Monetary Policy and the Performance of the Nigerian Capital Market (1986 – 2017)

Sylvia Chikodi Anaele[1], Chinweobo E. Umeora[2]

[1]*M.Sc. Student, Department of Banking and Finance, Faculty of Management Sciences, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Awka, Nigeria*

[2]*Professor, Department of Banking and Finance, Faculty of Management Sciences, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Awka, Nigeria*

Abstract: **The significant of monetary policy as it relates to economic growth is of great interest to scholars and decision makers to understand how activities in the capital market would be influence by adjustments in monetary policy both in emerging and advanced economies. This study utilized time series data to examine the effect of monetary policy on the performance of the Nigerian capital market. The study was motivated by the inconclusive debate on the effect of monetary policy on capital market performance. Specifically, this study ascertained the effect of monetary policy rate, cash reserve ratio, liquidity ratio and loan to deposit ratio on performance of Nigerian capital market measured by all share index. Secondary data for the period 1986 to 2017 were collected from the Nigerian Stock Exchange Factbooks and Central Bank of Nigeria Annual Reports. The study applied the Auto-regressive Distributive Lag (ARDL) regression technique in which variations in all share index were regressed on monetary policy rate, cash reserve ratio, liquidity ratio and loan to deposit ratio. The results revealed that monetary policy tools have no significant effect on capital market performance. The findings also suggest that monetary policy rate, cash reserve ratio and loan to deposit ratio negatively and significantly correlate with capital market performance, while liquidity ratio positively relates with performance of the capital market. Considering the findings emanating from this study, the Central Bank of Nigeria should reduce the current double digit monetary policy rate to a single digit to attract investments in the capital market. Cash reserve ratio which as at the time of this study is at 22.5% should be lowered to the range: 10%-12% to cause an upsurge in money supply which will in turn improve capital market performance through upward movement in all share index.**

Keywords: **Stock Market Performance; Monetary Policy**

1. Introduction

The finance literature has shown that the capital market has been preferred to bank credit as a long term financing sources for firms. Development and growth in an economy is vehemently influenced development in the capital market. Technology and human capital transfer is prevalence in economies with developed capital markets and this is a pre-requisite to realizing the targets rate of development and growth of the country concerned. An economy shifting towards development requires huge resources which banking sector alone or government spending cannot appropriately provide; hence necessitating the need for an ideal capital market. The capital market as a constituent of the financial system is vital for a country to accelerate its growth and development process especially in emerging economies, whereas the money and credit supply with affects economic activity rests on the monetary authority through monetary policy formulation (Muktadir-Al-Mukit, 2013).The proper functioning of the capital market could propel economic growth through the efficient allocation of scarce resources it pooled from surplus economic agents to deficit economic units. As noted by Asaolu and Ogunmuyiwa (2010), empirical studies have documented the importance of the capital market in economic development process. Nwakoby and Alajekwu observes that the state of affair in an economy is fervently seen through the performance of the capital market.

Based on the traditional IS-LM model, the inter-relations between monetary policy actions and interest rates shows that monetary policy of the Central Bank affects activities in the capital market. Geraldo (2011) envisages that changes in monetary policy of monetary authority have the tendency of influencing revaluation of investors' stock holdings. Structuring monetary policy to sustain adequate flow of credit in the economy indirectly put to check speculative tendencies in prices of shares quoted on the stock exchange. In addition, money supply level that does not result in inflationary tendency would in no small measure prevent often variation in prices of stocks on the capital market. Welteke (2001) opines that the efficient functioning of the capital market influences adjustment in monetary policy tools and unambiguously highlighted three facets on why monetary authorities tries as much as possible to develop the capital market for efficiency in allocation of scarce resource. In the first place, changes in the macroeconomic environment would be easily noticed through movement in prices of stocks, for instance, interest rate variation is a reflection of how the economy will grow in the future. The second argument is that changes in the stock prices depicts the extent of Secondly, measuring the expected volatility of future capital market prices show us the degree of doubt connected to investors' expectations. Finally, prices of

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

60

stocks in the capital market reflects future market expectation with consideration to participants in the market.

As stated by (Afroze (2013), fluctuation in the share prices have obvious consequences on financial sector performance which ultimately affect economic activities. In the light of this, the Central Bank tries to formulate monetary policy in such a way as to incorporate government development plan/goals. Consequent to the relationship that exists between monetary policy and capital market activity, the effect of product of monetary policy formulation such as inflation, interest rate and money supply variables on capital market performance is often a great task on the monetary authorities. (Muktadir Al Mukit & Shafiullah, 2012). Not minding the fact that monetary policy effect on sustainability of the capital market is of deep concern to the Central Banks, individual and corporate investors need to be aware of uncertainties that would be attached to worth of shares propelled by adjustments monetary policy tools. Understanding the antecedent influence of changes in monetary policy would sharpen investors' intent in measuring the intrinsic value of common stocks. The determination of the intrinsic worth of a common stock with regards to prevailing market price envisages the over-pricing and under-pricing linked with stocks traded on the capital market. While earnestly acknowledging fundamentalist point of view, Nemaorani (2012) asserts that making profits from stock trading depends on an investor's ability to accurately calculate stock's intrinsic worth via security's fundamental and technical analysis. Subsequent to the argument that mechanism of the capital market is influenced by variation in monetary policy, then the efficient market hypothesis postulation would hold as the capital market tends to assimilate and integrate all information regarding monetary policy as a tool of stabilization by the monetary authorities to realize a desired or target macroeconomic goal.

A. Problem Statement

This study is motivated by the unresolved issue in empirical findings in respect to the nexus between monetary policy and performance of the capital market. The nature of linkage regarding monetary policy and capital market is not clear both from theoretical and empirical background, especially in emerging economies like Nigeria. The empirical findings of Singh (2010) and Shrestha and Subedi (2014) depict that monetary policy is negatively related with capital market performance in India and Nepal respectively. Muktadir-Al-Mukit (2013) and Mohamadpour, Behraven, Espahbodi and Karimi (2012) envisaged the manifestation of significant positive association linking monetary policy and capital market performance singly in Bangladesh and Nepal. The nexus between monetary policy and capital market become more confusing as a study by Chen and Xie (2016) empirically proved that monetary policy is very effective in determining performance of the capital market in China but only when the market is in a bear condition.

In Nigeria, capital market performance is not significantly affected by changes in monetary policy rate (Asaolu & Ogunmuyiwa, 2010). On the contrary, Osisanwo and Atanda (2012) depicted that the capital market is affected by adjustment in monetary policy tools. The latest monetary policy disaggregated and most recent study by Nwakoby and Alajekwu (2016) establish that capital market performance is not influenced by variation in monetary policy rate. Although the study improved on existing studies of Asaolu and Ogunmuyiwa (2010) and Osisanwo and Atanda (2012) which integrated monetary policy rate as core index of monetary policy by incorporating monetary policy rate and liquidity ratio as monetary policy variables, the inclusion of lending rate and deposit rate of deposits money banks raises a question as to the variables used to measure monetary policy. The work of Onyeke (2016) was criticised on inclusion of inter-bank rate, open buy back and inflation as monetary policy tools, while Okpara (2010) was disparaged by modelling only monetary policy rate. A new dimension was followed in this research work by the incorporation of the four basic monetary tools: loan to deposit ratio, liquidity ratio, monetary policy rate and cash reserve ratio to determine whether or not performance of Nigeria's capital market is influence by announcement in monetary policy indices of the apex bank. Consequently, this study examines the effect of monetary policy rate, cash reserve ratio, liquidity ratio and loan to deposit ratio on all share index.

2. Review of relevant literature

A. Monetary Policy

Monetary policy according to Umeora (2016) is a deliberate action of the Central Bank of a country that affects quantity, cost and availability of money supply and credit with the aim to realising targeted economic goals as well as ensuring stability in macroeconomic environment. This can be done by changing the level of money supply and or interest rates to control inflation in the economy. In Nigeria, the Central Bank of Nigeria (CBN) is the organ that has the responsibility for conducting monetary policy. The growing connection between capital markets and monetary policy not only appeals to investors but also to monetary authorities and financial institutions owing to the influence monetary policy adjustments have on capital market activities which is important in order for investors to assess risk exposures and maximize returns from their investment in securities. (Lu, Zhou & Kou, 2013).

The quantum of money supply in circulation in an economy in no small measure influences the consumption pattern of the citizens. Liquidity management in the economy is of great importance to the monetary authority to deter or prevent macroeconomic economic consequences of either higher or lower money supply. Inflation and interest rate are mostly determine by money supply which ultimately affects prices of stock. For consideration, if the demand for money remains constant, rise in supply of money increases interest rate thus causing an upsurge in the opportunity cost of holding cash,

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

61

shares, and with high interest earnings, people may want to convert all their cash and stockholdings to interest-bearing deposits and securities with obvious implications for the stock prices (Umeora, 2016). As noted by Gospodinov and Jamali (2014), the consequent impact of monetary policy fluctuations on interest rate influences the discount rate used to value the cash flows from equities (i.e. dividends). Restrictive monetary policy, for example, reduces share prices by increasing the expected equity premium due to probable rise in risk which may be caused by rise in interest expense or a fall in the expected level of consumption. A successful implementation of monetary policy requires a fairly accurate consideration of how fast the impact of such policy changes could be delivered to other parts of the macroeconomy, how large the impact is (Umeora, 2016).

B. Capital Market

In a lay man language, capital market is the opposite of money market in that it is the market where long term funds are raised. It provides room for capital restructuring such as when a company decides to sell ordinary shares and use part of the proceeds to liquidate long standing debt capital such as debentures. Quoted firms hope on sourcing long term financing from the capital market as cost of capital in the capital market is lower than in deposit money institutions. As said by Namini and Nasab (2015), the overall economic performance of a country would be seen in the capital market thus the market should be developed with legal laws and infrastructure for it to pool resources for development and growth. Gowriah, Seetanah Lamport and Keshav (2014) notes that the stability in the financial system of an economy is a reflection of the strength of the capital market, and this has re-engineered the assumption in the academic world that finance is a pre-requisite developmental process of an economy. Chatziantoniou, Duffy and Filis (2012) note that in relation to monetary policy, the function of the capital markets is multidimensional because performance of the capital market as regard development and growth of an economy is influenced by adjustment in monetary policy tools on one hand, and conversely, the prices of share in the capital market to a high degree is a reflection of economic development, hence the need for Central Banks to consider the implication of announcement in monetary policy. The capital market is important in determining the speed with which policy changes are transmitted into the entire economy (Mbulawa, 2015) thus prone to internal shocks from variation fundamentals of the Central Banks monetary policy.

C. Monetary Policy and Capital Market Indices

Monetary Policy Rate: Monetary policy rate (MPR) is the rate of interest charged by a country's apex bank to providing funds or loans to banks in the economy and other approved financial institutions as well. These institutions can access these funds through direct lending or money market via money market instrument such as treasury bills. Increasing the monetary policy rate implies tightening of monetary policy by the Central Bank to control the quantum of money in circulation and possible eliminate its consequence on the economy which is rise in inflation. The monetary policy rate of the Central Bank of Nigeria based on the last Monetary Policy Committee (MPC) meeting held on 4th April, 2018 was put at 14%.

Cash Reserve Ratio: Cash reserve ratio (CRR) is a certain percentage of bank deposits which banks or other financial institutions operating in the economy are required by law to keep with the Central Bank in the form of reserves or balances. A high level of cash reserve ratio to be maintained by banks or other financial institutions operating in the economy reduces the liquidity level in the economy and vice-versa. According to the CBN Act of 1991 (as amended), the Central Bank of Nigeria is has the responsibility to determine the cash reserve ratio based on prevailing economic condition. The cash reserve ratio for fiscal 2018 is 22.50 percent.

Liquidity Ratio: Every financial institution has to maintain a certain percentage of its liquid assets with the CBN at any point in time of their total time and demand liabilities. These assets can be cash, precious metals, approved securities like bonds etc. The ratio of the liquid assets to time and demand liabilities is called the statutory liquidity ratio. The Central Bank of Nigeria still retain a ratio of 30 percent in fiscal 2018.

Loan to Deposit Ratio: The loan to deposit ratio is used to assess a bank's liquidity by comparing a bank's total loans to its total deposit for the same period. Through fixing the loan to deposit ratio, determines the volume of credit that would be extended to the economy by banks. If the loan to deposit ratio is high, then banks would give loan up to certain limit. Again, if the loan to deposit ratio is low, banks will extend more credit to the economy. For the year 2017 based on the annual report of the Central Bank, loan to deposit ratio was perked at 78.18%.

Market Capitalization: Market capitalization in its simplest form is the share price of securities listed on the Nigerian Stock Exchange (NSE) times the number of shares outstanding. The market capitalization gives an insight of how the shares of firms quoted on the floor of the stock exchange perform on daily basis. It is arrive by multiplying the current market price of the firm's share with the total outstanding shares of the firms. The higher the market capitalization, the better companies listed in the exchange perform. A steady rise in the market capitalization of quoted firms is an indication of the expansion in the size of the market. Comparing the market capitalization to real gross domestic product indicates the size of the country's capital market relative to the economy as a whole. A high market capitalization to real gross domestic product determines of the depth of development in the capital market.

Value of Stock Traded: The total number of shares traded, both for local and foreign firms, multiplied by their respective matching prices is termed stock value traded. In other words, stock value traded defines the value of share of quoted firms during a specified period of time. Value of stock traded is a follow up of market capitalization as it ascertain whether the size of the market is matched by trading. Stock value traded

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

62

ratio gives an insight of how liquid the capital market is. The more liquid the capital market is, the more easily investors can divest their assets/investments.

Turnover Ratio: The turnover over ratio is another component that determines the liquidity of the capital market. How easy or difficult it is to sell share of a particular firm in the capital market is portrayed by turnover ratio. Dividing the total value of domestic share traded by the market capitalization over a specified period of time is the turnover ratio at that particular period. A high level of share turnover also indicates that it is easy to buy and sell securities in the capital without hitches.

All share index: The all share index measures the performance of capital market. In the Nigeria context it is referred to as the Nigerian Stock Exchange all share index (NSE Value Index 1984=100). The all share index is a numerical index that captures the average adjustment in prices of all securities quoted on the capital market. Based on the Nigerian Stock Exchange (NSE) factbook of 2017, the all share index of the Nigerian capital market was estimated to be 38,243.20 points.

D. Theoretical Framework

Waud (1970) as quoted in Durham (2006), on background of theory, cost of equity capital and market determined interest rate forecast is associated with discrete changes is monetary policy, while profitability of quoted firms would be affected by variation in the monetary policy rate of the Central Bank. The Markowitz portfolio theory, efficient market hypothesis, and capital assets pricing model were discussed to provide a solid theoretical background to this research work. The Efficient Market Hypothesis was the theory this research work was based upon. This theory relates to this work in the sense that it deals with both public and private information, and monetary policy adjustment by the apex bank in Nigeria that enables investors to take timely and well-informed investment decision.

E. Efficient Market Hypothesis

Random Walk Theory which is another name for efficient market hypothesis was propounded by E. F. Fama in 1970. The theory states that the current prices of assets quoted in the capital market fully signify the available information about the firm's value, and making profit in excess of what can be realize from the market is completely out of place. This is to say that stock prices having fully reflect the available information about firm value, investor making additional profit outside what prevail in the market based on these information is impossible. The present of many investment analyst and adviser, different information on firms' values, availability of many investors, stock prices immediately adjustments to latest/new information. Based on background of globalisation and mobilisation, this theory become prominent on the basis that flow of information is now faster with due to technological innovation which makes it possible for one to access information about any stock at the comfort of his/her home. (Lindner, Fischer, Félix, Scherer & Warkentin, 2010). An

efficient capital market arises when prices of stock incorporate and adjust to availability of information: both past and new information. The net present value of all transaction is zero in an efficient capital market.

The efficient market hypothesis has been documented to subsist in three forms: weak, semi-strong and strong. Weak form efficient hypothesis prevails when current prices of stock fully reflect past information on prices. A situation where all publicly available information is depicted current prices of securities is regarded as a market in compliance with the semi-strong hypothesis, while the strong efficient market hypothesis unveils a condition where all available information (past, private and public) are reflected in present prices. Ibenta (2012) viewed capital market efficiency from the roles the capital markets are expected to perform in the economy which are classified into allocation, operational and pricing efficiency. Effective and efficient allocation of scarce resources to deficit segments of the economy is the standpoint of allocative efficiency; operational efficiency when the cost of transaction on the capitals is at its barest minimum and pricing efficiency when prices are determined by the inter-play of demand and supply.

F. Modern Portfolio Theory

The Modern Portfolio Theory was developed by Harry Markowitz in 1952 through his paper "Portfolio Selection". This succinctly asserts that investors that are risk averse can clearly select investments or structure a portfolio in such a way as to maximize earnings based on the prevailing market risk. Put differently, risk averse investors cautiously build basket of investments with high potential earnings while minimizing risks. Investors being risk averse in this context implies that given a choice between two assets with equal rates of return, virtually all investors would prefer the assets with the lowest level of risk. The theory argues that an investment with high risk yields high return relative to investments with lower risks. The portfolio theory enables managers to classify, estimate and control the sources of investment risk and return (Ibenta, 2012). The process of selecting a portfolio may be divided into two stages. Observation and experience is the first stage and it ends with beliefs about the future performances of available securities. The relevant beliefs about future performances is the second stage, and this ends with the choice of portfolio following Markowitz (1952).

G. Rational Expectation Theory

This theory is of the notion that investors select assets for capital market investments on the bases of their rational outlook, experiences in the past and availability of private and public information. The theory argues that the future affairs in an economy in the rational thinking of the people is what influences current expectation in the economy. On the premises of the rational expectation theory, firms' satisfactorily rely on past prices to predict likely prices in future which affects operation of activities. On the argument that individuals are

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

63

rational in thinking and rely on past information to make future prediction, changes in monetary policy of the Central Bank could be viewed to may have some disequilibrium in the capital market and the economy as a whole. The Nigeria's market index on 15th June, 2016 raised to about five month high to worth N294 billion based on the Central Bank of Nigeria announcement on the 24th May, 2016 to adopt a flexible exchange rate policy to reduce pressure on the local currency. The committee in charge of fixing monetary policy rate in Nigeria's apex bank on 24th May, 2016 held a meeting and retained the monetary policy rate at 12% and 22.5% for the cash reserve ratio in anticipation of the plan introduction of the flexible exchange rate system.

H. Capital Asset Pricing Model

The Capital Asset Pricing Model (CAPM) is utilized to ascertain the required rate of return on an asset so as make investment decision on including or excluding an asset in portfolio that is well diversified. Invariably, the capital asset pricing model determines the correlation between expected return and risk therein. Financial analysts see the capital asset pricing model as the theoretical guide to the pricing of risky stocks or securities. Ibenta (2012) asserts that the capital asset pricing model describe the way prices of individual assets are determined in markets where information is freely available and reflected instantaneously in asset prices, that is in efficient markets. The capital asset pricing model offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk, hence its attraction in literature but unfortunately, the empirical record of the model is poor—poor enough to invalidate the way it is used in applications (Fema & French, 2004). Following the assumption of the capital asset pricing model, the appropriate price of securities are ascertained and investors are at liberty to evaluate securities that is either over-priced or under-valued/priced.

I. Empirical Review

1) Monetary Policy Rate and All Share Index

Echekoba, Ananwude and Onyinloye (2018) evaluated whether or not the performance of the Nigerian capital market is affected by liquidity ratio, cash reserve ratio, loan to deposit ratio and monetary policy rate. Nigerian Stock Exchange and Central Bank of Nigeria served as the source of data. The Autoregressive Distributive Lag (ARDL) was the technique applied in estimating the model and for co-integration assessment, while granger causality analysis assessed the predicting power of monetary policy tools on capital market performance. Output of the analysis showed that liquidity ratio, cash reserve ratio, loan to deposit ratio and monetary policy rate have no effect on performance capital market. Surprisingly, it is monetary policy rate that was significantly influenced by capital market performance.

Echekoba, Okaro, Ananwude and Akuesodo (2017) undertook a study on how effective is monetary policy tools in

influencing capital market activities from 1986 to 2016 using data from CBN. The regression technique adopted in the work was the Ordinary Least Square (OLS). The output of the analysis indicated variations in tools of monetary policy do not affect activities in the capital market.

Using Granger Causality test, OLS and Johansen co-integration, Nwakoby and Alajekwu (2016) performed effect analysis on monetary policy – capital market performance nexus for the period 1986 to 2013. The output of the analysis unveiled that, monetary policy was related with capital market performance in the long run. All share index was not significantly influenced by monetary policy rate; lending rate significantly affect all share index; liquidity ratio and treasury bill rate and insignificantly and negatively affect capital market performance, while all share index was affected by variation in deposit rate.

In Bangladesh economy from January 2006 to July 2012, Muktadir-Al-Mukit (2013) used monthly data to ascertain the response of the stock market to volatility in monetary policy. The Bangladesh market index was employed to be the dependent. Four measurements of volatility in monetary policy was applied – three months treasury bill rate, inflation, repo rate and money supply. With the application of the co-integration analysis, Bangladesh market index will depreciate by 2.37% if the repo rate is increase by a unit; Bangladesh market index will rise by 0.38%, 1.69% and 1.09% by virtue of a percentage appreciation in three months treasury bill rate, inflation and money supply respectively. 26% of deviations in returns of stock quoted on the floor of the exchange was revealed by the model of the ECM. There was the presence of a one-way/unidirectional causal relationship running from inflation to market index; money supply to market index; and three months treasury bill rate to market index.

In the United States of America, using SVAR methodological approach, Bjørnland and Leitemo (2007) investigated the long-run relationship between monetary policy and stock market index: S&P 500. There was interdependency between prices of stock and setting of interest rate. The prices of stocks fall by one-and-a-half percent instantaneously attributable shocks in monetary policy which then increases the rate of the Federal Reserve Bank by ten (10) basis points. There was also an evidence of greater interdependency interest rate setting and stock prices. Interest rate will appreciate by one percentage owing to stock prices arising from shocks in monetary policy.

In Indonesia, the implication of fiscal and monetary policy on share prices of firms quoted in financial, manufacturing, mining and agricultural sectors of the Indonesian stock market was ventured into by Handoyo, Jusoh and Zaidi (2015). The Monte Carlo algorithm to Near-SVAR technique was the analytical approach adopted. In both sectorial analysis, the response of stock prices to volatility in monetary policy was positive and significant. This same result was also the case for the stock market as a whole. In the light of the response of the

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

64

stock market to fiscal policy changes, it was negative: all the sectors respond negatively shocks in fiscal policy. In a nutshell, prices of individual stocks in the stock market responds negatively to shocks in monetary and fiscal policy thus have great influence on market performance.

2) Cash Reserve Ratio and All Share Index

Singh (2014) undertook a study to determine how volatility in the stock market is explained by volatility in monetary policy for a period of fifteen (15) years. On the account that the study was conducted in India and in agreement with the prevailing economic environment of India, the study used the statutory liquidity ratio of the Indian apex bank and cash reserve ratio to measure monetary policy adjustments. The findings emanating from the study proved that activities in the Indian stock exchange was vehemently influenced by variation in monetary policy tools of the Indian apex bank. It was also found that capital market of in Indian is not significantly affected by fluctuation in interest rate. In summary, the Indian stock market is not greatly influenced by adjustment in monetary policy of the Indian Central Bank.

On the reliance of data on quarterly basis from 1991 to 2011 from the Malaysian environment, the linkage that exists between Malaysian Stock Exchange performance and monetary policy was assessed by Mohamadpour, Behravan, Espahbodi and Karimi (2012). The was a presence of a long-run linkage between Malaysian Stock Exchange performance and monetary policy as depicted by the result of the co-integration and the Vector Error Correction Model result. The index of the Malaysian Stock Exchange which is the composite index of the Kuala Lumpur was related in long-run with interest rate, money supply, near money and quasi money. There is a significant positive relationship that existed between monetary policy, near money and quasi money as shown by the result of the ECM. The generalized findings was that the index of the Kuala Lumpur stock exchange would in the long-run experience tremendous growth owing to increase in money supply which was as a result of adjustments in monetary policy of the Central Bank of Malaysia.

In an endeavour to understand the responsiveness of the China stock exchange to fluctuation in monetary policies, Chen and Xie (2016) followed an event methodological approach. The output of the data analysis unveiled that the impact of monetary policy on the activities of the Shenzhen and Shanghai stock exchange usually fade away after two or three days following announcement of changes in the monetary policies of the Chinese apex bank.

The factors that determines the performance of the Nepal's stock exchange while applying monthly data from 31st August, 2000 to 30th July, 2014 was studied by Shrestha and Subedi (2014). With the OLS regression data output, if was evidenced that the performance of the Nepal's stock exchange was dependent on certain variable positively which are growth in broad money supply and inflation rate, and then negatively on interest rate. In essence investors in Nepal's economy rely

vehemently on the purchase of securities in order to mitigate the negative effect of inflation. That apart, the liquidity level in the Nepal's economy as well as lowering the level of interest rate by the apex bank of Nepal will in no small way improve the performance of the Nepalese stock market. Finally, Nepalese stock market responses positively to variations in the changes Nepalese government political climate as well as the adjustments in the Nepalese apex bank monetary policies.

3) Liquidity Ratio and All Share Index

In the context of the Pakistan economy, the nexus that prevails in connection with changes in monetary policy of the Pakistani's apex bank and the stock market performance was explored by Qayyum and Anwar (2011). By application of the EGARCH and the Granger causality test using the two step procedure, the authors found that there is significant effect of fluctuation in monetary policy of the Pakistani's apex bank on the performance of the stock market within the period the study was undertaken. In essence, the performance of the Pakistani's is dependent on the monetary policy announcement of the Pakistan Central Bank.

With regard to two Islamic stock markets in Pakistan, the volatility between the performance of these stock markets and interest rate as well as inflation was unearthed by Albaity (2011). The GARCH was the study's analytical approach using yearly data within the period covered. Among the results emanating from the study, the KLCI market index was significantly dependent on variation in quasi money, near money, level of inflation and the growth rate of the real economy that is RGDP, while for DJINA, it was quasi money, broad money supply, interest rate and inflation that determine how the market performs whenever there is changes in monetary policy of the apex bank. Furthermore, both KLCI and DJINA indexes are significantly affected by variation in monetary policy variables of interest rate, quasi money, near money and broad money supply. Following the multivariate model, the index of the DJINA is significantly influenced by the inflation rate in the country as well as that of interest rate, while for the index of the KLCI, it is the broad money supply and inflation rate that influences its performance.

The inter-connection between prices of common stock in Trinidad and Tobago, Barbados and Jamaica and monetary policy was looked into by Iglesias and Haughton (2011). It was done based on individual countries as well as a panel data analysis for the entire selected countries in the Caribbean region. Using monthly data and consequent to the SVAR analytical perspective, the result of Barbados revealed that any shock on the monetary that is capable of increasing the rate of treasury bill appreciate on a basis of 100 points would consequently increase stock prices by 0.038% and a fall of 0.06% accordingly. In Jamaica, stock prices would fall by 0.30% following any shock in monetary policy, whereas the stock prices would rise by 1% consequent to increase by one percent on the rate of the treasury bill on a 400 point basis. In the context of Trinidad and Tobago, the prices of stock would

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

65

be down by 0.1% if there is an adjustment in monetary policy, and the treasury bill rate would appreciate by 300 on point basis following an increase in stock prices. The panel data analysis of the three Caribbean countries divulged that a percentage variation in the stock would trigger a 700 point basis increase in the rate of the treasury bill of the apex banks, while the stock prices would be down by 0.027% following any fluctuation in monetary policy.

Wang and Mayes (2012) by the employment of event study approach evaluated the monetary policy- stock market nexus in United Kingdom, Australia, New Zealand and the euro area. The authors found that in New Zealand and Australia, the effect of global financial crisis did not affect performance of the capital even though there was adjustments in monetary polies of the two countries apex banks. In the Euro area, they found that stock markets performance were not affected by global financial crisis that forced monetary authorities to adjust monetary policy tools in order to mitigate the effect of the global meltdown.

4) All Share Index and Loan to Deposit Ratio

From the second quarter of 1992 to the second quarter of 2012 and with the aid of the GARCH technique, Hsing (2013) studied how the Poland stock market is affected by variation in monetary policy. The researcher evidenced that the performance of the Poland stock market was not influenced by changes in fiscal and monetary policy of the Poland apex bank. There was a relationship between index of the stock market and M3 ratio to GDP which was quadratic in nature, and having 46.03% at its critical value, This is an insinuation that they have a positive relationship if the M3/GDP ratio is less than 46.03% and a negative relationship if the M3/GDP ratio is greater than 46.03%. In addition, it was also unveiled that industrial performance in Poland was dependent on adjustment in monetary policy, while for USA and Germany, it is the level of inflation and fluctuation in exchange rate that influence industrial production.

In connection to the nexus existing between adjustment in monetary policy and stock market performance in Ghana, Geraldo (2014) ascertained whether the Ghanaian stock exchange activities is induced by variation in monetary policy apparatus. The outcome of the research work envisaged that the performance of the Ghanaian stock market is significantly hinged to monetary policy announcements of the apex bank. From the evidences in the correlation output, activities in the Ghanaian stock market was significantly influenced by the fiscal policy objectives of the government. With the result of the pairwise granger analysis, there is a one-way/unidirectional relationship between monetary policy and stock market performance. The causality flows from fiscal policy objectives to activities in the Ghanaian stock exchange. The author concluded that fiscal policy of the Ghanaian was more influential in determining the performance of the capital market when compared with monetary policy announcements.

In the United States of America from 1960 to 2004, Laopodis (2008) undertook a research work on the how the stock market is affected by variation in fiscal deficit and monetary policy shocks. Laopodis (2008) analysis showed that returns on securities quoted on the US stock exchange depreciate following any increase in minimum discount rate/monetary policy rate of the Federal Reserve Banks in the USA. The explicit result of the model specification revealed that activities in the stock exchange negatively respond to fluctuation in the inflation rate in the US economy. In a different form, investors in the US economy are more concerned about volatility in the inflation rate in ascertaining the worth of shares when compared to other product of monetary policy adjustment on the US.

In Senegal, how the Dhaka Stock Exchange is influenced by volatility in monetary policy was appraised by Afroze (2013). The author measured monetary policy by some variables and that was the case for the performance of the Dhaka Stock Exchange for a period of five years: from 2006 to 2010. The results that came from the regression output showcased that the correlation between money supply and performance index of the Dhaka Stock Exchange was significant, and this according to the researcher revealed that there is significant influence of monetary policy adjustments on the performance of the Dhaka Stock Exchange within the period covered by the research.

From 1990 to 2011 in Bangladesh, Muktadir-Al-Mukit and Shafiullah (2012) used monthly data to ascertain Bangladesh stock exchange was affected by monetary policy in the period of the global financial crisis. The index of the Bangladesh stock exchange was employed as the dependent variable, whereas monetary policy was represented by three variables via inflation rate, repo rate and money supply. With the application of the co-integration and unit root statistical tools, the author fund that there is a unit rise in inflation rate, money supply and the repo rate would equivalently cause 2.16%, 12.98% increase and 6.0% depreciation in the performance of the stock market. There was the presence of a one-way/unidirectional relationship between inflation and the Bangladesh stock market index, and this causality runs from inflation to the stock market in Bangladesh.

Nemaorani (2012) ascertained how stock prices in the Botswana capital market is affected by variation in monetary policy of the monetary authority from 1st January, 2001 to 31st September, 2011. The study regressed nominal and real stock returns. The empirical results suggested that shifts in monetary policy indeed leads to a change in stock returns, however inconsistent with most studies on the subject matter. The coefficient of the real 91 day Bank of Botswana monetary policy rate was significant and positive which suggested that the stock prices in the Botswana stock exchange is positively and significantly related with monetary policy adjustments of the apex bank in Botswana.

Nwaogwugwu (2018) empirically examined the impact of macroeconomic policy and stock market behaviour in Nigeria. Broad Money, Interest Rate, Government Expenditure, Tax

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

66

Revenue and Gross Domestic Product have been chosen as indicators of macroeconomic policy while stock prices were used to represent stock market behaviour. The Methodology used was the ARDL bounds testing approach. The empirical findings showed that money supply and interest rate have statistically significant effects on the stock market in the short and the long run. Similarly, government spending and taxation have statistically significant effects on the stock market in the short and the long run.

Abaenewe and Ndugbu (2012) investigated the effect of monetary policy development on equity prices in the Nigerian Stock Exchange Market using annual data from 1985 to 2010. The ordinary least square regression (OLS) was run using five monetary policy variables including minimum re- discount rate, treasury bill rate, interest rate, exchange rate and consumer price index (proxy for inflation) on the equity prices (proxied by all share price index). The general result of the analysis showed a weak correlation between monetary policy and equity prices. All the explanatory variables are negatively and insignificantly related to equity prices, except the consumer price index that has insignificant positive relationship with equity prices. The study revealed that monetary policy has not made significant influence over the prices of ordinary equities in Nigeria.

Aladejare, Danjuma and Nyiputen (2018) assessed if monetary policy variables exert any sufficient effect on stock market development in Nigeria, for the time frame 1986-2015. By adopting the Johansen co-integration and error correction method (ECM) of analysis; it was found that long-term association prevails amongst monetary policy variables, and stock market development variables used in the study for Nigeria. However, going by the short-run result, this study submited that monetary policy has not significantly impacted on stock market development.

Fapetu, Adeyeye, Seyingbo and Owoeye (2017) examined the impact of exchange rate on stock market performance using monthly data of MCAP as indicators for stock market performance and monthly data on exchange rate as the parameter for measuring exchange rate volatility. Four different estimation techniques: Autoregressive Conditional Heteroscedasticity (ARCH), Generalised Autoregressive Conditional Heteroscedasticity (GARCH), Exponential Generalised Autoregressive Conditional Heteroscedasticity (EGARCH) and Threshold Autoregressive Conditional Heteroscedasticity (TARCH) were used. The results revealed that exchange rate has a positive relationship with market capitalization rate in Nigeria in all the four models examined in the study.

Nwokoye and Out (2018) investigated the impact of monetary policy on the development of the stock market in Nigeria. The study period covered from 1981 to 2015. Co-integration and vector error correction modelling (VECM) were employed for the analysis. The co-integration test indicated that there exist long run equilibrium relationship among the variables of the model. VECM result indicated that monetary policy, through the growth rate of money supply has impacted positively and significantly on the development of the stock market in Nigeria.

Onyeke (2016) investigated the impact of monetary policy on stock returns in Nigeria over the period 2003:01-2014:06. The empirical investigation was conducted using a six variable standard VAR model with six lags which includes consumer price index (CPI), inter-bank rate (IBR), open buy-back (OBB), Treasury bill rate (TBR), exchange rate (XGR) and all share index (ASI). The dynamic interactions among the variables are based on variance decompositions and impulse response functions generated from the VAR. The estimated results revealed that monetary policy variables did not have a significant impact on the prices of stock in Nigerian equity market.

Inyiama and Ekwe (2014) determined the causalities, correlation, cointegration and the relationship between the Nigeria Stock Exchange All Share Index (ASI), which is the proxy for capital market performance and macroeconomic variables proxied by monetary policy rate, inflationary rate, foreign exchange rate and real gross domestic product from 1985 to 2013. Granger Causality procedure was applied in determining the causalities, multiple regression model in the form of Ordinary Least Square (OLS) method was applied in evaluating the relationship between the dependent and independent variables while correlation technique was applied in ascertaining the strength of the relationship. Inflationary rate, exchange rate and the log of real GDP are negatively but insignificantly related to the log of All Share Index while interest rate is positively but not significantly related to All Share Index.

Harcourt (2017) empirically investigated the impact of four selected macroeconomic variables which includes inflation, prime lending rate, foreign exchange rate and real gross domestic product on the performance of the Nigerian capital market. The NSE all-share index and market capitalization were used as proxies for capital market performance. Quarterly time series data covering the period between 1986 and 2009 were used. Real gross domestic product has positive impact on the performance of the capital market in Nigeria. The study shows that the high rising inflation rate in Nigeria impacts negatively on the performance of the stock market.

Daasi, Dimoji, Collins and Sira (2015) investigated the relationship between macroeconomic variables and stock market performance in Nigeria. Using data from Nigerian Stock Exchange fact books and Central Bank of Nigeria statistical bulletin which denote secondary data analysis, the effect of macroeconomic variable on stock market performance in Nigeria was examined. The regression results showed a strong relationship between macroeconomic variables and stock market performance in Nigeria.

Ayopo, Isola and Olukayode (2015) examined the existence of any relationship between monetary policy instruments and

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

67

the stock market in Nigeria based on the data sourced from 1985 to 2013. The study applied the Autoregressive Distributed Lag bound testing estimation techniques. From the results obtained, it was deduced that monetary policy instruments significantly exerts on stock market behaviour in Nigeria.

Osuagwu (2009) investigated the impact of monetary policy variables on the performance of the stock market in Nigeria using quarterly data for twenty-four years (1984:1 – 2007:4). A linear combination of stock market index and monetary policy variables is estimated using ordinary least squares; co-integration and error-correction specification. It was observed that stock market performance is strongly determined by broad money supply, exchange rates and consumer price index in the short and long-run.

3. Methodology

In this study, an ex-post facto research design was employed. The time period was from 1986 to 2017. The data were secondary in nature, while the statistical bulletin of the Central Bank of Nigeria and factbooks of the Nigeria Stock Exchange (NSE) and Central Bank of Nigeria (CBN) annual reports served as the source of data collection. The dependent variable is All Share Index (ASI), an indicator applied to ascertain how the capital market has performed relative to adjustments in monetary policy. Four tools of monetary policy instruments are the independent variables. They are MPR for monetary policy rate, CRR for cash reserve ratio, LR for liquidity ratio and LDR for loan to deposit ratio.

A. Model Specification

This study employed the model of Nwakoby and Alajekwu (2016). The model is stated as:

$$ASI = f(MPR, TBR, INT, LR, DR)$$

Where: $ASI =$ all share index
$MPR =$ monetary policy rate
$TBR =$ treasury bill rate
$INT =$ interest rate
$LR =$ liquidity ratio
$DR =$ deposit rate.

The model has been modified by removing treasury bill rate, interest rate and deposit rate, while cash reserve ratio and loan to deposit ratio has been introduced. Consequently, the modified model of this study is stated as:

$$ASI = f(MPR, CRR, LR, LDR) \dots \dots \dots \dots \dots \dots \text{Model 1}$$

Where:
ASI = all share index
MPR = monetary policy rate
CRR = cash reserve ratio
LR = liquidity ratio
LDR = loan to deposit ratio

The econometric equation is:
$$ASI_t = \beta_0 + \beta_1 MPR_t + \beta_2 LogCRR_t + \beta_3 LogLR_t + \beta_4 LDR_t + \varepsilon_t \dots \dots \dots \dots \dots \dots \dots \text{Equ. 1}$$

$\beta_0 =$ a constant term
β_1, β_2, β_3 and β_4 are the coefficients of the regression equation
$\boldsymbol{\varepsilon} =$ the error term
$t =$ the time trend

A priori expectation is that monetary policy indices are expected to have a negative relationship with capital market performance in the context of the Nigeria economy that is, β_1, β_2, β_3, $\beta_4 < 0$

4. Findings and discussion

A. Descriptive Properties of Variables

The descriptive features of the data are contained in Table 1. The mean values of the ASI, MPR, CRR, LR and LDR are 15629.42, 13.61, 7.63, 45.17 and 65.40, while 10963.10, 13.50, 7.50, 44.30 and 66.90 reflect the median respectively. The maximum statistics are 57990.22 for ASI, 26.00 for MPR, 24.00 for CRR, 64.10 for LR and 85.70 for LDR. With the regard to the minimum statistics, the descriptive revealed their values as 163.80 for ASI, 6.00 for MPR, 1.00 for CRR, 29.10 for LR and 38.00 for LDR. The standard deviation was observed to be 14924.78 for ASI, 3.92 for MPR, 5.75 for CRR, 8.97 for LR and 12.39 for LDR. The data were skewed towards normality positively except for LDR. The data were leptokurtic in nature except for LR and LDR. From the p-values of the Jarque-Bera statistics, MPR and CRR.

B. Unit Root Test

This Augmented Dickey-Fuller (ADF) Test and Phillips Perron (PP) were the test of stationarity adopted. The test for

Table 1
Descriptive Properties

	ASI	MPR	CRR	LR	LDR
Mean	15629.42	13.60871	7.633871	45.16548	65.39613
Median	10963.10	13.50000	7.500000	44.30000	66.90000
Maximum	57990.22	26.00000	24.00000	64.10000	85.70000
Minimum	163.8000	6.000000	1.000000	29.10000	38.00000
Std. Dev.	14924.78	3.916879	5.754381	8.967720	12.38360
Skewness	0.839628	0.766244	1.209010	0.250645	-0.582239
Kurtosis	3.143551	4.886243	4.322991	2.721096	2.646180
Jarque-Bera	3.668991	7.629142	9.812954	0.425060	1.913213
Probability	0.159694	0.022047	0.007399	0.808536	0.384194
Sum	484512.0	421.8700	236.6500	1400.130	2027.280
Sum Sq. Dev.	6.68E+09	460.2583	993.3869	2412.600	4600.605
Observations	32	32	32	32	32

Source: Computer analysis using E-views 9.0

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

68

Table 2
Result of ADF Test

Variables	Intercept	Trend and Intercept	Remark
ASI	-5.300172 (0.00)*	-5.193517 (0.00)*	Stationary
MPR	-4.199524 (0.00)*	-4.240651 (001)*	Stationary
CRR	-2.276481 (0.03)**	-2.266706 (0.03)**	Stationary
LR	-6.105213 (0.00)*	-5.984285 (0.00)*	Stationary
LDR	-4.567333 (0.00)*	-4.523443 (0.00)*	Stationary

Source: E-views 9.0 Data output

Table 3
Result of PP Test

Variables	Intercept	Trend and Intercept	Remark
ASI	-6.381376 (0.00)*	-6.241616 (0.00)*	Stationary
MPR	-7.011884 (0.00)*	-6.882593 (0.00)*	Stationary
CRR	-4.711611 (0.00)*	-4.769737 (0.00)*	Stationary
LR	-10.35370 (0.00)*	-10.56588 (0.00)*	Stationary
LDR	-5.065653 (0.00)*	-5.027367 (0.00)*	Stationary

Source: E-views 9.0 Data output

stationarity was conducted at first difference and in two sets: intercept and trend intercept. The results of the ADF and PP tests show that all the variables are stationarity at first difference. The unit root test are detailed in Table 2 and 3.

C. Residual and Stability Test

The residual (serial correlation and heteroskedasticity) and stability (Ramsey specification) was processed. Table 4 and 5 give the residual diagnosis of the model, while Table 6 took care of the model stability diagnostic. From Table 4, the serial correlation LM test presents no autocorrelation in the model (p-value > 0.05). In Table 5, the model has no heterskedasticity problem (p-value > 0.05), whereas Table 6 discloses that the model is well specified (p-value > 0.05).

D. ARDL Co-integration

The ARDL co-integration takes into account the mixed order of integration of variables and eliminates possible bias alleged by non-integration at same order. The ARDL result as shown in Table 10 is monetary policy tools are not related in the long-run with capital market performance in Nigeria. This assertion is on the argument that the F-statistics for the model is less than upper bound critical value (3.936557<4.01) at 5% level of significance.

E. Regression Results

The ARDL regression technique was used in the determination of the short run dynamics that exists between monetary policy and performance of the Nigerian capital market. The regression outputs were evaluated using the coefficient of the individual variable, Adjusted R-squared, F-statistic and Durbin Watson statistic.

F. Monetary Policy Tools and Capital Market Performance

From Table 8, monetary policy rate and loan to deposit ratio are negatively related with performance of the capital market. Cash reserve ratio has negative insignificant relationship with capital market performance, while liquidity ratio is positively and insignificantly related with capital market performance in Nigeria. Holding monetary policy rate, cash reserve ratio,

Table 4
Serial Correlation LM Test

Obs*R-squared	F-statistic	Prob.
10.54178	1.717611	0.1686

Source: E-views 9.0 Data output

Table 5
Heteroskedasticity Test

Obs*R-squared	F-statistic	Prob.
4.174480	1.011504	0.4196

Source: E-views 9.0 Data output

Table 6
Ramsey Reset Specification

F-statistic	Likelihood Ratio	df	Probability
3.317006	3.862188	(1, 25)	0.0806

Source: E-views 9.0 Data output

Table 7
Bound Test for ASI, MPR, CRR, LR and LDR

T-Test	5% Critical Value Bound		Remark
F-Statistic	Lower Bound	Upper Bound	
3.936557	2.86	4.01	Null Hypothesis Accepted

Source: E-views 9.0 Data output

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

69

Table 8
ARDL Regression: ASI, MPR, CRR, LR and LDR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASI(-1)	0.707118	0.114461	6.177801	0.0000
MPR	-879.2313	424.7182	-2.070152	0.0500
CRR	-753.7310	539.7476	-1.396451	0.1779
CRR(-1)	-453.5115	724.6834	-0.625806	0.5385
CRR(-2)	2216.515	725.4449	3.055387	0.0062
LR	71.66203	200.0783	0.358170	0.7240
LR(-1)	-177.2200	190.3246	-0.931146	0.3629
LDR	-410.7854	143.9000	-2.854658	0.0098
C	43832.01	17590.87	2.491748	0.0216
R-squared	0.862941	Mean dependent var		16695.08
Adjusted R-squared	0.808117	S.D. dependent var		14846.84
S.E. of regression	6503.578	Akaike info criterion		20.64722
Sum squared resid	8.46E+08	Schwarz criterion		21.07155
Log likelihood	-290.3847	Hannan-Quinn criter.		20.78011
F-statistic	15.74029	Durbin-Watson stat		2.161168
Prob (F-statistic)	0.000000			

Source: E-views 9.0 Data output

Table 9
Granger Causality Estimation

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
MPR does not Granger Cause ASI	29	0.02245	0.8820	No Causality
ASI does not Granger Cause MPR		6.11192	0.0200	Causality
CRR does not Granger Cause ASI	29	0.73154	0.3999	No Causality
ASI does not Granger Cause CRR		0.48722	0.4911	No Causality
LR does not Granger Cause ASI	29	1.69889	0.2034	No Causality
ASI does not Granger Cause LR		0.59385	0.4476	No Causality
LDR does not Granger Cause ASI	29	2.03667	0.1650	No Causality
ASI does not Granger Cause LDR		1.82868	0.1875	No Causality

Source: E-views 9.0 Data output

liquidity ratio and loan to deposit ratio would result in 43832.01 points appreciation in the performance of the Nigerian capital market. The performance of the capital market would decrease by 879.23 consequent to a unit increase in monetary policy rate. A unit increase in cash reserve ratio leads to 753.73 points decline in capital market performance. A unit rise in liquidity ratio would improve capital market performance by 71.66 points. A percentage increase in loan to deposit ratio results in 410.79 depreciation in performance of the capital market.

The Adjusted R-squared reveals that 80.81% variation in capital market performance was as a result of joint fluctuation in monetary policy tools of monetary policy rate, cash reserve ratio, liquidity ratio and loan to deposit ratio. The significance value (5% significance level) of the F-statistic suggests that monetary policy tools significantly explained that changes in Nigerian capital market performance. The Durbin Watson statistic of 2.16 entails no autocorrelation in the model. Furthermore, the serial correlation LM test in Table 6 provided evidence of no autocorrelation in the model.

G. Granger Causality Estimation

The granger analysis was used to show the effect of monetary policy tools on capital market performance. The regression output in Table 9 shows the absent of one-way/unidirectional or two-way/bidirectional relationship between monetary policy tools: monetary policy rate, cash reserve ratio, liquidity ratio and loan to deposit ratio of the Central Bank of Nigeria and performance of the Nigeria's capital market. In essence, tools of monetary policy visa viz: monetary policy rate, cash reserve

ratio, liquidity ratio and loan to deposit ratio do not significantly influence capital market activities as denoted by all share index. To amazement, it was discovered that monetary policy rate was significantly affected by the performance of the capital market. The assumption is on the existence of a one-way/unidirectional linkage between all share index and monetary policy rate. Causality is from all share index to monetary policy rate and significant at 5%.

H. Discussion of Findings

1) Relationship between Monetary Policy and Capital Market Performance

The relationship that was observed for monetary policy rate and capital market performance in Table 8 signals the relevance of monetary policy rate adjustment on production and consumption. This points toward the direction that monetary policy rate of the Central Bank of Nigeria is high to attract considerable investment in the capital market. Economists are of the opinion that the current monetary policy rate of 14% is high as it adversely increases prime lending rate which is above 23%. The high interest rate in the country makes investment in the capital market unattractive, hence frequent volatility in securities prices owing to fluctuation in cost of funds. High level of interest rate seriously affects as the cost of trading on securities. The high cost of trading on the market points to the inefficiency of the capital in pooling the necessary resources for infrastructural growth in Nigeria when compared countries like United Kingdom, South Africa and China among others. This finding attests to previous empirical results of Muktadir-Al-

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

70

Mukit (2013), Mohamadpour, Behravan, Espahbodi and Karimi (2012), Chen and Xie (2016) and Hsing (2013) whom established the presence of a negative linkage between monetary policy rate and performance of capital markets in Poland, China, Iran and Bangladesh. However, this is in sharp contrast to Nwakoby and Alajekwu (2016) who found a positive insignificant relationship existing between monetary policy rate and capital market performance in Nigeria.

The cash reserve ratio having a positive relationship with capital market performance refutes the studies of Singh (2014) for India, Hsing (2013) for Poland and Nwakoby and Alajekwu (2016). Nevertheless, it tallies with Chen and Xie (2016) for China Stock Exchange. This study would not affirm to the presence of a long run relationship between monetary policy tools and capital market performance in Nigeria as previously reported by Nwakoby and Alajekwu (2016). Loan to deposit ratio has significant negative relationship with performance of the capital market, while liquidity ratio is positively and insignificantly related with capital market performance in Nigeria. A unit rise in liquidity ratio would lead to 71.66 points increase in capital market performance. A percentage increase in loan to deposit ratio results in 410.79 depreciation in performance of the capital market.

2) Granger Causality Analysis

The Granger analysis in Table 9 reveals that monetary policy rate, cash reserve ratio, liquidity ratio and loan to deposit ratio has no significant effect on the performance of Nigerian capital market. Rather, it appears that it is the performance of the capital market that affects monetary policy rate. This would be attributed to instability in macroeconomic environment and the prevailing high cost of production incurred by firms. Again, the inability of the monetary policy tools to predict or influence capital market performance would be owed to the underdeveloped nature of the financial system. Monetary policy rate following the direction of all share index could be that the apex bank looks at the performance trend in the market in setting monetary policy targets. This could be that the Central Bank of Nigeria is trying to fulfil its mandate of ensuring financial stability by ensuring development of the capital market in a bid to create expansion in mobilization of resources through the capital market.

5. Conclusion and recommendations

It would be illogical to dispute the significant role that monetary policy plays in financial development, financial stability as well as shaping the pattern of activities in the capital market. Nigerian capital market is still in its developing stage thus requiring carefully and appropriate policy implementation by the Central Bank of Nigeria to enhance its development and competitiveness in the global economy. This study has shown that capital market deepening would be realised if monetary authority considers the influence of monetary policy adjustment on capital market activities and the economy as a whole.

In the light of the result from the regression output, this research work makes the following recommendations, and hoping that our policymakers will consider them while taking monetary policy decisions that affect the overall performance of the economy:

1. The present double digit of the Central Bank of Nigeria monetary policy rate be lowered to a single unit to help in the attraction of investments in the capital market especially from the foreign investors. The cash flows of firms which a listed on the exchange would experience contraction in there share values.
2. Cash reserve ratio at 22.5% should be reduced to say: 10%-12% to help sustain the level of money supply in the economy to propel investors desire to invest in order to raise the market index.
3. The Central Bank should exercise cautious and properly consider the prevailing macroeconomic condition in decreasing or increasing liquidity ratio due to its potential in fuelling or deterring inflation which affects prices of shares.
4. Monetary policy decision that would guarantee adequate flow of credit should be pursued vigorously by the monetary authority. Adequate level of liquidity offers firms' in the capital market better access to financial resources which will increase their revenue and translated in securities prices.

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71

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International Journal of Research in Engineering, Science and Management
Volume-2, Issue-7, July-2019
www.ijresm.com | ISSN (Online): 2581-5792

72

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