate target on market Interest rates in the 1970s. *Journal of Monetary Economics* 24: 331-351.

Corwin, Shane, a (2003). The Determinants of Under pricing for Seasoned Equity Offers. *Journal of Finance* 58(5).

Caporale, G.M., Pittis, N., and Spagnolo, N., (2002).Testing for causality-in-variance: an application to the East Asian markets. *International Journal of Finance & Economics* 7(3), 235-245.

Craine, Roger and Martin, Vance (2003).Monetary Policy Shocks and Security Market Re-Sponses. Manuscript, University of California at Berkeley.

Delong, J. Bradford, and Lawrence H. Summers (1988). How Does Macroeconomic Policy Affect Output? *Brookings Papers on Economic Activity*, Vol. 2,433-94.

Dimitrova and Desislava (2005) .The Relationship between Exchange Rates and Stock Prices: Studied in a Multivariate Model, *Issues in Political Economy,* Vol. 14, (8).

Doong, Shuh-Chyi, Yang, Sheng-Yung and Wang, Alan T., (2005). The Dynamic Relationship And Pricing of Stocks and Exchange Rates: Empirical Evidence from Asian Emerging Markets *Journal of American Academy of Business, Cambridge* 7, (1), 118-123.

Dornbusch, R. and S. Fisher, (1980).Exchange Rates and the Current Account. *American Economic Review.* 70, 960-971.

Durham, J. Benson, (2001). The Effect of Monetary Policy on Monthly and Quarterly Stock Market Returns: Cross-Country Evidence and Sensitivity Analyses. Board of Governors of the Federal Reserve System Finance and Economics. Discussion Paper

No. 2001-42.

Ehrmann, Michael and Fratzscher Marcel (2004).Taking Stock: Monetary Policy Transmission To Equity Markets. pp 5-20.

Errunza, V. & Losq, E. (1985). International Asset Pricing Under Mild Segmentation: Theory and Test, *Journal of Finance, 40, pp. 105-124*.

Errunza, V., Senbet, L. & Hogan, K. (1998). The pricing of Country Funds From Emerging Markets: Theory and Evidence, *International Journal of Theoretical and Applied Finance 1, 111-143*.

Fair, Ray C. (2003). Shock Effects on Stocks, Bonds, and Exchange Rates. *Journal of International Money and Finance* 22:307–341.

Fama E (1970). Efficient capital markets: a review of theory and empirical Work. *Journal of Finance.* 25: 383-417.

Fama, Eugene, (1981), Stock Returns, Real Activity, Inflation and Money. *American Economic Review.* 71, 545-565.

Fama, E.F. and. French K.R. (1988). Permanent and Temporary Components of Stock Prices. *Journal of Political Economy* 96, 246–273.

Fama, E. F. and G. W. Schwert (1977). Asset returns and inflation. *Journal of Financial Economics.* 5:2, 115-46.

Fisher I., (1930). The Rate of Interest, Macmillan, New York.

Friedman, M. and Meiselman D. (1963). The Relative Stability of Monetary Velocity and the Investment Multi- plier in the United States, 1897-1958, New Jersey: Prentice-Hall.

Friedman and Schwartz (1963). Money and business cycles. *Review of economics and statistics Supplement*. 32-64.

Galbraith, J. K. (2004). The Economics of Innocent Fraud: Truth for Our Time Boston: Houghton Mifflin.

Gavin, M., (1989). The Stock Market and exchange Rate Dynamics. *Journal of International. Money and Finance*, 8, 181-200.

Giammarino. Ronald M. and Tracy Lewis. (1989). A Theory of Negotiated Equity Financing, Review of Financial Studies.1

Goyal. Amit. And Pedro Santa-Clara. 2003. Idiosyncratic risk matters. *Journal of Finance* 58, 975-100.

Günsel. Nil and Çukur, Sadik. (2007). the Effects of Macroeconomic Factors on the London Stock Returns: A Sectoral Approach. *International Research Journal of Finance and Economics.*
Issue 10, 1-13.

Gurkaynak. R. S., Sack. B., Swanson. (2005). Do actions speak louder than words? The response Of asset prices to monetary policy actions and statements. *International Journal of Central Banking* 1: 55-93.

Gurkaynak. R.S. Sack. B. Swanson, E. (2002). Market-Based Measures of Monetary Policy Expectations. Board of Governors of the Federal Reserve's System Finance and Economics
Discussion Series 40.

Greenspan, Alan. (2004). cited in Oil and the Macro economy, since the1970s. By Barsky, R.and
L. Kilian. (2004). Available at http://.www.cepr.org/pubs/dps/DP4496.asp.

Gregoriou, A., A.Kontonikas. (2009). monetary policy shocks and stock returns: evidence from The British market. *Finance Markets and Portfolio Management* 23, 401-410.

Grinblatt, M. and C.Y. Hwang. (1989). Signaling and the Pricing of New Issues. *Journal of Finance.* 44.

Gupta, Manak C. (1974). Money Supply and Stock Prices: A Probabilistic Approach. *Journal of Financial and Quantitative Analysis.* 9(1): 57-68.

Günsel, Nil and Çukur, Sadik. (2007). the Effects of Macroeconomic Factors on the London Stock Returns: A Sectoral Approach. *International Research Journal of Finance and Economics, Issue*. 10, 1-13.

Hamburger Michael J. and Levis A. Kochin. (1971). Money and Stock Prices: The Channels of Influences. *The Journal of Finance.* 27(2): 231-249.

Haordahl, P. and Packer, F. (2007). Understanding asset prices: an overview. Bank for

International Settlements Papers No. 34.

Hardouvelis. G. (1986). Macroeconomic Information and Stock Prices. First Boston Working Paper Series.

Homa, K.E. and Jaffee. D.M. (1971). The supply of money and common stock prices. *Journal of Finance.* 26, 1045-1066.

Hondroyiannis. G. and Papapetrou, E. (2001). Stock market performance and macroeconomic Experience in Greece. *Greek Economic Review*. 21(2), 65–84.

Ibrahim, H and Aziz. H. (2003). Macroeconomic variables and the Malaysian equity market: A View through rolling subsamples. *Journal of Economic Studies.* 30(1), 627.

Ioannidis, C. and A. Kontonikas. (2008). the impact of monetary policy on stock prices. *Journal Of Policy Modeling.* 30, 33-53.

Jaffe and Mandelker. (1976). The Fisher Effect for Risky Assets: An empirical Investigation. *Journal of Finance.* 31, 447-458.

Jensen, Gerald. R. and Jeffrey. M. Mercer. (2002). Monetary policy and the cross-section of Expected stock returns. *Journal of Financial Research.* 25, 125-139.

Jensen, Gerald R. Jeffrey M. Mercer. And Robert R. Johnson. (1996). Business conditions, Monetary policy, and expected security returns. *Journal of Financial Economics.* 40, 213-237.

Kaul, G. (1990). Monetary regimes and the relation between stock returns an inflationary Expectations. *Journal of Financial and Qualitative Analysis.* 25, 307–321.

Kaul, G. (1987). Stock returns and inflation: The Role of the Monetary Sector. *Journal of Financial Economic.* 18.

Kearns and Manners. (2006). the Impact of Monetary Policy on the Exchange Rate: A Study Using Intraday Data. *International Journal of Central Banking.* 2(4).

Kim, K. (2003). Dollar Exchange Rate and Stock Price: Evidence from Multivariate Cointegration and Error Correction Model. *Review of Financial Economics* 12, 301-313.

Kim. S. and N. Roubini. (2000). Exchange Rate Anomalies in the Industrial Countries: A Solution with a Structural VAR Approach. *Journal of Monetary Economics.* Vol. 45, 561-586.

Kraft, John and Arthur. Kraft. (1977). Determinants of Common Stock Prices: A Time Series Analysis. *The Journal of Finance.* 32(2), 417-425.

Kurihara, Yutaka. (2006). the Relationship between Exchange Rate and Stock Prices during the Quantitative Easing Policy in Japan. *International Journal of Business*. 11(4). 375-386.

Kuttner, Kenneth. N. (2001). Monetary policy surprises and interest rates: Evidence from the Fed Funds futures market. *Journal of Monetary Economics* 47, 523-544.

Lastrape, W. D. (1996). International evidence on equity prices, interest rates and money Mimeo. Department of economics university of Georgia.

Lena Shiblee. (2009). The Impact of inflation, GDP Unemployment, and Money supply on Stock Prices available at: http://ssrn.com/abstract=1529254.

Lunde, A. and Zebedee A. A. (2009). Intraday volatility responses to monetary policy events. Finance Markets and Portfolio Management 23, 383-399.

Malik,Wasim Shahid. (2007). Monetary Policy Objectives in Pakistan: An Empirical Investigation working paper series Pakistan Institute of Development Economics. Islamabad.

Mao, C. K. G., and W. Kao. (1990). On Exchange Rate Changes and Stock Price Reactions. *Journal of Business Finance and Accounting.* 17 (3), 441-449.

Martin T. Boh, Pierre L. Siklos and David Sondermann. (2007). Shocking Markets: European Stock Markets and the ECB's Monetary Policy Surprises. ECB Working Paper Forthcoming. *Journal of Money, Credit and Banking*.

Maskay, Biniv. (2007). Analyzing the Effect of Change in Money Supply on Stock Prices. *Journal of the Park Place Economist.* Volume XV.

Maysami, R. C. & Koh, T. S. (2000). A Vector Error Correction Model of the Singapore Stock Market. *International Review of Economics and Finance.* 9, 79-96.

McQueen, and Roley. (1993). Stock prices, news and business conditions *Review of financial Studies.* 6, 683-707.

Mehar Ayub. (2000). Stock market consequences of macroeconomic fundamentals. MPRA Paper No. 442. 1-19.

Merton, R., (1987). Presidential Address: A simple Model of Capital Market Equilibrium with Incomplete Information, *Journal of Finance 42, 483-510*.

Mishra, K. A. (2004). Stock Market and Foreign Exchange market in India: Are they related? *South Asia Economic Journal*. 5:2.

Mishra, Alok Kumar. Swain, Niranjan and Malhotra,.D.K. (2007). Volatility Spillover between Stock and Foreign Exchange Markets: Indian Evidence. *International Journal of Business.* 12(3), 343-359.

Mohamed, Suhana binti. Ali, Alizah binti, Nuriza binti and Abdullah, Katrina binti Azman. (2011). Malaysian Sectoral Indices VS Macroeconomic Factors, Any Correlation?: Evidence from Malaysia, International Conference on Economics and Finance Research IPEDR vol.4 IACSIT Press, Singapore.

Moore, J. S and Beltz, J.C. (2002). Share Price Performance and Observable Factors: A Perspective from Rule Induction. Small Business Advancement, National Centre. Available at http://www.sbaer.uca.edu/research.

Mookerjee, R. (1987). Monetary Policy and the Informational Efficiency of the Stock Market: The Evidence from Many Countries. Applied Economics. 19, 1521-1532.

Muhammad, Naeem and Rasheed. Abdul. (2002). Stock Prices and Exchange Rates: Are They Related? Evidence from South Asian Countries. *The Pakistan Development Review*. 41(4), 535-550.

Mukherjee, T. K. and Naka, A. (1995). Dynamic relations between macroeconomic variables And the Japanese stock market: an application of a vector error correction model. *The Journal Financial Research*. 18(2): 223-237.

Neri, S. (2004). Monetary policy and stock prices. Working paper No. 513 Bank of Italy.

Nelson, C. R. (1976). Inflation and rates of return on stocks. *Journal of Finance.* 31(2), 471- 83.

Nguyen, Islam and Ali (2011), Bangladeshi Narrow Money Supply and Equity Returns: An Asymmetric Co-Integration Analysis. *International journal of Review of Business Research Papers* Vol. 7. No.6, 84-100.

Okedokun, M.O. (1998). Financial Intermediation and Economic Growth in Developing Countries. *Journal of Economic Studies*. 25(3): 203 – 234.

Ologunde A.O., Elumilade D.O. and Asaolu T.O. (2006). Stock Market Capitalization and Interest Rate in Nigeria: A Time Series Analysis. *International Research Journal of*

Finance and Economics. 1-14.

Onyiuke, Okereke. (2008). Review of market performance in 2008 and the outlook for 2009.

Ozair, Amber. (2006). Causality between Stock prices and Exchange Rates: A Case of The United States, Florida Atlantic University.

Palmer, Micheal. (1970). Money Supply, Portfolio adjustment and stock prices. *Financial Analysts Journal / July-August*.

Pan,Ming-Shiun, Fok, Robert. Chi-Wing and Liu. Y. Angela. (2007). Dynamic linkages between Exchange rates and stock prices: Evidence from East Asian markets. *International Review of Economics and Finance*. 16, 503-520.

Patelis, A. D. (1997). Stock return predictability and the role of monetary policy. *Journal of Finance* 52(5): 1951-1972.

Pearce, Douglas K. and V. Vance Roley. (1985). Stock Prices and Economic News. *The Journal Of Business.* 58(1): 49-67.

Pesando, James E. 1974. The Supply of Money and Common Stock Prices: Further Observations on the Econometric Evidence. *The Journal of Finance.* 29(3): 909-921.

Phylaktis, Kate and Ravazzolo, Fabiola. (2005). Stock prices and exchange rate dynamics. *Journal of International Money and Finance.* 24, 1031-1053.

Poole, W. and R. H. Rasche. (2002). Market Anticipations of Monetary Policy Actions review Federal Reserve Bank of St. Louis. 84 (4): 65–94.

Rapach, D.E. (2001). Macro shocks and real stock prices. *Journal of Economics and Business.* 53, 5-26.

Rigobon, R. and B. Sack. (2004). the Impact of Monetary Policy on Asset Prices. *Journal of Monetary Economics*. 51: 1553-1573.

Rock, Kevin. (1986). Why New Issues Are Underpriced. *Journal of Financial Economics.* 15

Rudebusch, G. D. (1998). Do Measures of Monetary Policy in a VAR Make Sense? *International Economic Review Department of Economics.* 39(4): 907-931.

Sellin, Peter. (2001). Monetary Policy and the Stock Market: Theory and Empirical Evidence.

Journal of Economic Surveys. 15 (4), 491-541.

Singh, Tarika. Mehta, Seema and Varsha. M. S. (2011). Macroeconomic factors and stock Returns: Evidence from Taiwan. *Journal of Economics and International Finance.* Vol. 2(4), 217-227.

Shamsuddin, A. F. and Kim, J. H. (2003). Integration and Interdependence of Stock and Foreign Exchange Markets: An Australian Perspective. *International Financial Markets, Institutions and Money.* 13, 237-254.

Shapiro, A. (1975). Exchange rate changes, inflation, and the value of Multinational Corporation. *Journal of Finance.* 30, 485-502.

Somoye, Russell Olukayode. Christopher, Akintoye, Ishola Rufus and Oseni, Jimoh Ezekiel. (2009).Determinants of Equity Prices in the Stock Markets. *International Research Journal of Finance and Economics.*

Solnik. B. (1987). Using Financial Prices to Test Exchange Rate Models: A Note. *Journal of Finance.* 42: 141-149.

Smyth, R. and Nandha, M. (2003). Bivariate causality between exchange rates and stock prices In South Asia. Applied Economics Letters. 10,699–704.

Tessaromatis, N.P. and Triantafillou. P. E. () Money Supply Announcements and Stock Prices: The UK Evidence. Spoudai. Vol. 41, No 4, University of Piraeus.

Thaker , Mohamed Asmy Bin Mohd Thas, Rohilina, Wisam, Aris Hassama, and Amin. Md. Fouad Bin. (2009). Effects of Macroeconomic Variables on Stock Prices in Malaysia: An Approach of Error Correction Model. Online at http://mpra.ub.uni muenchen.de/20970/

Thorbecke, W. (1997). On Stock Market Returns and Monetary Policy. *Journal of Finance.* 52, 635–654.

Thornton, D. I. and Batten, D. S. (1985). Lag length selection and granger causality between Money and income. *Journal of Money, Credit and Banking*. 17, 164-178.

Turgut Tursoy, Nil Gunsel and Husam Rjoub. (2008). Macroeconomic Factors, the APT and the Istanbul Stock Market. *International Research Journal of Finance and Economics.* Issue 22

Wei-Chong Choo, See-Nie Lee and Sze-Nie Ung. (2011). *International Journal of Business and Social Science*. Vol. 2 No. 1

Welch, I. (1989). Seasoned Offerings, Imitation Costs. And The Under pricing Of Initial Public

Offerings. *Journal of Finance.* 44.

Wongswan, J. (2009). The response of global equity indexes to U.S. monetary policy Announcements. *Journal of International Money and Finance.* 28(2): 344-365.

Wu, Ying. (2000). Stock prices and exchange rates in a VEC model-the case of Singapore in the 1990. *Journal of Economics and Finance.* 24(3). 260-274.

Victor, and Kuwornu. (2011). Analyzing the effect of macroeconomic variables on stock market Returns: Evidence from Nigeria. *Journal of Economics and International Finance.* 3(11), 605-615.

Zettelmeyer, J. (2004). The Impact of Monetary Policy on the Exchange Rate: Evidence from Three Small Open Economies. *Journal of Monetary Economics*. 51 (3): 635–52.

APPENDIX B

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOGEXCHRATE)
Method: Least Squares
Date: 02/24/13 Time: 17:40
Sample (adjusted): 2003M03 2011M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGEXCHRATE(-1)	-0.017476	0.018675	-0.935782	0.3516
D(LOGEXCHRATE(-1))	0.380515	0.092900	4.095969	0.0001
C	2.557131	2.536547	1.008115	0.3158

R-squared	0.140649	Mean dependent var	0.291415
Adjusted R-squared	0.123963	S.D. dependent var	2.367636
S.E. of regression	2.216033	Akaike info criterion	4.457208
Sum squared resid	505.8127	Schwarz criterion	4.532588
Log likelihood	-233.2320	Hannan-Quinn criter.	4.487760
F-statistic	8.428971	Durbin-Watson stat	1.905010
Prob(F-statistic)	0.000407		

Null Hypothesis: D(LOGEXCHRATE) has a unit root

Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.910892	0.0000
Test critical values:	1% level	-3.493129	
	5% level	-2.888932	
	10% level	-2.581453	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOGEXCHRATE,2)
Method: Least Squares
Date: 02/24/13 Time: 17:41
Sample (adjusted): 2003M03 2011M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGEXCHRATE(-1))	-0.633384	0.091650	-6.910892	0.0000
C	0.192152	0.216538	0.887382	0.3769

R-squared	0.314709	Mean dependent var	0.020660
Adjusted R-squared	0.308120	S.D. dependent var	2.662571
S.E. of regression	2.214708	Akaike info criterion	4.446806
Sum squared resid	510.1130	Schwarz criterion	4.497060
Log likelihood	-233.6807	Hannan-Quinn criter.	4.467174
F-statistic	47.76043	Durbin-Watson stat	1.899265
Prob(F-statistic)	0.000000		

Dependent Variable: D(LOGMONEYSUPPLY)
Method: Least Squares
Date: 02/24/13 Time: 17:54
Sample (adjusted): 2003M02 2011M12
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGMONEYSUPPLY(-1)	0.007470	0.007347	1.016740	0.3116
C	62380.40	52754.52	1.182465	0.2397

R-squared	0.009749	Mean dependent var	108012.2
Adjusted R-squared	0.000318	S.D. dependent var	286855.0
S.E. of regression	286809.4	Akaike info criterion	27.98954
Sum squared resid	8.64E+12	Schwarz criterion	28.03950
Log likelihood	-1495.440	Hannan-Quinn criter.	28.00979
F-statistic	1.033759	Durbin-Watson stat	2.047335
Prob(F-statistic)	0.311614		

Null Hypothesis: D(LOGMONEYSUPPLY) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.31125	0.0000
Test critical values:	1% level	-3.493129	
	5% level	-2.888932	
	10% level	-2.581453	

*MacKinnon (1996) one-sided p-values.

	28.00400
	28.05425
	28.02437
	1.904080

Convergence achieved after 92 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3) + C(4)*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	101764.4	30329.77	3.355266	0.0008

AR(1)	-0.193285	0.146240	-1.321694	0.1863

Variance Equation

C	7.07E+10	7.70E+09	9.181406	0.0000
RESID(-1)^2	0.200181	0.127749	1.566989	0.1171

R-squared	-0.009494	Mean dependent var	108724.9
Adjusted R-squared	-0.019201	S.D. dependent var	288122.6
S.E. of regression	290875.5	Akaike info criterion	28.03781
Sum squared resid	8.80E+12	Schwarz criterion	28.13831
Log likelihood	-1482.004	Hannan-Quinn criter.	28.07854
Durbin-Watson stat	1.719034		

Inverted AR Roots	-.19

Dependent Variable: D(LOGMONEYSUPPLY)
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 02/24/13 Time: 17:57
Sample (adjusted): 2003M03 2011M12
Included observations: 106 after adjustments
Convergence achieved after 154 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	74967.30	34128.95	2.196590	0.0280
AR(1)	-0.084129	0.126652	-0.664252	0.5065

Variance Equation

C	2.04E+09	1.31E+09	1.562007	0.1183
RESID(-1)^2	0.001836	0.010040	0.182892	0.8549
GARCH(-1)	0.987054	0.023727	41.60052	0.0000

R-squared	-0.011307	Mean dependent var	108724.9
Adjusted R-squared	-0.021031	S.D. dependent var	288122.6
S.E. of regression	291136.6	Akaike info criterion	27.85785
Sum squared resid	8.82E+12	Schwarz criterion	27.98348
Log likelihood	-1471.466	Hannan-Quinn criter.	27.90877
Durbin-Watson stat	1.854029		

Inverted AR Roots	-.08