Efficiency of the Nigerian Stock Market with Respect to Pure Contemporary Monetary Policy Instruments: A Dynamic Weighted LS Approach

Ernest Simeon Odior[1] and Isaac Chin. Nwaogwugwu[2]

Abstract

The study seeks to investigate empirically the relationship between the monetary policy instruments used by the Central Bank of Nigeria and stock market performance measured by the growth of market capitalization in the Nigerian Stock Exchange Market. We employed time series data that spanned from 1980-2013. This period was considered due to the liberalization of the financial sector. Utilizing the method of DWLS Model, the study found out that monetary policy instruments such as Monetary Policy Rate, Treasury Bills, Direct Credit Control and Broad Money Supply, have long and short-run high impacts on stock market performance. This implies that, those variables have great effect (positively or negatively) on the Nigerian stock market. Our findings also revealed that variations in market capitalization in the short run were also caused by the change in cash reserve ratio, liquidity ratio and exchange rate. The study suggests that, government through the monetary authority should be cautious enough to avoid discretionary policies that might hike the rate of interest, otherwise the flow of fund to the market will be derailed. The study concluded by giving policy recommendations to policymakers to understand the peculiarities of their own markets when formulating and implementing monetary policy.

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[1]Corresponding Author, Senior Lecturer, Department of Economics, Faculty of Social Sciences University of Lagos, Akoka Lagos, Nigeria.
[2]Senior Lecturer, Department of Economics, Faculty of Social Sciences University of Lagos, Akoka Lagos, Nigeria.

1 Introduction

Centre Banks role in maintaining macroeconomic and financial sector stability would be strongly influenced by the effectiveness of the monetary policy implementation or the effectiveness of monetary instruments (Praptiningsih, 2010). To some extent, some literature argued that changes in the monetary policy variables can have a significant impact on the movements in the stock market, since stock market has become one of the main elements in influencing macroeconomic stability, movements in the stock market can have a significant impact on the macro- economy.

Over the years it has become of great argument whether or not monetary policy significantly affects stock market efficiency and all share price index. Economic scholars (Chude and Chude 2013; Osisanwo and Atanda, 2012; Maku and Atanda, 2009; Omole, 1999, and Ikoku, 2007). These financial analysts argued that stock prices are influenced by some macroeconomic variables such as broad money supply, monetary policy rate, gross domestic product (GDP), exchange rate and inflation. Some empirical studies have been carried out to support their claim. It is of great importance that monetary policy is diffused into the real economy properly, this can only be achieved through various channels notably interest rate channel, credit channel and the price level.

A monetary policy that is aimed at interest rate control may be either direct or indirect. When it is direct it is specifically applied to the portfolio or balance sheet of banks in the financial system using selective credit control, stabilization securities, and administered interest rates to mention but a few. An indirect monetary policy regime uses market determined instruments such as open market operations, variable rediscount rate and reserve requirements. A monetary policy framework that has its target at either the consumer price index or producer price index is aimed at inflation. On the other hand the credit channel of transmission is directed at credit availability through debt or equity market. The credit channel is merely an amplifying mechanism and not independent of the interest rate channel (Bernanke and Gertler, 1995).

The relationship between broad monetary policy and stock market returns in Nigeria has been a great concern in any economy. The CBN uses a widespread of instruments to see to achieve these goals. They include, monetary policy rate, open market operations through buying and selling of government securities and changes in monetary aggregate; narrow and broad money, CBN certificates, special Nigerian treasury bills (NTBs), discount window operations, repurchases transactions (repo) bills discounting, pledges and open buy back (OBB). The overall aim is to maintain a favourable and conducive environment for economic growth and development.

Following the series of reforms and policies on macroeconomic variables over the years alongside with stock market returns and price index, it could not be said that there exists any relationship between monetary policy and stock market returns in Nigeria? The relationship between the change in Nigeria Stock Market Returns and change in monetary policy has attracted strong debate among analysts based on their studies of developed and emerging markets like Nigerian capital market and the level of low performance of Nigerian capital market.

The stock market houses a large chunk of the nation's wealth and has continued to be the major discuss of various studies since the advent of the global financial crisis. The Nigeria Stock Market (NSE 30) increased to 1771.75 index points in April from 1733.91 Index points in March of 2014. Stock Market in Nigeria averaged 1253.88 Index points from 2010 until 2014, reaching an all-time high of 1925.24 Index points in January of 2014 and a

record low of 848.08 Index points in January of 2010. The Nigerian Stock Exchange NSE 30 Index is a major stock market index which tracks the performance of 30 most liquid stocks representing industry sector, listed on the Nigerian Stock Exchange. It is a capitalization-weighted index. The NSE 30 Index has a base value of 1000 as of January 1, 2007. With the recent decline observed in the Nigerian stock market, various studies have examined the effectiveness of monetary policy on improving the performance of the Nigerian stock exchange. E.g. Ossisanwo and Atanda (2012); Maku and Atanda (2010); while maintaining financial system stability remains a core objective of the Central Bank of Nigeria, the evidence concerning the relationship between the stock market and monetary policy variables in Nigeria still offers some methodological gaps.

The challenges in the global economy have raised issues concerning the sustainability of emerging capital markets, especially the Nigerian capital market. Capital market is the part of the financial market that provides facilities for transfer of medium and long-term funds to various economic units. There have been questions agitating minds of scholars about the sudden turn of events in both positive and negative sides on the Nigerian Stock Exchange (NSE). Why is the downward growth rate of the stock market drastic and mutational and not evolutionary or gradual? Why the instability is so sharp and has become difficult for the Nigerian capital market to rebound along with other markets around the world?

According to (Chinweoke, (2012), the biggest threat we have in the market is the monetary policy direction of the government. If the authorities decide to drive a restrictive monetary policy so as to keep inflation down, this would lead to increase in the interest rates. If interest rates continue to go up, fixed income instrument would become more attractive to investors. Conversely, if interest rates go down, investors would see equity market as of better attraction than the fixed income market. So, the greatest threat to continued equity market recovery is the monetary policy directions of the Central)

The focus of this study is to empirically investigate the relationship between stock performance in the Nigerian stock exchange market (NSE) and contemporary monetary policy instruments in Nigeria. Following the fact that monetary policy variables have taken different values over the years alongside the market stock price index, can it be said that there exists any relationship between the key pure monetary policy variables and stock market index in Nigeria? On this basis, this research paper investigates the impact relationship between the variable determinants and stock market capitalisation in Nigeria. The remaining part of this paper is organised as follows. Section two is the review of some relevant theoretical and empirical literature. Section three shows the theoretical framework, while section four is the model specification and variable definitions. Section five is the model estimation strategy, while is six the analysis of empirical result of the study. Section seven and eight, give the conclusion and policy implication and recommendations of the study, respectively.

2 Brief Review of Relevant Literature

A stock market, or equity market, is a private or public market for the trading of company stock and derivatives of company stock at an agreed price; these are securities listed on a stock exchange as well as those only traded privately. In other words, a stock market or exchange is the centre of a network of transactions where securities buyers meet sellers at a certain price. A stock market or exchange is not necessary a physical facility and with the

advancement of information technology are increasingly rare those traders that exchange their stocks in the floor of a major stock exchange.

There is an extensive theoretical literature discussing the transmission channels through which monetary policy affects stock market operation. Reflecting the importance of this issue, there is a well-established theoretical literature documenting the negative impact of monetary tightening on stock market returns. This is an area of research that has interested monetary and financial economists for a long time. Monetary economists have been interested in the question whether monetary policy has any effect on real stock prices, while financial economists have investigated whether equity is a good hedge against inflation. Empirical studies show that money can be helpful in predicting future stock returns. Stock prices are among the most closely monitored asset prices in the economy and are commonly regarded as being highly sensitive to economic conditions. In the context of the transmission mechanism through the stock market, monetary policy actions affect stock prices, which themselves are linked to the real economy through their influence on consumption spending (wealth effect channel) and investment spending (balance sheet channel) (Bernanke and Kuttner, 2005).

Despite the sound theoretical foundation of the previous arguments, few studies have attempted to directly link monetary policy shocks to the well documented stock market anomalies (e.g. size, value and momentum anomalies). Apart from broad stock market indices, most of the existing studies have focused on the behaviour of industry returns in an attempt to examine the cross-sectional variation in the impact of monetary policy shocks (Thorbecke, 1997, Jensen and Mercer, 2002). But as Cochrane (2008) notes: "The challenge is straightforward: We need to understand what macroeconomic risks underlie the "factor risk premia", the average returns on special portfolios that finance research uses to crystallize the cross section of assets.

The seminal studies of Jensen and Johnson (1995), Thorbecke (1997), Patelis (1997), Lobo (2002) and Bernanke and Kuttner (2005) provide characteristic examples. Conover, Jensen and Johnson (1999) confirm this pattern in an international setting, while Lobo (2002) shows that monetary policy shocks have an effect on stock market volatility too. Using a dividend discount model for equity valuation, most researchers mainly focus on two ways through which monetary policy affects stock prices (Smirlock and Yawitz, 1985). Monetary policy can affect the rates that market participants use to discount future cash flows as well as expected cash flows themselves (Patelis, 1997).

As Bernanke and Kuttner (2005) point out, some observers view the stock market as an independent source of macroeconomic volatility to which policymakers may wish to respond. Stock prices often exhibit pronounced volatility and boom-bust cycles leading to concerns about sustained deviations from their 'fundamental' values that, once corrected, may have significant adverse consequences for the broader economy. Hence, establishing quantitatively the existence of a stock market response to monetary policy changes will not only be germane to the study of stock market determinants but will also contribute to a deeper understanding of the conduct of monetary policy and of the potential economic impact of policy actions or inactions.

Some empirical studies indicate that investors believed that monetary policy and macroeconomic variables have a large influence on the volatility of stock prices. Christopher et al (2006) state that macroeconomic variables such as broad money supply can influence investor investment decision and as well motivate many researchers to investigate the relationship between stock market returns and macroeconomic variables.

Ossisanwo and Atanda (2012) used ordinary least square method to study the determinants of stock market returns in Nigeria: A time series analysis between 1984 and 2010. They founds that interest rate, previous stock return levels, money supply and exchange rate are the main determinants of stock market returns in Nigeria. Using modified Error Correction Model Approach to examine the determinants of stock market development in Nigeria. Ita et al (2010) reveal that stock market liquidity, interest rate and one period lagged stock market development were significant predictors of stock market development in Nigeria.

Employing Johansen cointegration and Granger causality tests in investigating the impact of the Nigerian capital market on economic growth, Kolap and Adaramola (2012) found that the Nigerian capital market and economic growth are cointegrated; meaning that there is relative positive impact of the Nigerian capital market on the economic growth of the country. In a study 'Capital market as a veritable source of development in Nigeria economy' using Ordinary Least Square and cochrane–Orcutt iterative methods, Josiah, Samson and Josiah et al (2012) observed that the capital market has not contributed positively to the development of the Nigerian economy. Though, there is a positive relationship between the rate of transactions in the capital market and the development of Nigerian economy.

Maku and Atanda (2010) examined the determinants of stock market performance in Nigeria using Augmented Dickey-Fuller unit root test, Augmented Engle Granger Co-integration test and Error Correction Model. The empirical analysis showed that the NSE all-share index is more responsive to changes in exchange rate, inflation rate, money supply, and real output. While, the entire incorporated macroeconomic variables were found to have simultaneous and significant impact on the Nigerian capital market performance in the long-run. Also, (Osuagwu, 2009), investigates the effect of monetary policy on stock market performance in Nigeria using ordinary least square; co-integration and error correction model. It was discovered that stock market performance is strongly determined by broad money supply, exchange rates and consumer price index in the short and long-run.

Laopodis (2010) provided extensive evidence for the time-varying relationship between Fed funds rate and the general stock price index. Park and Ratti (2000) also examined this relationship across different monetary policy regimes. If this impact varies through time, then this finding could be a potential explanation for the documented instability of some of these anomalies' premia. Moreover, the time-variation of this impact can help us evaluate the hypothesis of Bernanke and Gertler (1995) that some channels for the transmission of monetary policy may become inactive. In particular, following Clarida et al (2000), we split the sample using 1983 as cut-off point since around that time Volcker' s disinflation mission was largely accomplished. Volcker' s first years of tenure were associated with strict anti-inflationary policies which eventually ushered the "great moderation" period, characterized by low inflation, interest rates and overall macroeconomic volatility. The selection of this time point for splitting the full sample period is strongly supported by the Chow- type break test of Candelon and Lutkepohl (2001).

Serkan (2008) investigates the role of macroeconomic factors in explaining Turkish stock returns. He employed macroeconomic factor model from the period of July 1997 to June 2005. The macroeconomic variables considered are growth rate of industrial production index, change in consumer price index, growth rate of narrow money supply, change in exchange rate, interest rate, growth rate of international crude oil prices and return on the MSCI World Equity Index. He found that exchange rate, interest rate and world market return seem to affect all of the portfolio returns, while inflation rate is significant for only three of the twelve portfolios. Also, industrial production, money supply and oil prices do

not appear to have significant effect on stock returns in Turkey.

Kyereboah, Anthony and Agyire (2008) examined how macroeconomic indicators affect the performance of Ghana stock market using quarterly time series data covering the period of 19991to 2005. They found that lending rates from deposit money banks have an adverse effect on stock market performance and particularly serve as major hindrance to business growth in Ghana. Inflation rate was found to have a negative effect on stock market performance.

Also, Tsoukalas (2003), studied the relationship between stock prices and macroeconomic factors in Cyprus using the Vector Autoregressive model. The variables examined include exchange rate, industrial production, money supply, and consumer prices. The result of the study indicates a strong relationship between stock prices and all the macroeconomic factors.

Sharma and Singh (2007) used rate of interest, exchange rate, industrial production index, money supply and inflation as explanatory variables while AR and MA as served as explanatory variable to remove effects of non-stationary in the data. His finding revealed that lags values are highly correlated with current prices suggest speculation in market. Exchange rate, industrial production index and money supply is significantly related, he took data set from 1986 to 2004. From the foregoing discussions, we note that the bulk of studies centred on the US stock market sequel to the October 19th, 1987 crash and other countries. Also, these studies often times exclude the impact of interest rate - a major component of monetary policy aggregate. However, in Nigeria, Akinnifesi (1988) looked at the effect of interest rate deregulation (not the effects of interest rate) on stock prices. Specifically, this study includes the effect of money supply on stock prices.

Ologunde et al (2006) examine the relationships between stock market capitalization rate and interest rate. They found that prevailing interest rate exerts positive influence on stock market capitalization rate. They also found that government development stock rate exerts negative influence on stock market capitalization rate and prevailing interest rate exerts negative influence on government development stock rate. Maku and Atanda (2009) examined the long-run and short-run macroeconomic shocks effect on the Nigerian capital market between 1984 and 2007. They examined the properties of the time series variables using the Augmented Dickey-Fuller (ADF) test and Error Correction Model (ECM). However, the empirical analysis showed that the NSE all-share index is more responsive to changes in exchange rate, inflation rate, money supply and real output. Therefore, all the incorporated variables that serve as proxies for external shock and other macroeconomic indicators have simultaneous significant impact on the Nigerian capital market both in the short and long-run.

3 Theoretical Framework

In this theoretical framework, we first present the Ioannidis and Kontonikas (2006) theoretical background of the role of monetary policy in explaining the stock market and then the contemporaneous relationship between monetary conditions and stock market capitalization returns as a proxy for market efficiency.

3.1 Monetary Policy and the Stock Market: Theoretical Background

The present value or discounted cash flow model offers useful insights on the stock market effects of monetary policy changes. According to this widely used model the stock price (S_t) is the present value of expected future dividends (D_{t+j}). Under the assumption of constant discount rate (R), it can be shown that:

$$S_t = \mathrm{E}_t \left[\sum_{j=1}^{K} \left(\frac{1}{1+R} \right)^j D_{t+j} \right] + \mathrm{E}_t \left[\left(\frac{1}{1+R} \right)^K S_{t+K} \right]$$
(1)

where, E_t is the conditional expectations operator based on information available to market participants at time t, R is the rate of return used by market participants to discount future dividends, and K is the investor's time horizon (stock holding period). The standard transversality condition implies that as the horizon K increases the second term in the right- hand side of Equation (1) vanishes to zero (no rational stock price bubbles):

To derive Equation (1) we may assume for simplicity that there is an investor with two alternative investment opportunities over a one-period horizon: either a stock with expected gross return $\mathrm{E}_t[S_{t+1} + D_{t+1}]/S_t$, or a risk- free bond with constant nominal gross return $1+R$. Arbitrage opportunities imply that, for the investor to be indifferent between the two alternatives, they must yield the same expected return $\mathrm{E}_t[S_{t+1} + D_{t+1}]/S_t = 1+R$. We then solve forward the resulting expectational difference equation and obtain Equation (2).

$$\lim_{K=\infty} \mathrm{E}_t \left[\left(\frac{1}{1+R} \right)^K S_{t+K} \right] = 0$$
(2)

To illustrate the well-established effects of monetary policy on stock prices, we employ the standard dividend discount or present value model. After applying the commonly used models of rational bubbles that relax the transversality condition, the familiar Campbell, Lo and MacKinlay, (1996) version of this model is

$$S_t = \mathrm{E}_t \left[\sum_{j=1}^{K} \left(\frac{1}{1+R} \right)^j D_{t+j} \right]$$
(3)

Equation (3) indicates that a change in monetary policy can affect stock returns in a dual manner. First, there is a direct effect on stock returns by altering the discount rate used by market participants. Tighter monetary policy leads to an increase in the rate at which firms' future cash flows are capitalised causing stock prices to decline. The underlying assumptions are that, first, the discount factors used by market participants are generally linked to market rates of interest and second, the central bank is able to influence market interest rates. Second, monetary policy changes exert an indirect effect on the firms' stock value by altering expected future cash flows. Monetary policy easing is expected to increase the overall level of economic activity and the stock price responds in a positive manner

(expecting higher cash flows in the future). Hence, this channel generally assumes the existence of a link between monetary policy and the aggregate real economy.

As Patelis (1997) argues, stocks are claims on future economic output, so if monetary policy has real economic effects then stock markets should be influenced by monetary conditions. In the next section we review the previous empirical evidence on the links between monetary policy, the real economy, and the stock market.

3.2 Monetary Policy and Contemporaneous Stock Returns

We extend the literature that examines the contemporaneous relationship between monetary policy and stock returns by utilizing a more up-to-date dataset, by checking the robustness of the empirical findings to inclusion of dividend payments in stock returns, and by taking into account the non-normality inherent in our data as well as the significant co movement of international stock markets. We also estimate the impact of monetary policy shifts on expected stock returns across a variety of returns' specifications.

The contemporaneous relationship between monetary conditions and stock returns is examined using the following regression model:

$$\Delta S_t = \alpha + \beta \Delta r_t + \mu_t \tag{4}$$

where ΔS_t is a measure of equity returns (measured in local currency). The measures used in this study are nominal returns (with and without dividends), and real returns (with and without dividends). The independent variable Δr_t, denotes our measure of monetary policy changes. It is assumed that positive (negative) values of the change of the short-term rate are associated with a restrictive (expansive) monetary environment. If the β coefficient is negative and statistically significant, then it is implied that monetary tightening depresses the stock market within the same month that the interest rates increase(s) occurred.

Equation (4) has been frequently used in the financial economics literature with previous international evidence broadly supporting a negative relationship between stock returns and (the level or the first difference of) interest rates. In the literature that examines the effect of inflation on stock prices, using a generalised Fisher effect framework (which relates nominal stock returns with expected inflation), expected inflation is often proxied by the nominal treasury bill rate at the beginning of the period, see e.g. Fama and Schwert (1977). Fama and Schwert justify this approach by observing that almost all of the variability in the nominal TB rate is due to revisions of inflation expectations (see also Fama, 1975). More recent literature on monetary policy rules also suggests a positive correlation between the level of short-term interest rates and inflation (Taylor, 1993).

We estimate equation (4) using both single and multivariate estimators whilst making inferences under both heteroscedasticity consistent variance estimators and test statistics obtained by using the bootstrap. Thus, our results are robust to both the measure of the change in monetary policy and the employed inferential and estimation procedures.

4 Model Specification and Definition of Variables

With inferences from the reviewed theoretical framework model, an empirical model to dilate the relationship between stock market and monetary policy in Nigeria would be specified based on equations (1 and 4). Although the variables usually used to provide support for the hypothesis that changes in monetary policy affect stock market efficiency differ across studies, both equations are considered as the benchmark for stock market in this empirical study. This study fundamental Monetary Policy Factors (MPF) that determine stock market efficiency are given by the equation below:

$$\text{MPF} = f \left(\begin{array}{l} \text{Monetary Policy Rate, Cash Reserve Ratio, Liquidity Ratio,Treasury Bills,} \\ \text{Direct Credit Control, Exhange Rate, Monetary Aggregates} \end{array} \right) \quad (5)$$

In order to examine the relationship between the stock market efficiency and monetary policy, we take linear approximation of the functional form of the model (equation 5) and add error term (μ). This yields an econometric equation. On the basis of the above functional form, our stochastic model specification equation in its empirical forms is specified as follow:

$$\text{SMC}_t = \alpha_0 + \alpha_1 \text{MPR}_t + \alpha_2 CRR_t + \alpha_3 \text{LQR} + \alpha_4 \text{TBR}_t + \alpha_5 DCC_t + \alpha_6 \text{EXR}_t + \alpha_7 \text{BMS}_t + \mu_t \quad (6)$$

where SMC_t is Stock Market Capitalization's Value at time t. This is a proxy for stock market efficiency in this study that is taken as the explained variable. SMC is the market value of a company's outstanding shares. Market capitalization represents the aggregate value of a company or stock. It is obtained by multiplying the total number of shares outstanding by their current price per share.

MPR_t, is the Monetary Policy Rate at time t. To capture the impact of monetary transmission through the interest rate channel we have chosen the minimum rediscount rate recently christened monetary policy rate in Nigeria. It is the rate at which the central bank in Nigeria lends money to banks to meet their immediate cash calls. It is a penalty rate and most times it is the anchor of bank lending rate. The Central Bank lends to financially sound Deposit Money Banks at a most favourable rate of interest, called the minimum rediscount rate (MRR). The MRR sets the floor for the interest rate regime in the money market (the nominal anchor rate) and thereby affects the supply of credit, the supply of savings (which affects the supply of reserves and monetary aggregate) and the supply of investment (which affects full employment and GDP). The MPR, the Bank's benchmark policy rate, remained the major signalling instrument accompanied by interest rate corridor (standing lending/deposit facility rates) (see CBN, 2011, 2013).

The Bank retained the use of reserve requirements (Cash Reserve Ratio (CRR) and Liquidity Ratios (LQR) in the review period to complement OMO and other instruments of liquidity management. The Central Bank may require Deposit Money Banks to hold a fraction (or a combination) of their deposit liabilities (reserves) as vault cash and or deposits with it. Fractional reserve limits the amount of loans banks can make to the domestic economy and thus limit the supply of money. The assumption is that Deposit Money Banks generally maintain a stable relationship between their reserve holdings and the amount of

credit they extend to the public. This instrument is used by the central bank to influence the level of bank reserves and hence, their ability to grant loans. Reserve requirements are lowered in order to free reserves for banks to grant loans and thereby increase money supply in the economy. On the other hand, they are raised in order to reduce the capacity of banks to provide loans thereby reducing money supply in the economy. CRR_t, is the Cash Reserve Requirement at time t and LQR is the Liquidity ratio at time t. The computation of the CRR will be based on each bank's total deposit liabilities (i.e. demand, savings and time deposits of both private and public entities), certificates of deposit, and promissory notes held by non-bank public and other deposit items.

TBR_t is the Treasury Bills Rate at time t. Treasury Bills is proxy as Open Market Operations. The most important and flexible tool of monetary policy is open market operations. It is the buying and selling of government securities in the open market (primary or secondary) in order to expand or contract the amount of money in the banking system. By purchasing securities, the central bank injects money into the banking system and stimulates growth whereas by selling securities it absorbs excess money. Thus, if there is excess liquidity in the system, the central bank will in a bid to reduce the money supply sell the government securities such as Treasury Bills. On the other hand, in periods of liquidity shortages, the central bank buys government securities so as to increase money supply. Instruments commonly used for this purpose include treasury bills, central bank bills, or prime commercial paper (see CBN, 2011, 2013).

The Central Bank buys or sells ((on behalf of the Fiscal Authorities (the Treasury)) securities to the banking and non-banking public (that is in the open market). One such security is Treasury Bills. When the Central Bank sells securities, it reduces the supply of reserves and when it buys (back) securities-by redeeming them-it increases the supply of reserves to the Deposit Money Banks, thus affecting the supply of money. OMO enables the central bank to influence the cost and availability of reserves and bring about desired changes in bank credit and money supply. This important instrument of monetary policy has a number of advantages because it is flexible and precise, it is implemented quickly and easily reversed and the central bank has complete control. The effectiveness of OMO, however, depends on the existence of well-developed financial markets that are sensitive to interest rate movements.

DCC_t is the Direct Credit Control at time t. The Credit to the Private Sectors (DCC) is proxy by Direct Credit Control: it is a Direct Instruments of Monetary Policy. The Central Bank can direct Deposit Money Banks on the maximum percentage or amount of loans (credit ceilings) to different economic sectors or activities, interest rate caps, liquid asset ratio and issue credit guarantee to preferred loans. In this way the available savings is allocated and investment directed in particular directions as desired by the authorities (see CBN, 2011, 2013).

EXR_t is the Exchange Rate at time t. To capture the exchange rate transmission channel of monetary policy we have included the data of official exchange rate of the Nigeria Naira vis-à-vis the United States dollar. While, BMS_t is the Broad Money Supply at time t. For monetary aggregates we have employed broad money as a proxy for money supply. α_0 is constant, $\alpha_1 - \alpha_7$ are slopes and μ_t ~NIID(0,1) thus, a white noise stochastic disturbance term and time t is in annually. In order to reduce errors.

5 Estimation Strategy

In line with the above analytical framework, this study uses the ADF-Fisher Chi-square unit root test to determination the order of integration and using the Engle-Granger single-equation to test for the cointegration. Finally, the dynamic Weighted Least Squares (DWLS) regression method to determine the long and short run dynamic impact estimates which is run over the sample period 1980-2013. The cointegration term is known as the error correction term since the deviation from long-run equilibrium is corrected gradually through a series of partial short-run adjustments Granger and Engle (1987). Haven proved that co-integration is a sufficient condition for an ECT formulation, if variables are non-stationary at level, but cointegrated, their dynamic relationships will be specified correctly by an error correction model.

This choice of the estimation technique (the WLS regression model) is the fact that weighted least squares model best capture series with known form heteroskedasticity, whose values are proportional to the reciprocals of the error standard deviations. We use the weighted least squares, with weight series, to correct for the heteroskedasticity. The model performs weighted least squares by first dividing the weight series by its mean, then multiplying all of the data for each observation by the scaled weight series. The scaling of the weight series is a normalization that has no effect on the parameter results, but makes the weighted residuals more comparable to the unweighted residuals. The normalization does imply, however, that the weighted least squares are not appropriate in situations where the scale of the weight series is relevant, as in frequency weighting.

If the heteroskedasticity is known the most straightforward method of correcting heteroskedasticity is by the means of weighted least squares for the estimators thus the obtained are BLUE. We model the heteroskedasticity to obtain more efficient estimates using weighted least squares. Estimation is then completed by running a regression using the weighted dependent and independent variables to minimize the sum-of-squared residuals, in a more general form we write the equation as:

$$S(\beta) = \sum_t w_t^2 (y_t - x_t' \beta)^2 \tag{7}$$

with respect to the k -dimensional vector of parameters β . In matrix notation, let W be a diagonal matrix containing the scaled w along the diagonal and zeroes elsewhere, and let y and X be the usual matrices associated with the left and right-hand side variables. The weighted least squares estimator is

$$b_{WLS} = (X'W'WX)^{-1} X'W'W_y \tag{8}$$

and the estimated covariance matrix is

$$\hat{\Sigma}_{WLS} = s^2 (X'W'WX)^{-1} \tag{9}$$

The weighted summary statistics are based on the fitted residuals, computed using the weighted data:

$$\hat{u}_t = w_t (y_t - x_t' b_{WLS}) \tag{10}$$

Dynamic Specification of Model

From equation 6, we assumed that the heteroscedastic variances σ_i^2 are known. We divide equation (6) through by σ_i, the inverse variance $\left(\dfrac{1}{\sigma_i^2}\right)$ to obtain equation 11

$$\frac{SMC_i}{\sigma_i} = \alpha_0\left(\frac{1}{\sigma_i}\right) + \alpha_1\left(\frac{MPR_i}{\sigma_i}\right) + \alpha_2\left(\frac{CRR_i}{\sigma_i}\right) + \alpha_3\left(\frac{LQR_i}{\sigma_i}\right) + \alpha_4\left(\frac{TBR_i}{\sigma_i}\right) + \alpha_5\left(\frac{DCC_i}{\sigma_i}\right) + \alpha_6\left(\frac{EXR_i}{\sigma_i}\right) + \alpha_7\left(\frac{BMS_i}{\sigma_i}\right) + \left(\frac{u_i}{\sigma_i}\right) \quad (11)$$

We rewrite transformed equation (11) in a linear form as

$$SMC_i^* = \alpha_0^* + \alpha_1^* MPR_i^* + \alpha_2^* CRR_i^* + \alpha_3^* LQR_i^* + \alpha_4^* TBR_i^* + \alpha_5^* DCC_i^* + \alpha_6^* EXR_i^* + \alpha_7^* BMS_i^* + u_i^* \quad (12)$$

The untransformed equation (6) could be set in a dynamic model as:

$$D(SMP) = \alpha_0 + \alpha_1 MPR(-1) + \alpha_2 CRR(-1) + \alpha_3 LQR(-1) + \alpha_4 TBR(-1) + \alpha_5 DCC(-1) + \alpha_6 EXR(-1)$$
$$+ \alpha_7 BMS(-1) + u \quad (13)$$

With the formulated transformation model with an inverse variance $\left(\dfrac{1}{\sigma_i^2}\right)$ we specific the testing equations (12) in its empirical dynamic long and short run form respectively, as:

$$D(SMC_i^*) = \alpha_0^* + \alpha_1^* MPR_i^*(-1) + \alpha_2^* CRR_i^*(-1) + \alpha_3^* LQR_i^*(-1) + \alpha_4^* TBR_i^*(-1) + \alpha_5^* DCC_i^*(-1) + \alpha_6^* EXR_i^*(-1) +$$
$$\alpha_7^* BMS_i^*(-1) + u_i^* \quad (14)$$

$$D(SMC_i^*) = \alpha_0^* + \alpha_1^* D(MPR_i^*(-1)) + \alpha_2^* D(CRR_i^*(-1)) + \alpha_3^* D(LQR_i^*(-1)) + \alpha_4^* D(TBR_i^*(-1)) + \alpha_5^* D(DCC_i^*(-1)) +$$
$$\alpha_6^* D(EXR_i^*(-1)) + \alpha_7^* D(BMS_i^*(-1)) + u_i^* \quad (15)$$

where the transformed, variables are the original variables divided by (the known) σ_i. We used the notation α_0^* α_1^*, α_2^*, α_3^*, α_4^*, α_5^*, α_6^* and α_7^* the parameter of the transformed model, to distinguish them from the usual OLS parameters α_0, α_1, α_2, α_3, α_4, α_5, α_6 and α_7 (see Gujarati and Sangeetha, 2007 transformation purpose)

For the sake of testing and evaluation of the practical reasonability of the would-be estimated slope parameters, we outline our apriori expectation of the sign and magnitude of each included parameter, based on the provisions of theory and the findings of previous studies by scholars with similar interest. On the basis of the above theoretical consideration the following provides a summary of the expected relationships between the explanatory variables considered in the model and the explained variable (SMC). Therefore, we expect as the apriori expectation the parameters α_0^*, α_1^*, α_3^* and α_4^* to be less than zero, while α_2^*, α_5^*, α_6^* and α_7^* are expected to be greater than zero. The above sign ($\alpha_i^* < 0$) implies a negative relationship between the explained and the explanatory variables, while sign ($\alpha_i^* > 0$) indicate positive relationship.

The data for this study were generated in line with the period covered by the study which is 1980-2013, a period of 34. The time frame is chosen to cover the eras of economic programmes in Nigeria, like the Pre Structural Adjustment Programme (SAP), Structural Adjustment Programme (SAP), Post-Structural Adjustment Programme (Post-SAP). In order, to achieve the research objective precisely, this chapter focused on the model description of the methodology employed for detailed econometric analysis. The study mainly based on the information obtained from the Central Bank of Nigeria Statistical Bulletin and Monetary Policy Review. They were obtained from Central Bank of Nigeria (CBN, 2010, 2012 and 2013).

6 Analysis of Empirical Results

6.1 Stationarity Test

In this subsection, we first validate if the variables are stationary. Table 1 presents the summary of the results of the intermediate unit root tests on the stock market and the explanatory variables in this study for the order of integration of the variables under investigation using the ADF - Fisher Chi-square method. From the unit root test result in Table 1, the tests confirm that all variables are nonstationary and could be considered as integrated of order one I(1) or they were stationary at first difference by comparing the variables first difference t-static values with the various probabilities and the T-bar critical values. All the variables were statistically significant at 1%, 5% and 10% critical values in first difference. This implies that all the series are non-stationary at levels. Therefore the null hypothesis ($\rho = 1$) is accepted at levels and the null hypothesis ($\rho = 1$) that the series are non-stationary after the first difference is rejected for all the series. Maximum lags were set at 1and lag length was determined by AIC. Since the series were found to be integrated of the same order, the study then proceeds to establish a cointegrating relationship among the variables.

Table 1: Stationarity Test Result

Null Hypothesis: Unit root (individual unit root process)					
Method			Statistic		Prob.**
ADF - Fisher Chi-square			109.282		0.0000
ADF - Choi Z-stat			-8.37035		0.0000
** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.					
Intermediate ADF test results					
T-bar critical values ***:			1% level	-4.273277	
			5% level	-3.557759	
			10% level	-3.212361	
Intermediate ADF test results					
Series	level t-Stat	Probability	1st diff t-Stat	Probability	Order of integration
D(SMC(-1))	-2.7210	0.2352	-4.3858	0.0076	I(1)
D(MPR(-1))	-2.7474	0.2256	-7.2868	0.0000	I(1)
D(CRR(-1))	-2.4195	0.3635	-5.0165	0.0016	I(1)
D(LQR(-1))	-3.1798	0.1058	-5.9622	0.0001	I(1)
D(TBR(-1))	-2.6492	0.2627	-6.6746	0.0000	I(1)
D(DCC(-1))	-3.2303	0.0966	-4.4155	0.0071	I(1)
D(EXR(-1))	-0.8199	0.9534	-5.3422	0.0007	I(1)
D(BMS(-1))	-3.3571	0.0754	-4.1255	0.0077	I(1)

Source: Author's Computation

6.2 Engle-Granger Single-Equation Cointegration Test

In the second step, the Engle-Granger single- equation conintegration test is used to confirm the existence of a cointegrating vector and the results are reported in Table 2. Looking at the test description, we first confirm that the test statistic is computed using constant and Trend as deterministic regressors, and note that the choice to include a single lagged difference in the ADF regression was determined using automatic lag selection with a Schwarz criterion and a maximum lag of 1.

Table 2: Engle-GrangerCointegration Test Results

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
D(SMC(-1))	-4.745945	0.2867	-47.98731	0.0000
D(MPR(-1))	-5.481504	0.1015	-66.91701	0.0000
D(CRR(-1))	-3.119233	0.8969	-54.93394	0.0078
D(LQR(-1))	-3.734946	0.6956	-20.12158	0.6918
D(TBR(-1))	-5.443026	0.1138	-67.54659	0.0000
D(DCC(-1))	-3.982598	0.5906	-21.93590	0.5839
D(EXR(-1))	-4.154211	0.5159	-23.64691	0.4785
D(BMS(-1))	-4.520959	0.3673	-45.02365	0.0003

*MacKinnon (1996) p-values.

Intermediate Results								
	D(SMC(-1))	D(MPR(-1))	D(CRR(-1))	D(LQR(-1))	D(TBR(-1))	D(DCC(-1))	D(EXR(-1))	D(BMS(-1))
Rho - 1	-1.075670	-1.364773	-0.452544	-0.609745	-1.355846	-0.664724	-0.716573	-1.014454
Rho S.E.	0.226650	0.248978	0.145082	0.163254	0.249098	0.166907	0.172493	0.224389
Residual variance	0.063415	0.902585	0.173605	59.00852	1.390128	0.010389	0.092728	0.005143
Long-run residual variance	0.123250	2.119046	0.173605	59.00852	3.369311	0.010389	0.092728	0.009893
Number of lags	1	1	0	0	1	0	0	1
Number of observations	32	32	33	33	32	33	33	32
Number of stochastic trends**	8	8	8	8	8	8	8	8
**Number of stochastic trends in asymptotic distribution								

Source: Author's Computation

As to the tests themselves, the Engle-Granger tau-statistic (t-statistic) and normalized auto-correlation coefficient (which we term the z-statistic) both reject the null hypothesis of no cointegration (unit root in the residuals) at the 5% significance level. The probability values are derived from the MacKinnon response surface simulation results. Given the small

sample size of the probabilities and critical values there is evidence of one cointegrating equation at the 10% level of significance using the tau-statistic (t-statistic) and evidence of five cointegrating equation at the 5% level of significance using the z-statistic This implies that the both did not rejected the null hypothesis of no cointegration among the variables at the 10 per cent level of significance. On balance, using the tau-statistic (z-statistic) the evidence clearly suggests that SMC. MPR, CRR, TBR and BMS are cointegrated. This implies that there exists a long-run relationship or cointegration between the stock market capitalisation and these variables.

In Table 2, the middle section of the output displays intermediate results used in constructing the test statistic that may be of interest. First, the "Rho S.E." and "Residual variance" are the (possibly) degree of freedom corrected coefficient standard error and the squared standard error of the regression. Next, the "Long-run residual variance" is the estimate of the long-run variance of the residual based on the estimated parametric model. The estimator is obtained by taking the residual variance and dividing it by the square of 1 minus the sum of the lag difference coefficients. These residual variance and   long-run variances are used to obtain the denominator of the z-statistic. Lastly, the "number of stochastic trends" entry reports the value used to obtain the p-values.

6.3 Interpretation of Estimated Coefficients

The next step after establishing the cointegration is to estimate the long and short run dynamic coefficients by estimating the WLS model in equations (14) and (15). This procedure begins with an appropriate lag specification of the model. The consideration of the available degrees of freedom and type of data determine the decision on lag length. With annual data, one lag would be long enough. Under this ECT procedure, the long and short run relationship are embedded within the dynamic specification.

Table 3: Dynamic Weighted Least Squares Coefficients Estimate

Estimation Method: Weighted Least Squares				
Linear estimation after one-step weighting matrix				
Weighting series: 10				
Weight type: Inverse standard deviation				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
Dependent Variable: $D(SMC_i^*)$				
Long Run Behaviour of Variables				
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)1/	-0.273932	0.119927	-2.284148	0.0324
Constant	$\hat{\alpha}_0^* = 9.713097$			
$MPR_i^*(-1)$	$\hat{\alpha}_1^* = -0.350032$	0.04142	-8.44981	
$CRR_i^*(-1)$	$\hat{\alpha}_2^* = 0.093794$	0.06808	1.37769	
$LQR_i^*(-1)$	$\hat{\alpha}_3^* = -0.018844$	0.00445	-4.23886	
$TBR_i^*(-1)$	$\hat{\alpha}_4^* = 0.293827$	0.03029	9.70166	
$DCC_i^*(-1)$	$\hat{\alpha}_5^* = -1.221012$	0.35367	3.45245	
$EXR_i^*(-1)$	$\hat{\alpha}_6^* = -0.021042$	0.11383	-0.18486	
$BMS_i^*(-1)$	$\hat{\alpha}_6^* = 0.245432$	0.41015	0.59840	
Short Run Behaviour of Variables				
Constant	$\hat{\alpha}_0^* = 0.224635$	0.099231	2.263751	0.0329
$D(MPR_i^*(-1))$	$\hat{\alpha}_1^* = 0.062231$	0.035496	1.753196	0.0923
$D(CRR_i^*(-1))$	$\hat{\alpha}_2^* = 0.154171$	0.098346	1.567644	0.1301
$D(LQR_i^*(-1))$	$\hat{\alpha}_3^* = 0.004022$	0.004474	0.899023	0.3776
$D(TBR_i^*(-1))$	$\hat{\alpha}_4^* = -0.062017$	0.028935	-2.143316	0.0424
$D(DCC_i^*(-1))$	$\hat{\alpha}_5^* = 1.172358$	0.391661	2.993295	0.0063
$D(EXR_i^*(-1))$	$\hat{\alpha}_6^* = 0.036656$	0.151876	0.241356	0.8113
$D(BMS_i^*(-1))$	$\hat{\alpha}_6^* = 1.274815$	0.546529	2.332564	0.0284
Determinant residual covariance		0.039523		
Weighted Statistics				
R-squared	0.775212	Mean dependent var		0.005370
Adjusted R-squared	0.722799	S.D. dependent var		0.089397
S.E. of regression	0.239767	Sum squared resid		0.035422
F-statistic	481.0420	Weighted mean dep.		5.303306
Prob(F-statistic)	0.000000	Breusch-Godfrey Serial Correlation LM Test for DW stat		2. .66682

Source: Authors Computation

Note: ECT: Speed of Adjustment Parameter of the Error Correction Term

6.3.1 Estimated Long-Run Relationship in a Static Model

Table 3 presents the long and short run dynamic coefficients with their standard errors, *t*-values and probabilities extracted from the estimated ECT. Both long and short run properties can be derived from the estimations shown in Table 3. First, the estimations present the long run impact of disaggregated monetary policy instruments on the stock market performances. The one period lags value of the monetary policy instruments have both negative and positive impact on stock market performances proxied by market capitalization. A look at the regression results indicates partial conformity of the results with the postulated theories.

The cointegration is known as the Error Correction Term (ECT) since the deviation from long run equilibrium is corrected gradually through a series of partial short run adjustments. The negative coefficient of ECT shows the speed of adjustment annually of the endogenous variables toward equilibrium. The coefficient of the equilibrium correction term (ECT), is significant, confirming that a long-run (cointegrating) relationship exists between the stock market efficiency as proxy by market capitalization and the set of explanatory variables. The size of this coefficient and its *P*-value significance level of 5%, implies that adjustment to disequilibria via the equilibrium correction term (ECT) (0.2739) is relatively slow, as 27.39 percent of a disequilibrium in a given year is corrected in the following year.

The results in show that the monetary policy rate (MPR), liquidity ratio (LQR), direct credit control (DCC) and exchange rate (EXR) are negatively associated with the stock market capitalization (SMC) in the long run give their weighted estimated coefficients of MPR (-0.350032), LQR (-0.018844), DCC (-1.221012) and EXR (-0.021042). The negative signs indicates that a once-and-for-all unit increase in the rate of annually CBN monetary policy rate, liquidity ratio, direct credit control and exchange rate, then annually stock market performance will cause a long-run reduction of the stock market capitalization of about 0.35%, 0.0195, 1.22% and 0.021%, respectively, when measured by the true value. In other words, a 1% percentage point change in the annual rate of the CBN monetary policy rate, liquidity ratio, direct credit control and exchange rate implies a fall in SMC by 0.35%, 0.0195, 1.22% and 0.021%, respectively in the long run.

The Long run result also show that, the regression coefficients of the cash reserve ratio (CRR), treasury bills rate (TBR) and broad money supply (BMS) are positively associated with the stock market capitalization (SMC) in the long run given their weighted estimated coefficients of CRR (0.093794), TBR (0.293827) and BMS (0.245432). The positive signs indicates that a once-and-for-all unit increase in the rate of annually CBN the cash reserve ratio, treasury bills rate and broad money supply, then annually stock market performance will cause a long-run increase of the stock market capitalization of about 0.094%, 0.294 and 0.245%, respectively, when measured by the true value. In other words, a 1% percentage point change in the annual rate of cash reserve ratio, treasury bills rate and broad money supply by the CBN, implies a long run rise in SMC by 0.094%, 0.294 and 0.245%, respectively.

6.3.2 Equilibrium-Correction Single-Equation Model

The results in Table 3 reported the regression estimate of equations (14) and (15) in the context of equilibrium error-correction representation of the WLS model. Given cointegration, equation and estimated confidents, an error correction model is used because, the estimation of stock market efficiency model largely took place during a period in which there are large real changes in the monetary policy implementation, for example,

introduction of several policy reforms by the CBN and the regulation of the banking sector. Therefore, there must also be an error correction model (ECM) that describes the short-run dynamics or adjustment of the cointegrated variables towards their equilibrium values.

The result of the error correction model shows that most of the variables are statistically significant in the short term except for liquidity ratio and exchange rate. The result of ECM shows that the lag value of MPR, EXR, LQR and DCC have positive impacts on the Nigerian stock market in the short run as against their long-run values (see Table 3), while the lag value of CRR and BMS have positive impacts on the Nigerian stock market in the short run and in the long-run give their values. This implies that any fluctuations in cash reserve ratio and money supply will be having direct impact on stock market and on overall economy of the nation. The lag value of TBR is positive in long run and negative in short run given the ECM values.

In most countries, there is an inverse relationship between stock market performance and the interest rates for bonds and treasury bills. When one rises, the other falls. When one falls, the other rises. Interest rates can have both positive and negative effects on Nigeria stocks this depend on the indicators. As interest rates rise, bond prices will decline, market value will fluctuate based on changes in the interest rate. If the required return rises, the stock price will fall, and vice versa while, exchange rate volatility is found to have a positive impact on Market capitalisation in the short run.

The result indicates that the long run overall model is well fitted as the independent variables explained 70 % Adjusted squared ($\bar{R}^2$) movement in the dependent variable, while the Breusch-Godfrey LM second order test for autocorrelation shows the presence of weak serial correlation between the error terms. From the result d* is less than 2, that is 1.8667 < 2 for the BG test, therefore we reject the null hypothesis (H_0), which says that there is no positive autocorrelation of the errors' terms; we accept the alternative hypothesis (H_1), which says that there is weak positive autocorrelation of the errors' terms. The efficiency of the model will not be affected given the weak nature of the positive serial correlation.

7 Conclusion

This main objective of this study is to empirically examine the relationship between stock market performances proxied by the growth of market capitalization in the Nigerian stock exchange market. The primary motivation for this study is to enable policy makers understand the growing need to formulate monetary policies that will be responsive to changes in stock prices, since the stock market is a veritable source of long-term capital. The effectiveness of monetary policy should therefore be anchored on the potency of its instruments on the growth of the stock market.

The study employ a Dynamic Weighted Least Squares (DWLS) to analysis the nature of this impact for both long run and short run which is run over a time series data that spanned from 1980-2013.The analysis starts with examining stochastic characteristics of each time series by testing their stationarity using the ADF-Fisher Chi-square unit root test to determination the order of integration and using the Engle-Granger single-equation to test for the cointegration and estimate error correction mechanism. The analysis of the time

series properties of the data employed revealed that most of the series were integrated of order one.

The result shows that most of the variables are statistically significant in the short term except for liquidity ratio and exchange rate. The result of ECM shows that the lag value of MPR, EXR, LQR and DCC have positive impacts on the Nigerian stock market in the short run as against their long-run values, while the lag value of CRR and BMS have positive impacts on the Nigerian stock market in the short run and in the long-run give their values. This implies that any fluctuations in cash reserve ratio and money supply will be having direct impact on stock market and on overall economy of the nation. The lag value of TBR is positive in long run and negative in short run given the ECM values.

The study found out that monetary policy instruments such as monetary policy rate, treasury bills, direct credit control and broad money supply monetary instruments have long and short run relationship with stock market performance measured by growth of market capitalization**.** The high impacts of these monetary instruments both in long and short run, implies that those variables have great effect (positively or negatively) on the Nigerian stock market. The paper concludes that monetary policy is effective in achieving the stability in the stock market through the monetary instruments. Findings are consistent with the hypothesis that the monetary instruments have a significant effect in achieving the improvement particularly on stock market index.

8 Policy Implication and Recommendations

Our study shows that monetary policy is a significant determinant of long-run stock market efficiency in Nigeria. In other words, long-run behaviour of stock market returns in Nigeria is influenced largely by monetary instruments variables. Specifically, high monetary policy rate and high Treasury bill rate reduces stock market returns indicating that monetary policy efforts have been to slow down the economy. A high interest rate attracts more savings and discourages the flow of capital to the stock markets leading investors to demand for a higher risk premium which impedes investment and slows down economic development. Whereas a low interest rate encourages higher capital flows to the stock market in expectation for a higher rate of return.

The study also revealed that direct credit control and broad money supply and cash reserve ratio were rightly signed with stock market capitalization both in the long and short run and have high positive effect on stock market performance, while liquidity ratio and exchange rate seem to be less significant or their impacts are less felt in the stock market returns. In Nigeria, the level of money supply has been on the increase over the years, implying that since money supply has negative relationship with interest rates, then stock prices would be expected to grow with the level of money supply. Also, interest rates and inflation are expected to have a negative impact on stock prices.

The existence of such a relationship has important implications for both stock market participants and central bankers since, with respect to the former this issue relates to the broader topic of stock price determination and portfolio formation, while the latter are interested in whether monetary policy actions are transmitted through financial markets.

Economists generally agree that restrictive monetary policy leads to lower stock prices. On the other hand expansionary monetary policy leads to higher stock prices. Some researchers also argue that changes in monetary policy influence forecasts of market determined interest rates, equity cost of capital, and expectations of corporate profitability (Waud, 1970). The

fundamental approach is that an increase in interest rates due to a contractionary or restrictive monetary policy will leave investors with no other opportunity to raise funds except through the equity market. In a bid to boost the demand for their stock, the price will fall to a level that will be attractive to an investor at least in the short run, perhaps through public offers**.**

The expectation that economic activity will strengthen may also prompt banks to ease lending policy, which in turn enables business and households to boost spending. In a low interest-rate regime, stocks become more attractive to buy, raising households' financial assets. This may also contribute to higher consumer spending, and makes companies' investment projects more attractive. Low interest rates also tend to cause currency to depreciate because the demand for domestic goods rises when imported goods become more expensive. The combination of these factors raises output and employment as well as investment and consumer spending. A depreciating Naira exchange rate is expected to increase stock prices. The error correction coefficient was relatively low, rightly signed and significant at 5% implies that adjustment to disequilibria via the equilibrium correction term is relatively slow. This results in sum indicates that the innovations of some monetary instruments can be a better predictor of stock market returns in Nigeria.

In the light of this, it is recommended that government through the monetary authorities should be cautious enough to avoid discretionary policies that might hike the rate of interest, otherwise the flow of fund to the market will be derailed. Also, the monetary authorizes should formulate policies that will reduce the rising pace of inflation to encourage availability of investible funds for investors.

It is also suggested that, the SEC should be given enabling environment to monitor the activities of the market operators to bread efficiency. The government should fine turned the exchange rate policy and institute a consistent policy plan to mobilize surplus funds from abroad, which would be injected into the capital market for significant development.

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