Empirical Analysis of Monetary Policy on Capital Market Activities: Evidence from Nigerian Economy

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ABSTRACT

This research study examined the effects of monetary policy on capital market activities using evidence from Nigeria Economy, 1980 – 2013. The purpose of this study is to investigate the nature of the relationship between monetary policy instruments as our independent variables proxied by Broad Money Supply (M_2), Liquidity Ratio (LIR), Interest Rate (INTR), Monetary Policy Rate (MPR) and Treasury Bill Rates (TBR) while the dependent variable capital activities are represented by All Share Price Index (ASPI) and Market Capitalization (MC). In course of this study, secondary data were sourced from the Central Bank of Nigeria Statistical Bulletin, the granger causality test and the Johansen co-integration test in a Vector Error Correction Model (VECM) setting were employed. The empirical result demonstrate that there exists a long-run equilibrium relationship between monetary policy tools such Broad Money Supply (M_2), Liquidity Ratio (LIR), Interest Rate (INTR), which has a positive significant effect on Market Capitalization (MC) while Monetary Policy Rate (MPR) and Treasury Bill Rates (TBR) has negative and insignificant relationship on Market Capitalization (MC). In model II, the results shows that the independent variables have positive and significant relationship with the dependent variables of All Share Price Index (ASPI) except Monetary Policy Rate (MPR). The model summary revealed an R^2 of 75% in model I and R^2 of 94% in model II meaning that there is a strong and positive relationship between the dependent and independent variables during the period. The study also shows that there is no bi and uni directional causality running from the dependent and independent variables in the models except a uni directional causality running from Money Supply (M_2) to Market Capitalization (MC) in model I. It was recommended that Monetary Policy tools should be used for the purpose of enhancing efficient capital market dynamics.

Keywords: *Monetary Policy, Capital Market Dynamics, Market Capitalization, All Share Price Index and Long Run Equilibrium*

INTRODUCTION

The financial market which includes the capital market is the transmission mechanism for the government monetary policy. Monetary policy is to the monetary authorities what the farm instruments are to the farmer (Onoh, 2007). Capital market is a form of financial institution set up for granting of medium and long term loans. In this market investors provide long-term funds in exchange for long-term financial assets offered by borrowers and such securities can be raised in an organized market such as the stock exchange (Akani, 2013). The monetary policy function in Nigeria is exclusively reserve for the Central Bank of Nigeria as contained in Section 7 of Central Bank of Nigeria Decree 1959 as amended. The Nigerian capital market activities such as security pricing prior to the deregulation in 1993 was under the control of Securities and Exchange Commission (SEC).

Theoretically, the assumption of the inter-relationship between monetary aggregates and the general economic activities dates back to the monetarists such as Milton Friedman in his quantity theory of money and Irvin fishers in the equation of exchange which assigned significant effect to the role of monetary policy in determining the price level and other economic activities (Akani & Lucky, 2014). The Nigerian capital market was established in 1960 to meet investors and fund users needs in medium and long-term financial assets. The qualitative measures of the performance of the market include, the All Share Price Index (ASPI), market capitalization, total volume of transaction and variation in aggregate stock price.

There are several schools of thought that offer theoretical explanation for the behaviour of the capital market in relation to monetary variables. To the fundamentalists, the activities such as stock price are determined by expectations regarding future earnings considering the future discount rate (Kevin, 2000). The Technical school beliefs that present stock price is a linear function of the preceding price. The Random Walk Hypotheses opined on the market efficiency that stock price are essentially random therefore, there is no change for profitable speculation in the stock market (Butler and Malaikah, 2002). The macroeconomic approach argues that stock prices are sensitive to changes in macroeconomic variables (Inegbedion, 2009). Gordon, Miller and Modigliani argued stock price based on dividend policy of the firm (Maku and Atanda, 2009), while Capital Assets Pricing Model (CAPM) and the Arbitrage Pricing Model (APM) argued that the price of stocks is a fundamental function of the risk factor and the market rate of return. In Nigeria, it is difficult to determine factors that influence the stock price as the monetary and the macroeconomic environment is prone to external and internal forces. For instance, the capital market crash of 2007 was blamed to margin loans from the banking sector and the global financial crisis.

Monetary policy instruments whether direct or indirect can affect positively or negatively to the activities of capital market ass presented in theories and empirical findings. In search of ways to improve the Nigerian capital market to withstand monetary and macroeconomic shocks, Nigerian government has over the years embarked on structural, institutional and policy reforms, for instance the internationalization of capital market, the introduction of Central Security Clearing System (CSCS), quantitative increases the traded equities, the deregulation of the stock price and establishment of Second Tier Securities Market.

Therefore, this study tends to;

(i) X-ray the effects of monetary policy on capital market activities using All Share Price Index (ASPI) and Market Capitalization (MC) as our dependent variable and monetary policy tools such as Broad Money Supply (M_2), Liquidity Ratio (LIR), Monetary Policy Rate (MPR), Interest Rate (INTR) and Treasury Bill Rate as our independent variables.

(ii) This study will establish the causal relationship between monetary policy tools and All Share Price Index (ASPI) and Market Capitalization (MC).

(iii) The study will further establish the behavioural relationship between All Share Price Index (ASPI) and Market Capitalization (MC) and monetary policy tools using analytical descriptive statistics to virtualize its relationship.

Objectives of the study

The general purpose of this study is to examine the relationship between monetary policy and Nigeria capital market activities. The specific objectives are:

1. To investigate the existing relationship between money supply and the capital markets activities in Nigeria.

2. To examine the impact of liquidity ratio on the capital market activities in Nigeria.

3. To study the extent to which monetary policy rate affect the capital market activities in Nigeria.

4. To examine the relationship between Real interest rate and Nigerian capital market activities.

5. To investigate the impact of broad money supply on Nigeria capital market activities.

6. To study the impact of Treasury bill rate on the Nigeria capital market activities.

Research Questions

From the above stated research objectives, the following questions were formulated:

1. To what extent does money supply affect capital markets activities in Nigeria?

2. To what extent does liquidity ratio impact on the capital market activities in Nigeria?

3. To what extent does monetary policy rate affect the capital market activities in Nigeria?

4. To what extent does Real interest rate affect Nigerian capital market activities?

5. To what extent does Broad money supply affect Nigeria capital market activities?

6. To what extent does Treasury bill rate impact on the Nigeria capital market activities?

Research Hypotheses

From the above research questions, the following null hypotheses were formulated:

H_{01}: There is no significant relationship between money supply and capital markets activities in Nigeria.

H_{02}: There is no significant relationship between liquidity ratio and capital market activities in Nigeria.

H_{03}: There is no significant relationship between monetary policy rate and capital market activities in Nigeria.

H_{04}: There is no significant relationship between Real interest rate and Nigerian capital market activities.

H_{05}: There is no significant relationship between Broad money supply and Nigeria capital market activities.

H_{06}: There is no significant relationship between Treasury bill rate and Nigeria capital market activities.

Empirical Review

Akani & Lucky (2014) examined the relationship between various components of money supply and stock price in Nigerian stock exchange using time series data from 1980 – 2013 with the aid of econometric view tools such as co integration, unit root, Granger causality and vector error correction. The result has an overall R2 of 89.5%, the direction of causality between money supply measures and aggregate stock price is mixed.

Chami, Cosimano and Fullerkamp (1999), for example, suggest the existence of a stock market channel of monetary policy besides the traditional interest rate and the credit channels. In their view, inflation induced by monetary expansion reduces the real value of the firms' assets which acts as a tax on capital stock. This could be viewed from two perspectives: first, the real value of the flow of dividends is reduced with higher inflation, and second, dividends are reduced because higher inflation reduces the supply of labor, and hence fall in production. The traditional interest rate channel was also equally investigated by Bernanke and Blinder (1992), Thorbecke (1997) and Rigobon and Sack (2003).

Alternatively, the discounted cash flow model argues that stock prices are equal to the present value of expected future net cash flows. A model by Campbell (1991) applied by Bernanke and Kuttner (2005), showed that a surprise increase in the MPR decreases stock prices in three ways:

- Decreasing the expected future dividends
- Increasing the future risk-free rate
- Increasing the equity premium (above the risk free rate) required to hold equities.

Monetary policy should, thus, play an important role in determining equity returns either by altering the discount rate used by market participants or by influencing market participants' expectations of future economic activity. In this regard, restrictive monetary policy is associated with lower stock prices given the higher discount rate for the expected stream of cash flows and/or lower future economic activity, while expansionary policy is commonly viewed as good news because it is usually associated with low interest rates, increases in economic activity and higher earnings for the firms in the economy. A study by Fair (2002) showed that one-third of the changes in the equity prices are associated with news on monetary policy.

From the foregoing, the impact of monetary policy shocks on stock prices during crisis can be different in a number of direct and indirect ways – Pennings, Ramayandi and Tang (2011). A rise in the MPR, which leads to first round falls in stock prices, they argued could lead to a second round of selling induced by margin calls.

Mishkin (2009) found that a cut in the MPR during crisis leads to a larger-than-normal rise in expected future dividends, and hence a larger-than normal rise in stock prices. Conversely, when MPR cuts are passed on to firms, then the effect of policy on future profitability is weaker, and so policy changes during the crisis have smaller effect on stock prices. However, policy announcements that involve keeping the rates lower for longer period during crisis, such as in the US during the global financial crisis, may reduce the expected risk free rate by more than is normally expected. Mishkin (2009) further argued that a change in MPR may also have a stronger effect on risk premia during crisis and this concurs with the earlier study by Bernanke and Kuttner (2005) for the US economy. Another important channel of monetary policy transmission identified in the literature is expectation or perception of economic agents on the actions of the monetary authorities.

Monetary shocks could influence expectations about the future course of real activity – labor income, unemployment, sales and profits, in the economy, and the confidence with which those expectations are held (in addition to the inflation expectations already mentioned). The direction in which such effects work is hard to predict, and can vary from time to time. A rise in the monetary policy rate (MPR) could, for instance, be interpreted as indicating that the monetary policy committee (MPC) believes that the economy is likely to be growing faster than previously thought, giving a boost to expectations of future growth and confidence in general. In contrast, same could be interpreted as signaling that the MPC recognizes the need to slow the growth in the economy in order to hit the inflation target, and this could dent expectations of future growth and lower confidence.

Jensen and Johnson (1995) demonstrated that monetary policy developments are associated with patterns in stock returns. They showed that long-term stock returns following discount rate decreases are higher and less volatile than returns following rate increases. Their study builds on Waud's (1970) suggestion that discount rate changes affect market participants' expectations about monetary policy. In line with the earlier argument by the rational expectation model, this paper seeks to distill the effect of monetary policy shocks into anticipated and transitory components.

From the empirical corridor, a number of studies have applied different methodologies to assess the effects of monetary policy shocks on stock market returns volatility. Jensen, Mercer and Johnson (1996) suggested that monetary environment affects investors' required returns. See also

Fama and French (1989), Jensen et al. (1996), Booth and Booth, 1997). Other empirical studies indicated an asymmetry between business conditions and stock returns; business conditions could predict future stock returns only in periods of expansive monetary policy. Relating this to the US stock market, Conover, Jensen and Johnson (1999) argued that not only the US stock returns, but also returns on foreign markets hinge with the US monetary environments (as well as their local monetary environment). They found that stock returns in twelve OECD countries over the period 1956-1995 are generally higher in expansive US and local monetary environments than they are in restrictive environments.

Thorbecke (1997) using a VAR methodology found that that monetary policy shocks have a greater impact on smaller capitalization stocks, which is in line with the hypothesis that monetary policy affects firms' access to credit (see Gertler and Gilchrist, 1993). Furthermore, he showed that expansionary monetary policy exerts a large and statistically significant positive effect on monthly stock returns.

Cassola and Morana (2004) applied the co integrated VAR system which includes real GDP, inflation, real M3 balances, short term interest rate, bond yield, and real stock prices to examine the transmission mechanism of monetary policy in the Euro area. Their results from impulse response analysis indicate that a permanent positive monetary shock has a temporary positive effect on real stock prices.

Chiang and Chiang (1996) examined the impact of predicted money growth volatility, predicted real output volatility, predicted exchange rate volatility and predicted US stock market volatility on the market volatility of Canada, Japan, United Kingdom and Germany markets. Their findings showed that only the US market volatility has a significant positive impact on the four countries' stock return volatility. Kearney and Daly (1998) presented evidence that the conditional volatility of interest rate and inflation are directly related to the Australian stock market volatility whereas money supply, industrial production and current account deficit are indirectly related to the market's stock volatility. Money supply was found to be the most significant variable in the model.

Beltratti and Morana (2006) explored the casual linkages from macroeconomic volatility to stock market volatility. They reported that a prolonged period of high stock market volatility during the phase of economic growth is associated with an increase in money growth volatility. Empirical findings by Farka (2008) indicated that an unanticipated rise in policy rate by 1 percent causes a decline of around 5.6 percent in stock returns. This exceeds the typical estimates of 2.5 – 4 percent found in previous studies (see, for example, Jensen, Johnson, and Mercer (1996), Reinhart and Simin (1997), Thorbecke (1997), Fair (2002), Jensen and Mercer (2002), Rigobon and Sack (2004), and Bernanke and Kuttner (2005)).

Farka (2008) further showed that policy shocks have a significant impact on the conditional volatility of stock returns with the latter displaying a tent-shaped pattern, that is, abnormally low several hours before announcement — calm-before-the-storm-effect, increasing significantly

during the announcement period, declining steadily while still remaining elevated after the announcement, and continuing to decrease on the day following the policy release. See also Lobo (2000, 2002) and Bomfim (2003) who report similar volatility pattern using a daily data on a more recent study by Abdul Qayyum and Anwar (2011) showed that markets returns in Pakistan are not only affected significantly by its lag, but, by monetary policy via variations in the repo rates. An increase (decrease) in the repo rates, indicating a monetary policy tightening (expansionary), according to them decreases (increases) the returns to the stock market. This implies that the monetary policy has a positive impact on the volatility of the stock market.

Okoli (2009) studied the Nexus between financial deepening and stock market development in Nigeria. Using the GARCH model, she evaluated the variability between financial deepening variables and stock market returns for the period between 1980 and 2010. Besides indicating that there was a significant relationship between financial deepening and stock market returns, the study also indicated that financial deepening reduces the level of risk (volatility) in the stock market. By the very nature of the study, the long-run impact of financial deepening variables on the stock market trend in Nigeria is not evaluated.

Omole (1999) carried out a study on financial Deepening and Stock Market Development in Nigeria. His study focused on the impact of financial liberalization on the development of the Nigerian Stock market between 1970 and 1994. The proxies adopted were based on data predicated on the Nigerian stock market, Money supply, interest rate and exchange rate. He utilized econometric multiple regression analysis to explain the impact of financial deepening on stock market trend. The study showed that though, financial deepening was still weak in Nigeria given the magnitude of overall economic activities, it had capacity to stimulate the development of the stock market. The study concluded that monetary policies adopted over time in the country did not sufficiently deepen the financial system. The limitation of this study is that the methodology adopted is basically short-run. The study did not cover the period of major Banking reforms in Nigeria. Various studies exist in the effort to link the development of stock markets around the world with the pace of economic growth

Caporale and Soliman (2004) observe that an organized and managed stock market stimulate investment opportunities by recognizing and financing productive projects that lead to improved economic activity, mobilize domestic savings, capital allocation proficiency, and help to diversify risks, and facilitate exchange of goods and services. Stock markets are expected to increase economic growth by increasing the liquidity of financial assets, make global and domestic risk diversification possible, promote wiser investment decisions, and positively influence corporate governance practices by increasing shareholders' interest value.

Ted Lazar et al (2005) examined the empirical association between stock market development and economic growth in India. The authors found no evidence of association between the Indian stock market development and economic growth in the entire period they studied. Whereas the authors found support for the relevance of stock market development in economic development during pre-liberalization, they discovered a negative relationship between stock market development and economic development for the post liberalization period.

Enisan and Olufisayo (2009) through autoregressive distributed lag (ARDL), evaluate the long-run relationship between stock market development and economic growth in seven of the Sub-

Saharan African countries. The results indicate that stock market has a positive and significant impact on growth. Causality results indicate unidirectional causality from stock market development to economic growth for both South Africa and Egypt. While Cote D'Ivoire, Kenya, Morocco and Zimbabwe indicate bidirectional causality, Nigeria on the other hand shows weak evidence that growth causes finance.

Osinubi (1998) examines whether stock market promotes economic growth in Nigeria between the period 1980 and 2000. The study employed the Ordinary Least Squares (OLS) regression technique as the method of data estimation. The regression results, confirms that there exist positive relationship between the economic growth and the measures statistically insignificant. This in essence means that the effect of stock market on economic growth is weak and insignificant considering the stock market development used. However, these relationships are statistically insignificant. This in essence means that the effect of stock market on economic growth is weak and insignificant.

METHODOLOGY AND DATA

In carrying out country-specific and time-series analysis of data in financial econometrics, it is important to examine the stationarity properties of the time series. A time series is stationary if its mean, variance and auto-covariance are not time-dependent. Hence any series that is not stationary is called non-stationary. Two basic types of time series models exist and these are autogressive (AR) models and the moving average process (MA).

An AR model is one where the current value of a variable Y depends upon only the values that the variable took in previous periods plus an error term. Thus, an AR model of order P, denoted as AR (Ip) can be expressed as:

$Y_t = \square + \phi Y_{t-1} + \phi_2 Y_{t-2} + \ldots \phi Y_{t-p} + \square_4$ (1)

Where $\square_4$ is a white noise disturbance term. Alternatively, (2) can be written as:

$Y_t = \square + \sum\phi_1 Y_{t-1} + \square_4$ (3)

Where $\square$ is a constant and $\phi_1 \ldots \phi_p$ are parameters of the model or using the lag operator, it becomes:

$$\sum_{i=1}^{\rho} Y_1 = \square + \phi_1 L^1 Y_1 \square_4 \quad (4)$$

Or $\phi(L)Y_t = \square + \square_t$ where

$\phi(L) = (1-\phi_1 L - \phi_2 L^2 \ldots \phi_\rho L^\rho)$ (5)

On the other hand, if U_t is a white noise process with E (U_t) = 0 and Var (Ut) = a^2, then

$Yt = \square + U_t + \phi_1 U1\ U_{t-1} + \phi_2 U_{t-2} + \ldots\ldots\ldots + \phi_q\ Ut\text{-}q$ (6)

is a q^{th} moving average model denoted MA (q) (7)

can be restated as:

$$Y_t = \alpha + \sum_{i=1}^{q} \phi_i U_{t-1} + U_t$$ (8)

Thus, a moving average (MA) model is linear combinations of white noise process such that Y_t is a function of current and lagged values of a white noise disturbance process. (Brooks, 2008). Using the lag operator notation, equation (7) becomes:

$$Y_t = \alpha + \sum_{i=1}^{q} \phi_i L^i U_t + U_t$$ (9)

Or as $Y_t = \alpha + \phi(L)\, U_t$ where

$\phi L = 1 + \phi_1 L + \phi_2 L^2 + \ldots\ldots\ldots + \phi_q L^q$ (10)

However, by combining this AR (p) and MA (q) models an ARMA (p,q) model is obtained. Thus, in an ARMA model, the current value of some series Y_t depends linearly on its own previous values plus a combination of current and lagged values of a white noise error term. This can be stated as:

$Y_t = \square + \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \ldots + \phi_p Y_{t-p} + \phi_1 U_{t-1} + \phi_2 U_{t-2} + \ldots \phi_q U_{t-q}$ (11)

Where

$E(U_t = 0);\ E(U_t^2) = \square^2;\ E(U_t\ U_3) = 0,\ t \neq s$ (12)

It is evident from the foregoing that stationarity in a time series is a desirable property for an estimated AR model. The reason being that a model whose co-efficients are non-stationary will have a non-declining effect on the current values of Y_t as time progresses which is counter productive, empirically defective and could lead to spurious regressions.

The literature of financial econometrics is replete now with ample tests for stationarity in time series data as well as different treatments to induce stationarity. Hence, in this paper, the Augmented Dickey – Fuller (ADF) (1981), unit tests are employed to check whether the series data are stationary or not. That is, consider an AR (1) process:

$Y_t = \square + \phi\ Y_{t-1} + \square_4$ (13)

Where □ and ϕ are parameters of the model and □$_4$ is a white noise disturbance term. Y_t is stationary, if and only if, -1< 1ϕ1 <1. However, if ϕ = 1, then Y_t is a non-stationary series. That is, if the time series is started at some point (t), the variance of X_t increases steadily with time and goes to infinity. On the other hand, if the absolute value of 1ϕ1 is more than t, then the series Y_t is explosive. Hence, the hypothesis of a stationary series is usually tested whether the absolute value 1ϕ1 is strictly less than unity. Thus, for testing unit root, Y_{t4} is subtracted from both sides of eq.(13), then we have:

$$\Delta Y_t = \square + \Psi Y_{t-1} + \square_4 \quad (14)$$

Where Ψ = (ϕ - 1) and the null hypothesis can be tested as Ho: Ψ = 0. This unit root test is however only applicable where the series is an AR (1) process. For higher order serial correlation in the series, the assumption of white noise disturbance term is violated. However, the ADF test corrects for high order correlation by making the assumption of an AR(p) process as:

$$\Delta Y_t = \square + Y_{t-1} + \sum_{j=1}^{p} \Delta Y_{t-j} + \square_4 \quad (15)$$

That is, the additional lagged terms are included to ensure that the errors are uncorrelated. Hence, if the calculated i=1ADF statistic is less than their critical values from the fuller's table, then the null hypothesis Ho: Ψ = 0 is accepted and the series are non-stationary or not integrated of order zero. Thus, to induce stationarity, many time series need to be appropriately differenced. Hence, a time series is said to be integrated of order d, if it has become stationary after differencing it d times. (Brooks, 2008).

In this paper, we examine whether the time series are co-integrated by adopting the method of Granger (1969). That is, two or more variables are said to be co-integrated if each variable individually is integrated of order one, but a linear combination of the variables is integrated of lower order say zero.

Thus, a long-run relationship between the variables is present when there exists at least one co-integrating vector. That is, if Y_{1t} and Y_{2t} are co-integrated 1 (1) so that □t, 1(0), then this implies that there exists a long-run equilibrium between Y_{1t} and Y2t to which the system converges overtime and the disturbance term can be construed as the disequilibrium error. The first step in the Engle and Granger (1987) co-integration method is to estimate the co-integrating equation.

$$Y_t = \square_0 + \square_1 X_t + U_t \quad (16)$$

and then to calculate the residual

$$U_t = Y_t - \square_0 - \square_1 X_t \quad (17)$$

Then we check the stationarity of the residuals. Hence, if Y and X are co-integrated the error term will be stationary and this is accomplished by testing the residuals of co-integrating regression for stationarity by performing ADF unit root tests.

GRANGER CAUSALITY TEST

To determine the direction of causality between the variables, we employ the standard Granger causality test. (Granger, 1969). The test is based on vector error correlation model (VECM) which suggests that while the past can cause or predict the future, the future cannot predict or cause the past. Thus, according to Granger (1969). X Granger causes Y if past values of X can be used to the past values of Y. The test is based on the following regressions:

$$Y_t = \alpha_o + \sum_{i=1}^{n} \alpha_1^{\,y} Y_{t-1} \sum_{i=1}^{n} X_{\alpha 1} \times U_t$$

(18)

and

$$X_t = \beta_o + \sum_{i=1}^{n} {}^{y}_{\beta_1} Y_{t-1} \sum_{i=1}^{n} X_{\beta_1} \times Y_t$$

(19)

Where X_t and Y_t are the variables to be tested while □ is the white noise disturbance terms. The null hypothesis $□_1 = \beta_1^{Y} = 0$ for all 1's is tested against the alternative hypothesis $□_1 \neq 0$ and $\beta_1^{Y} \neq 0$. If the co-efficient of $□_1$ are statistically significant but that of β_1^{Y} are not, then X causes Y. If the reverse is true, then Y cause X. However, where both co-efficient of $□_1$ and β_1^{Y} are significant then causality is bi-directional.

MODEL SPECIFICATION

In this sub-section, a model that seeks to examine the effects of monetary policy on capital market activities; The models are written as:

MC = f(M_2, LIR, MPR, IR and TBR) (20)

ASPI = f(M_2, LIR, MPR, IR and TBR) (21)

Transferring equ (1 and 2) into a testable form, we obtain the following regression equation;

$$MC = b_o + b_1 M_2 + b_2 LIR + b_3 MPR + b_4 IR + b_5 TBR + e_1 \quad (22)$$

$$ASPI = a_o + a_1 M_2 + a_2 LIR + a_3 MPR + a_4 IR + a_5 TBR + e_2 \quad (23)$$

Where; b's, a's = Regression Coefficients

MC - Market Capitalization

ASPI - All Share Price Index

MS - Money Supply

LIR - Liquidity Ratio

MPR - Monetary policy rate

IR - Interest Rate

TBR - Treasury Bill Rate

$e_1 – e_2$ - Error term (unexplained variation)

Therefore, a priori expectation ($b_1 > b_2 > b_3 > b_4 > b_5 > 0$ and $a_1 > a_2 > a_3 > a_4 > a_5 > 0$)

DATA

This study used secondary data obtained from the Central Bank of Nigeria statistical bulletin, Stock Exchange Factbook, Annual Report as well as the Annual Reports of National Bureau Statistics (NBS) various years. Present the descriptive analyses of the data in respect of monetary policy instruments or tool such as Money Supply (MS), Liquidity Ratio (LIR), Monetary Policy Rate (MPR), Interest Rate (IR), Treasury Bill Rate (TBR), and our dependent variables proxied Market Capitalization (MC) and All Share Price Index (ASPI) during the period under review using line graphs and bar chart.

Table1. Data presentation and Monetary Policy Tools and Capital market Activities from 1980 – 2013

EAR	MC	ASPI	M2	LIR	MPR	INTR	TBR
1980	-	-	-	-	-	-	-
1981	-	304.8	14.47	38.5	6.00	6.50	5.00
1982	-	215.0	15.79	40.5	8.00	8.00	7.00
1983	-	397.9	17.69	54.7	8.00	10.00	7.00
1984	-	256.5	20.11	65.1	10.00	10.00	8.50
1985	5.5	316.6	22.30	65.0	10.00	10.00	8.50
1986	7.1	497.9	23.81	36.4	10.00	15.80	11.75
1987	8.3	382.4	27.57	46.5	12.75	14.30	11.75
1988	10.1	850.3	38.36	45.0	12.75	1.20	17.50
1989	14.1	610.3	45.90	40.3	18.50	23.00	17.50
1990	22.2	225.4	52.86	44.3	18.50	20.10	15.00
1991	33.9	242.1	75.40	38.6	14.50	20.50	21.00
1992	47.9	491.7	111.11	29.1	17.50	28.02	26.90
1993	66.8	804.4	165.3	42.2	26.00	15.00	12.50
1994	95.4	985.9	230.29	48.5	13.50	14.27	12.25
1995	220.4	1,838.8	289.09	33.1	13.50	13.55	12.00
1996	302.6	6,979.6	345.85	43.1	13.50	7.43	12.95
1997	278.7	10,330.5	413.28	40.2	13.50	10.09	18.88
1998	256.9	13,571.1	488.15	46.8	14.31	14.30	15.02
1999	294.1	14,072.0	628.95	61.0	18.00	10.09	14.21
2000	466.1	28,153.1	878.46	64.1	13.50	15.57	7.00
2001	466.1	57,683.8	1,269.32	52.9	14.31	11.88	6.91
2002	648.4	59,406.7	1,505.96	52.5	19.00	12.21	9.55
2003	718.7	120,402.6	1,952.92	50.9	15.75	8.68	1.30
2004	1,324.9	225,935.8	2,131.82	50.5	15.00	8.26	0.95
2005	1,925.9	262,935.8	2,637.91	50.2	13.00	9.49	5.56
2006	2,523.5	470,253.4	3,797.91	55.7	12.25	11.95	10.00
2007	42,217.1	1,076,020.4	5,127.40	48.8	8.75	12.63	10.00
2008	10,180.3	1679,143.7	8,008.20	44.8	9.81	7.19	12.00
2009	6,987.5	685,717.3	9,419.92	44.3	7.44	6.30	11.00
2010	4,989.4	799.911.0	11,034.14	30.4	6.13	7.63	10.50
2011	7,913.8	638,925.7	11,034.94	42.0	9.19	7.44	10.00
2012	6,532.6	808,991.4	12,172.49	46.7	12.00	6.82	10.00

2013	8,974.4	2,350,875.7	13,895.39	47.6	12.00	7.94	11.00

Source: Central Bank of Nigeria, Statistical Bulletin, Various Issues and Nigerian Stock fact book

MC = Market Capitalization
ASPI = All Share Price Index
M2 = Broad Money Supply
LIR = Liquidity Reserve
MPR = Monetary Policy Rate
INTR = Interest Rate
TBR = Treasury Bill Rate

DESCRIPTIVE ANALYSIS

Fig 1 shows Line Graph showing trend of Market Capitalization (MC) from 1980 – 2013. It exhibits a rather irregular trend rising to the peak in 2008 and falling and rising subsequently.

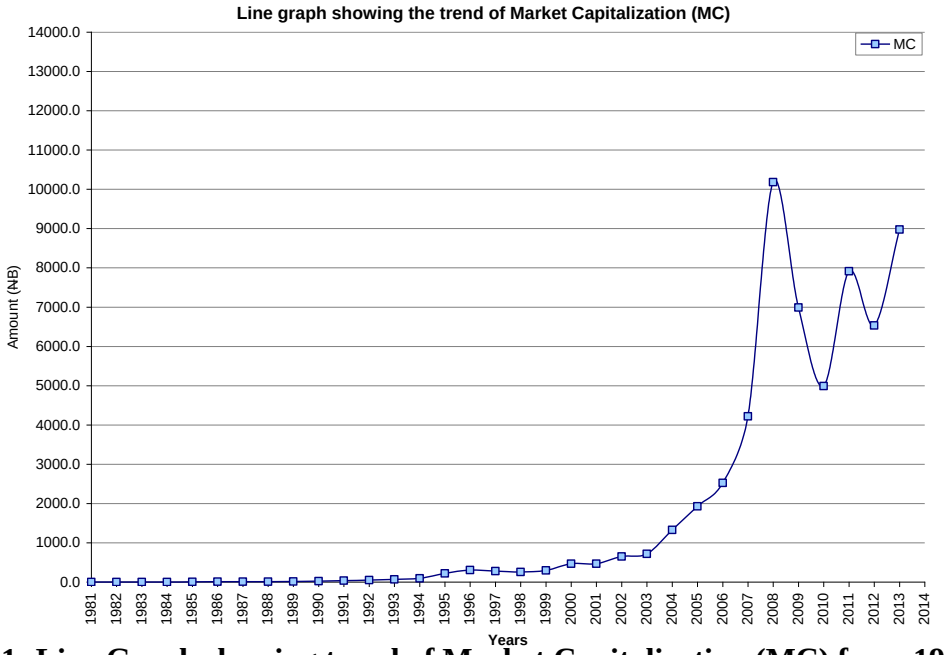

Fig 1: Line Graph showing trend of Market Capitalization (MC) from 1980 – 2013

Fig 2 shows Line Graph showing trend of All Share Price Index (ASPI) from 1980 – 2013. It exhibits a rather irregular trend rising to the peak.

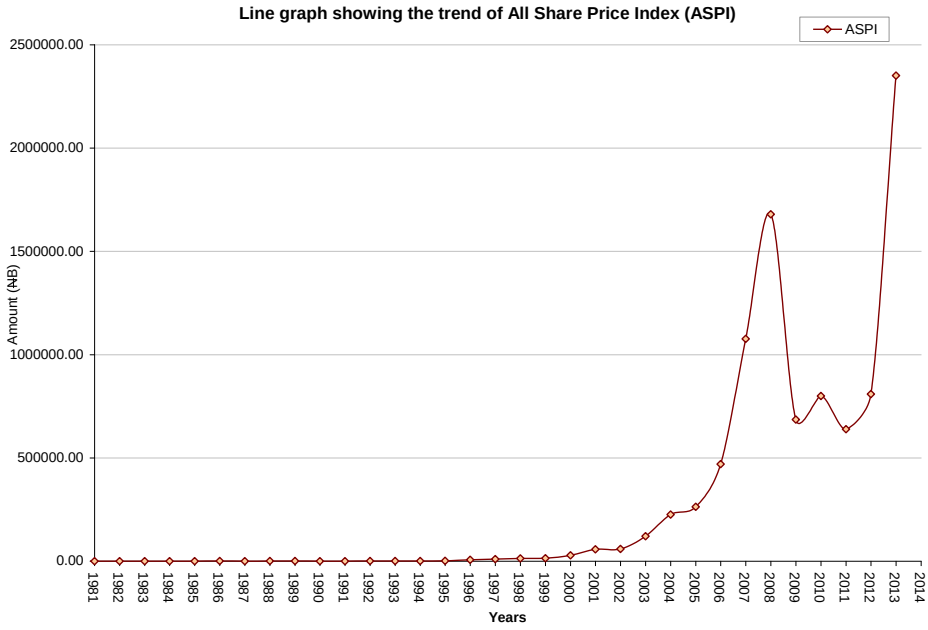

Fig 2: Line Graph showing trend of All Share Price Index (ASPI) from 1980 – 2013

Fig 3 shows Line Graph showing trend of Liquidity Ratio from 1980 – 2013. It exhibits a rather fluctuating/ irregular pattern rising to the peak and falling and rising subsequently.

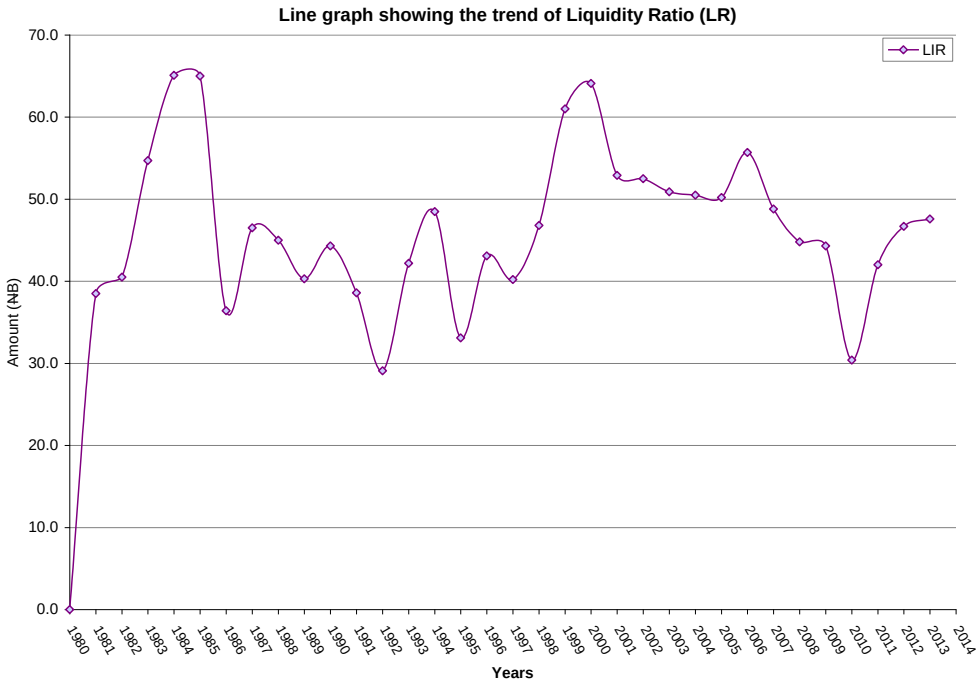

Fig 3: Line Graph showing trend of Liquidity Ratio from 1980 – 2013

Fig 4 shows Line Graph showing trend of Broad Money Supply (M_2) from 1980 – 2013. It exhibits a rather fluctuating/ irregular pattern of rising.

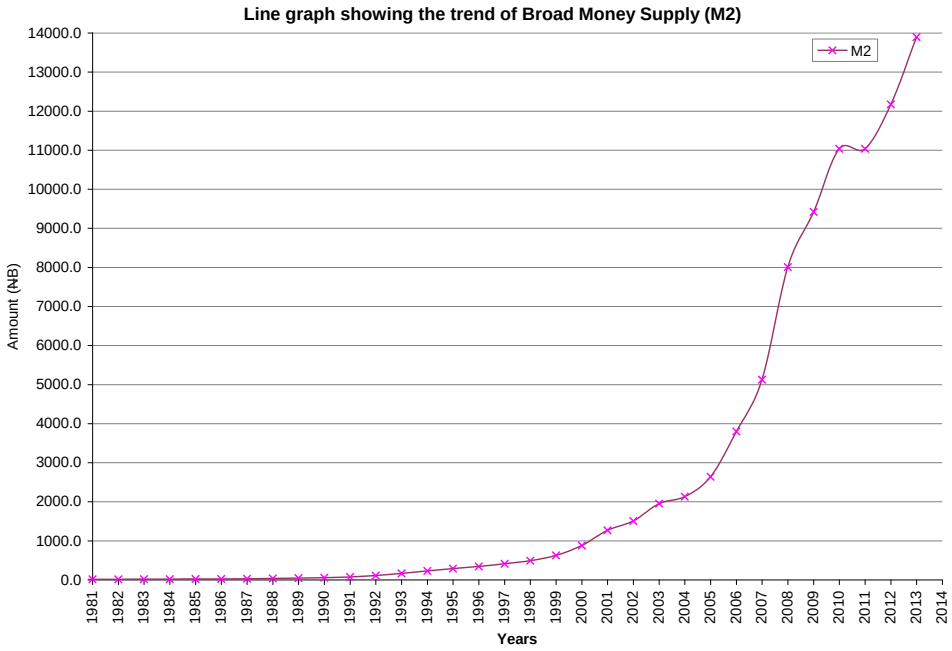

Fig 4: Line Graph showing trend of Broad Money Supply (M_2) from 1980 – 2013

Fig 5 shows Line Graph showing trend of Monetary Policy Rate (MPR) from 1980 – 2013. It exhibits a rather irregular trend rising to the peak in 1994 and falling and rising subsequently.

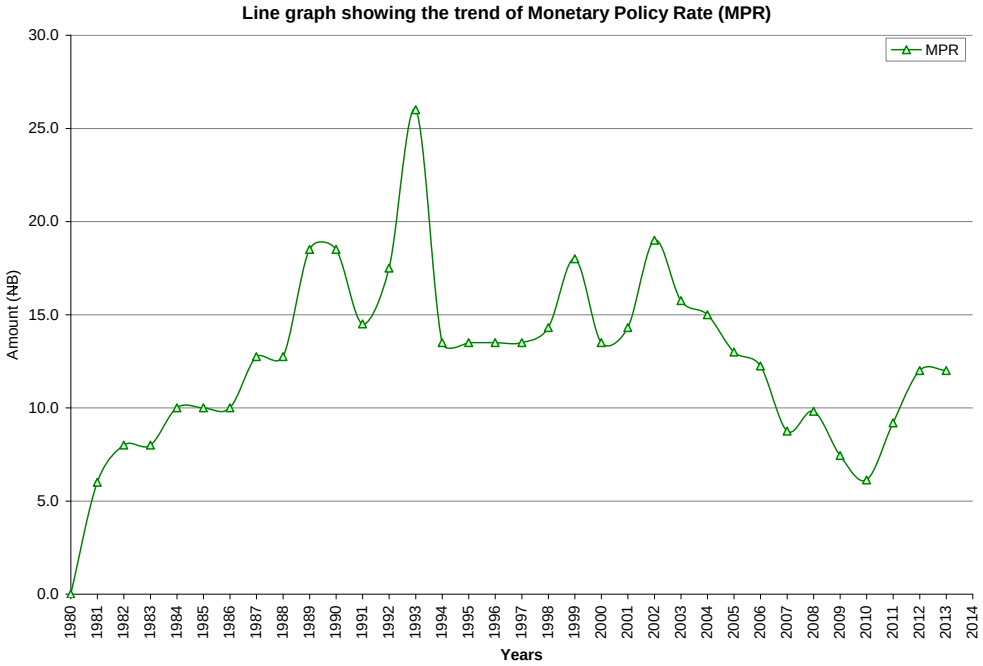

Fig 5: Line Graph showing trend of Monetary Policy Rate (MPR) from 1980 – 2013

Fig 6 shows Line Graph showing trend of Interest Rate (IR) from 1980 – 2013. It exhibits a rather irregular trend rising to the peak in 1993 and falling, rising and falling subsequently.

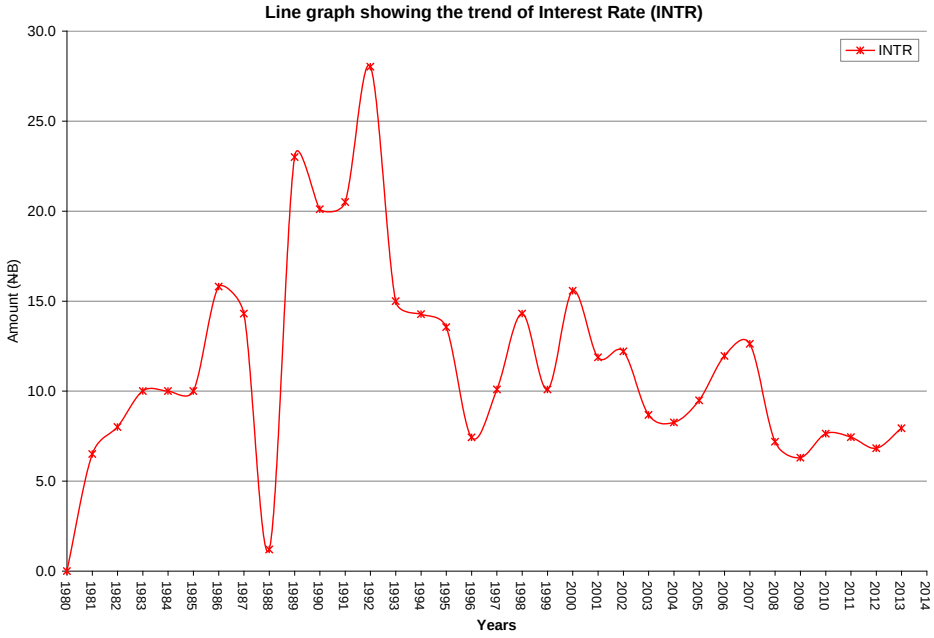

Fig 6: Line Graph showing trend of Interest Rate (IR) from 1980 – 2013

Fig 7 shows Line Graph showing trend of Treasury Bill Rate (TBR) from 1980 – 2013. It exhibits a rather irregular trend rising to the peak in 1992 and falling and rising subsequently.

Fig 7: Line Graph showing trend of Treasury Bill Rate (TBR) from 1980 – 2013

Fig 8 shows Logarithmic Graph showing the relationship between the Independent and dependent variable during the period.

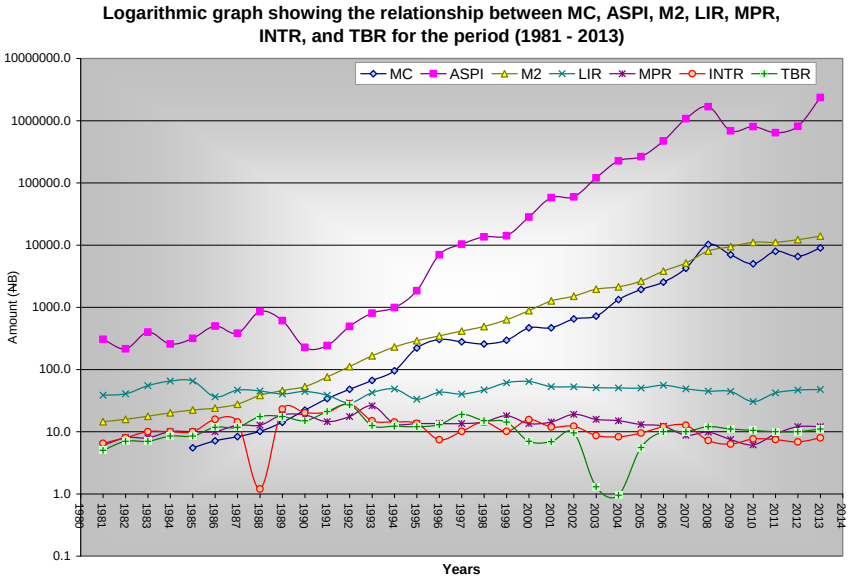

Fig 8: Logarithmic Graph showing the relationship between Capital market activities and monetary policy instruments from 1980 – 2013

ECONOMETRIC ANALYSES AND PRESENTATION OF RESULTS

Table 2:Level Series OLS Multiple Regression Summary Results

Dependent Variable: MC
Method: Least Squares

Sample (adjusted): 1984 2012
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
M2	0.711885	0.431385	1.650232	0.1125
LIR	112.6698	207.9617	0.541781	0.5932
MPR	-605.5448	448.0137	-1.351621	0.1896
INTR	301.4174	352.9502	0.853994	0.4019
TBR	-36.43218	363.7961	-0.100145	0.9211
C	1018.693	14261.08	0.071432	0.9437

R-squared	0.265688	Mean dependent var	3363.197
Adjusted R-squared	0.106055	S.D. dependent var	8086.706
S.E. of regression	7645.872	Akaike info criterion	20.90371
Sum squared resid	1.34E+09	Schwarz criterion	21.18660
Log likelihood	-297.1038	Hannan-Quinn criter.	20.99231
F-statistic	1.664369	Durbin-Watson stat	1.946787

Prob(F-statistic)	0.183273

Source: Extracts from E-view printout and authors computation

Analysis of Regression Results

From the result above, the R^2 and the adjusted R^2 which measures the extent to which the independent variables can predict changes on the dependent variables shows that 26.56% and 10.60% variation in market can be explained by variation in the independent variables. The Durbin-Watson statistics which measures the serial autoregression and colinearity of the variables is 1.946787 which is less than 2.00 and less than 3.00 which indicates the presence of negative serial autocorrelation between the variables and suggesting test inconclusive in the level series result, also see appendix (1) and OLS results in page (31). This further indicates that there may be some degree of time dependence in the level series result which could lead to spurious regression results, suggesting the need for more rigorous analysis of the stationarity properties of the level series Data.

The F-statistics of 1.664369 with the probability of 0.183273 indicate that the model is not fit to predict variation in the dependent variable and significant at 5% level of significance. The mean dependent variation and the standard variation show that the variables vary within the time series.

However, the regression coefficient which is the β coefficient reveal that Broad money supply to with the positive of 0.711885, T-statistics of 1.650232, probability value of 0.1125, liquidity reserve with the coefficient of 112.6698, T-statistics of 0.541781, probability value of 0.1896, interest rate with the coefficient of 301.4174, T-statistics of 0.853994 and the probability value of 0.9437 indicate a positive effect of the variables on market capitalization while the negative value of -0.605554 as parameter for monetary policy rate, T-statistics of -1.351621MPR, probability value of 0.18196MPR and -36.43218TBR, indicates that the variables have negative and insignificant relationship with the market capitalization. From the above, we proceed to the stationarity test of the variables.

Testing For Unit Root Test (Stationarity Test)

Therefore in view of the time-independent feature of our data, the variables were tested for unit root using the Augmented Dickey Fuller (ADF) Test.

Table 3 ADF Unit Root Test for Stationarity Summary Results

Differenced Variables	***ADF Statistics***	***McKinnon's Critical Values***			***Order of integration***	***Prob.***
		1%	***5%***	***10%***		***Prob.***
MC	*-3.823565*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0073*
M2	*-3.380096*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0193*
LIR	*-5.683619*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0001*
MPR	*-6.602233*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0000*
INTR	*-3.944220*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0058*
TBR	*-6.133448*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0000*

Source: Extracts from E-view printout and authors computation

From table 3 above, the results of the unit root test shows that the null hypotheses of a unit root test for the time dependent variables of a non-stationary nature can be made stationary at the first difference. It also shows that the variables are integrated of order 1(1) which means that the variables can be stationary at the first differencing.

The table above analysizes the stationarity test of the result. It shows that all the varaibles are stationary at 5% level of significance, this means the null hypotheses of non stationarity is rejected and the alternate accepted. Therefore, we conclude the variables under consideration can be stationary at long run which necessitated for further analyses

Johansen Co-integration Test results sample 1980 - 2013

Test assumption: Linear deterministic trend in the data series: M_2, LIR, MPR, INTR and TBR

Table 4: Johansen's Unrestricted Co-Integration Rank

Obs	*Series*	*Hypothesized No. of Co-integrating Equations*	*Eigen value*	*Maxi-Eigen Statistics*	*P0. 05 Critical value*	*Prob.***
32	*D(MC)*	None *	0.872486	55.60721	40.07757	0.0004
	D(M2)	At most 1	0.696063	32.15521	33.87687	0.0791
	D (LIR)	At most 2	0.428426	15.10277	27.58434	0.7400
	D(MPR)	At most 3	0.347508	11.52784	21.13162	0.5946
	D(INTR)	At most 4	0.276032	8.721234	14.26460	0.3101
	D(TBR)	At most 5	0.035478	0.975301	3.841466	0.3234

Source: Extracts from E-view printout and authors computation

Maximum Eigen value test indicates no co-integrating equation at 5% level denoting rejection of null hypotheses at 5% level of significance. The results of Johansen's maximum likelihood co-integration tests reported in table above do not indicate any full-rank trend. To this extent, the results provide good evidence of multicollinearity among the time cointegration.

Table 5: Normalized co-integrating coefficients (standard error in parentheses)

INTR	LIR	M2	MC	MPR	TBR
1.000000	-0.364930	-0.000894	-0.000464	-1.282641	-0.890572
	(0.06874)	(0.00017)	(0.00011)	(0.16264)	(0.09847)

Source: Extracts from E-view printout and authors computation

From the above normalized equation, all the independent variables have long run negative relationship with market capitalization. Which means an increase will affect negatively the market capitalization of Nigerian stock market.

Table 6: Pair wise Granger Causality Test

Pairwise Granger Causality Tests Date: 06/01/15 Time: 14:39 Sample: 1980 2012 Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.

LIR does not Granger Cause INTR	31	0.25468	0.7771
INTR does not Granger Cause LIR		0.83756	0.4441
M2 does not Granger Cause INTR	31	1.55973	0.2292
INTR does not Granger Cause M2		0.03064	0.9699
MC does not Granger Cause INTR	27	1.20248	0.3194
INTR does not Granger Cause MC		0.49815	0.6143
MPR does not Granger Cause INTR	31	0.99330	0.3840
INTR does not Granger Cause MPR		2.73080	0.0838
TBR does not Granger Cause INTR	31	2.77854	0.0806
INTR does not Granger Cause TBR		0.92003	0.4111
M2 does not Granger Cause LIR	31	0.20708	0.8143
LIR does not Granger Cause M2		1.25121	0.3028
MC does not Granger Cause LIR	27	0.24176	0.7873
LIR does not Granger Cause MC		0.52404	0.5993
MPR does not Granger Cause LIR	31	3.57017	0.0427
LIR does not Granger Cause MPR		2.59591	0.0938
TBR does not Granger Cause LIR	31	0.69256	0.5093
LIR does not Granger Cause TBR		0.32931	0.7224
MC does not Granger Cause M2	27	14.7191	9.E-05
M2 does not Granger Cause MC		5.98634	0.0084
MPR does not Granger Cause M2	31	0.21028	0.8117
M2 does not Granger Cause MPR		1.94554	0.1632
TBR does not Granger Cause M2	31	0.43200	0.6538
M2 does not Granger Cause TBR		0.13213	0.8768
MPR does not Granger Cause MC	27	0.50442	0.6107
MC does not Granger Cause MPR		2.12098	0.1438
TBR does not Granger Cause MC	27	1.05072	0.3666
MC does not Granger Cause TBR		0.08102	0.9224
TBR does not Granger Cause MPR	31	5.83515	0.0081
MPR does not Granger Cause TBR		0.98804	0.3859

Sign at 5%

Source: Extracts from E-view printout and authors computation

From table above, the F-statistic for the null hypotheses of the causality test running from MC to Interest, Liquidity Ratio, Treasury Bill Rate, which shows there is no causal relationship running from any direction. However, the result above, from the P-value shows no causality between the dependent and the independent variables or the independent and the dependent variable except Market capitalization to Broad Money Supply.

Table 7: Econometric Analysis and Presentation of OLS Summary Results in Model II

Dependent Variable: ASPI
Method: Least Squares
Date: 06/01/15 Time: 14:50
Sample: 1980 2012
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
M2	118.5934	14.77011	8.029284	0.0000
LIR	2864.835	7124.198	0.402127	0.6909
MPR	-7012.579	15162.19	-0.462504	0.6476
INTR	4121.625	13558.89	0.303980	0.7636
TBR	5115.197	13276.01	0.385296	0.7032
C	-167993.6	448175.6	-0.374839	0.7108

R-squared	0.749755	Mean dependent var	266181.8
Adjusted R-squared	0.701631	S.D. dependent var	542799.9
S.E. of regression	296494.7	Akaike info criterion	28.20481
Sum squared resid	2.29E+12	Schwarz criterion	28.47963
Log likelihood	-445.2769	Hannan-Quinn criter.	28.29590
F-statistic	15.57961	Durbin-Watson stat	1.563861
Prob(F-statistic)	0.000000		

Source: Extracts from E-view printout and authors computation

Analysis of Regression Result

From the result above, the R^2 and the adjusted R^2 which measures the extent to which the independent variables can predict changes on the dependent variables shows that 74.9% and 70.1% variation in All Share Price Index can be explained by variation in the independent variables. The Durbin-Watson statistics which measures the serial autoregression and colinearity of the variables is 1.563861 which is less than 2.00 and less than 3.00 which indicates the presence of negative serial autocorrelation between the variables. The F-statistics of 15.57961 with the probability of 0.00000 indicate that the model is fit to predict variation in the dependent variable and significant at 5% level of significance. The mean dependent variation and the standard variation show that the variable varies within the time series.

However, the regression coefficient which is the β coefficient reveal that Broad money supply have positive effect with the coefficient of 118.5934, T-statistics of 8.029284, probability value of 0.0000, liquidity reserve with the coefficient of 2864.835, T-statistics of 0.402127, probability value of 0.6909, interest rate with the coefficient of 4121.625, T-statistics of 0.303980 and the probability value of 0.7636 and Treasury Bill Rate with the value of 5115.197 indicate a positive

effect of the variables on All Share Price Index while the negative value of -7012.579, T-statistics of 0.462504 and the probability value of 0.6476 as parameter for monetary policy rate, T-statistics of -1.351621MPR, probability value of 0.18196MPR and -36.43218TBR. From the above, we proceed to the stationarity test of the variables.

Testing For Unit Root Test (Stationarity Test)

Therefore in view of the time-independent feature of our data, the variables were tested for unit root using the Augmented Dickey Fuller (ADF) Test.

Table 8: ADF Unit Root Test for Stationarity Summary Results

Differenced Variables	***ADF Statistics***	***McKinnon's Critical Values***			***Order of integration***	***Prob.***
		1%	***5%***	***10%***		***Prob.***
MC	*-3.823565*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0073*
M2	*-3.380096*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0193*
LIR	*-5.683619*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0001*
MPR	*-6.602233*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0000*
INTR	*-3.944220*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0058*
TBR	*-6.133448*	*3.689194*	*2.97185853*	*2.625121*	*1(1)*	*0.0000*

Source: Extracts from E-view printout and authors computation

The table above analyses the stationarity test of the result. It shows that all the variables are stationary, this means the null hypotheses of non stationarity is rejected and the alternate accepted.

Johansen Co-integration Test results sample 1980 - 2013

Test assumption: Linear deterministic trend in the data series: M_2, LIR, MPR, INTR and TBR

Table 9: Johansen's Unrestricted Co-Integration Rank

Obs	***Series***	***Hypothesized No. of Co-integrating Equations)***	***Eigen value***	***Maxi-Eigen Statistics***	***P0. 05 Critical value***	***Prob.*****
32	*D(MC)*	None *	0.974540	102.7786	40.07757	0.0000
	D(M2)	At most 1 *	0.758558	39.79155	33.87687	0.0088
	D (LIR)	At most 2	0.488070	18.74787	27.58434	0.4342
	D(MPR)	At most 3	0.363207	12.63669	21.13162	0.4862

	D(INTR)	At most 4	0.201098	6.286477	14.26460	0.5767
	D(TBR)	At most 5	0.002998	0.084072	3.841466	0.7718

Source: Extracts from E-view printout and authors computation

Maximum Eigen value test indicates at least one co integrating equation at 5% level denoting rejection of null hypotheses at 5% level of significance. The results of Johansen's maximum likelihood co integration tests reported in table above do not indicate any full-rank trend. To this extent, the results provide good evidence of multi-collinearity among the time co integration. Also, this implies that, there is one linear combination of the variables that is stationary in the long run and also confirms the existence of long run relationship between All Share Price Index and Monetary Policy Variables such as money supply (M_2), Liquidity Ratio (LIR), Monetary Policy rate (MPR), interest rate (INTR) and Treasury Bill Rate (TBR)

Table 10: Pair wise Granger Causality Test

Pairwise Granger Causality Tests
Date: 06/01/15 Time: 15:02
Sample: 1980 2012
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INTR does not Granger Cause ASPI	28	0.39368	0.6790
ASPI does not Granger Cause INTR		1.15730	0.3320
LIR does not Granger Cause ASPI	28	0.12859	0.8800
ASPI does not Granger Cause LIR		0.10932	0.8969
M2 does not Granger Cause ASPI	28	102.073	4.E-12
ASPI does not Granger Cause M2		21.5260	5.E-06
MPR does not Granger Cause ASPI	28	0.03761	0.9631
ASPI does not Granger Cause MPR		1.37742	0.2723
TBR does not Granger Cause ASPI	28	0.21189	0.8106
ASPI does not Granger Cause TBR		0.04191	0.9590
LIR does not Granger Cause INTR	31	0.25468	0.7771
INTR does not Granger Cause LIR		0.83756	0.4441
M2 does not Granger Cause INTR	31	1.55973	0.2292
INTR does not Granger Cause M2		0.03064	0.9699
MPR does not Granger Cause INTR	31	0.99330	0.3840
INTR does not Granger Cause MPR		2.73080	0.0838
TBR does not Granger Cause INTR	31	2.77854	0.0806
INTR does not Granger Cause TBR		0.92003	0.4111

M2 does not Granger Cause LIR	31	0.20708	0.8143
LIR does not Granger Cause M2		1.25121	0.3028
MPR does not Granger Cause LIR	31	3.57017	0.0427
LIR does not Granger Cause MPR		2.59591	0.0938
TBR does not Granger Cause LIR	31	0.69256	0.5093
LIR does not Granger Cause TBR		0.32931	0.7224
MPR does not Granger Cause M2	31	0.21028	0.8117
M2 does not Granger Cause MPR		1.94554	0.1632
TBR does not Granger Cause M2	31	0.43200	0.6538
M2 does not Granger Cause TBR		0.13213	0.8768
TBR does not Granger Cause MPR	31	5.83515	0.0081
MPR does not Granger Cause TBR		0.98804	0.3859

Sign at 5%

Source: Extracts from E-view printout and authors computation

Discussion of Findings

To recall that the capital market is a component of the financial system and a channel for the transmission of government monetary policy, it is expected that variation in the monetary policy variables will have direct effect on the performance of the capital market. The objective of this study is to examine the effect of monetary policy variables on the capital market performance using the All Share Price Index and market capitalization as a function of Broad Money Supply, liquidity reserve, monetary policy rate, interest rate and Treasury bill rate. Findings of this study reveal that Broad money supply, liquidity reserve and interest rate have positive relationship with market capitalization while Broad money supply, liquidity reserve, interest rate and treasury bill rate have positive relationship with All share price index, this finding confirms the A-piriori expectation and follows the theory of financial deepening. It is also in line with the various monetary policies aimed at increasing the operational efficiency of the capital market through monetary policy.

However, monetary policy rate and Treasury bill rate have negative relationship with market capitalization while monetary policy rate have negative relationship with All share price index. The finding is contrary to the expectation of the result. The negative relationship can be traced to monetary policy shocks in the financial system, for instance the capital market crash of 2007/2008 was blamed on the global financial crises that affected negatively the Nigerian financial market.

Summary of Findings

This study is on the effects of monetary policy on Capital Market Activities in from (1980 – 2013).

It is against this background that our study has tried to fill these gaps by adopting a holistic approach that examine the effects of monetary policy on capital market activities; using evidence from the Nigerian economy.

From the results of test of hypotheses and the findings of the research, we summarize as follows:

1. That there is a long – run equilibrium relationship between monetary policy tools / instruments of Broad Money Supply (M2), Interest Rate (IR), Liquidity Ratio (LIR), Treasury Bill Rate (TBR) and All Share Price Index (ASPI), and market capitalization (MC) during the period.

2. That, there is no granger causality relationship in any direction between monetary policy instruments such as Broad Money Supply (M_2), Interest Rate (IR), Liquidity Ratio (LIR), Monetary Policy Rate (MPR), Treasury Bill Rate (TBR) and All Share Price Index (ASPI), and except uni direction running from Market Capitalization (MC) and Broad Money Supply (M_2) in Model I and Model II has no causal relationship running from monetary policy instruments to All Share Price Index (ASPI) and Market Capitalization (MC)

3. That Broad Money Supply (M_2), Interest Rate (IR), Liquidity Ratio (LIR), have a significant signs relationship with All Share Price Index (ASPI) and Market Capitalization (MC).

4. The study shows that Monetary Policy Rate and Treasury Bill Rate (TBR) have no Significant Relationship with All Share Price Index (ASPI) and Market Capitalization (MC)

5. That with respect to the level series regression the results show that the monetary policy instrument and All Share Price Index (ASPI) and Market Capitalization (MC) are positively correlated but insignificantly related. The level series result also show a non-stationary features.

Conclusion

On the basis of our findings the following conclusions were drawn:

The study found that Broad money supply, liquidity ratio, interest rate and Treasury bill rate have positive effect on the All Share Price Index while Broad money supply, liquidity ratio, Treasury bill rate and monetary policy rate have positive effect on the performance of Nigerian capital market proxy by market capitalization. Broad money supply, liquidity ratio, interest rate and Treasury bill rate have positive effect on the performance of Nigerian capital market proxy by All Share Price Index.
Monetary policy rate have negative effect on market capitalization while Treasury bill rate and monetary policy rate have negative effect on All Share Price Index. The model summary reveal 26.5% explained variation in model I and F-statistics of 1.664669, probability of 0.183673, this means that there is no significant relationship between the monetary policy variables examined in this study and the performance of market capitalization. Model II reveal an R^2 of 74.9% and F-statistics of 15.57961, the probability of 0.00000, therefore the study conclude that there is

significant relationship between the monetary policy variables examined in this study and the performance of Nigerian capital market proxy by All Share Price Index.

Recommendations

Based on our findings, we therefore proffer the following recommendations.

1. Government should as a matter of necessity allow an appropriate interplay of the monetary policy instruments/tools. That is, effort should be made by government to ensure appropriate policy mix to ensure harmony and enhancing coordination in monetary policies.

2. Government should also put in place as a matter of fact, sound regulatory and supervisory measures to curtail the activities of informal financial sector so as to pave way for proper functioning of monetary policy indicators.

3. The capital market should develop effective strategies to mobilize deposit funds especially from the rural dwellers in order to increase market capitalization All Share Price Index. This is an important determinant of the total capital market performance to the domestic economy

4. The monetary policy environment should be made investable to the capital market investors.

5. There should be full deregulation of the interest rate and other monetary policy variables that affect the performance of the capital market.

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