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MONETARY POLICY AND CAPITAL MARKET PERFORMANCE IN NIGERIA: EVIDENCE FROM A VECTOR ERROR CORRECTION MODEL, 1981-2024

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K E Y W O R D S

Monetary Policy, Capital Market, Capital Market Performance, Nigeria

A B S T R A C T

This study examined the effect of monetary policy on capital market performance in Nigeria for the period 1981 to 2024. Monetary policy rate, cash reserve ratio, liquidity ratio, broad money supply, and external reserves were used to represent monetary policy while market capitalization was used as a surrogate for capital market performance. Data on the aforementioned variables were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin. The data set generated was exposed to descriptive analysis, unit root test, Johansen cointegration test, pairwise granger causality test and Vector Error Correction Model (VECM) estimation. Mainly, results revealed that there is a long run equilibrium relationship between monetary policy and capital market performance with the speed of convergence in event of disequilibrium being 32.68% annually. Also, market capitalization granger-causes liquidity ratio, not the reverse, and there is no causality between the other monetary policy-related variables and market capitalization. In addition, monetary policy rate, liquidity ratio and external reserves have negative effects on stock market capitalization while cash reserve ratio and broad money supply have direct influences on stock market capitalization, however, only the effect of broad money supply was statistically significant in the short run. The study concluded that monetary policy has mixed effects on capital market performance in Nigeria. Hence, there is urgent need to further develop the Nigerian capital market in order to enable the manipulation of monetary policy instruments like monetary policy rate so as to have the desired effects on the capital market.

Introduction

The capital market is a major component of the financial market. It is a section of the financial market that is responsible for mobilization and allocation of funds on long term basis. This market enables government and corporate entities to raise long-term capital for financing new projects, expanding and modernizing existing ones. In the capital market, long-term funds are exchanged for financial assets issued by borrowers or traded by holders of outstanding eligible instruments (Popoola, Ejemeyovwi, Alege, Adu & Onabote 2017).

The capital market makes the interaction of both savers and investors in a country possible as it enables all aggregate savings to be channeled into desirable investment for the purpose of economic growth and development. Meshack and Nyamute (2016) identified the capital market as the most credible source of long-term funds to any economy and a leading economic indicator in developed and developing economies. Thus, the capital market is a major barometer that tells the economic health status of a country. The performance of a capital market, however, is influenced by so many factors and one of these factors is government policies which can manifest in the form of monetary policy. Monetary policy is a major economic stabilization weapon which involves measures designed to regulate and control the volume, cost, availability and direction of money and credit in an economy to achieve specified macroeconomic policy objectives (Schrank, 2024).

In Nigeria, the main instruments of monetary policy are monetary policy rate, cash reserve ratio, and liquidity ratio. These instruments are used by the Central Bank of Nigeria via commercial / deposit money banks to regulate the volume of money in circulation (Bassey & Ekong, 2019). As a major monetary policy instrument, changes in monetary policy rate can significantly influence market capitalization by affecting borrowing costs, investor confidence, and corporate profitability. A lower monetary policy rate tends to boost market capitalization by encouraging investment and consumption and vice versa. In explaining the relationship between monetary policy rate and market capitalization, Isah (2024) stated that a lower monetary policy rate leads to lower interest rates for loans, reducing the cost of borrowing for firms. This allows businesses to finance expansion, invest in new projects, and potentially increase profits, which can drive up their stock prices and, consequently, overall market capitalization. Also, when interest rates are low, fixed-income investments like bonds and savings accounts, offer lower returns which can prompt investors to shift their capital into the capital market in search of higher yields, thereby increasing demand for stocks and supporting market capitalization.

Conversely, higher interest rates make fixed-income assets more attractive, potentially drawing investment away from the capital market. Cash reserve ratio, a primary reserve of banks, has a dynamic relationship with stock market capitalization.

According to Aladejare, Danjuma and Nyiputen **(**2018), raising cash reserve ratio decreases market capitalization by tightening liquidity in the banking system, which discourages lending and investment. The other way round, lowering cash reserve ratio can boost market capitalization by increasing banks' capacity to lend,

thereby stimulating economic activities. Put differently, when a central bank increases the cash reserve ratio, deposit money banks must hold a larger percentage of their deposits in reserve with the central banks. This reduces the amount of money banks have available to lend or invest, effectively decreasing overall liquidity in the economy.

Central banks liquidity ratio affects market capitalization indirectly through its impact on the banking system's lending capacity, the cost of credit, and overall market stability. In the words of Aladejare, Danjuma and Nyiputen (2018), on one hand, if the central bank lowers liquidity ratio, banks will have more funds to lend. This expansion of credit can stimulate economic activity and boost stock market performance, thereby increasing market capitalization.

On the other hand, if the apex bank increases liquidity ratio, banks' lending capacity is restricted. This tightens credit condition, which can slow down economic expansion, curb market activity, and negatively impact market capitalization. In essence, central bank adjustments of liquidity ratio can influence investors' confidence. This is because a central bank may tighten the ratio to curb inflation or cool down an overheating economy, which can be interpreted as a more conservative economic outlook (Osakwe & Chukwunulu, 2019).

According to Eze (2022), broad money supply relates with market capitalization in the sense that an increase in money supply can positively influence market capitalization by increasing the money available for investment. Thus, the relationship between both variable can be examined with respect to increased liquidity and investment. In other words, when broad money supply increases, more capital is available for businesses and households. This can drive investment into the capital market, thereby increasing demand for equities and potentially boosting market capitalization (Schrank, 2024). Another channel in which money supply affects market capitalization is through interest rates and credit access. This is because when the central bank increases money supply by way of lowering interest rates, businesses may find it easier and cheaper to borrow money. This can lead to expansion, increased profits, and a higher stock price, thereby increasing market capitalization. Again, growth in money supply often reflects a healthy and expanding economy, which can positively influence corporate earnings and investor confidence and these are factors that can lead to higher stock prices and market capitalization (Akinkuotu, 2018; Ibeabuchi, 2017).

However, monetary policy and external reserves are closely linked with central banks using reserves to influence monetary policy and promote economic stability. Put differently, central banks can use external reserves to intervene in the foreign exchange market to manage the value of their currency (Chen, Chu & Qu 2022). External reserve can also be used as a buffer against economic shocks. This is because a strong reserve position provides a buffer during economic uncertainties or crisis and this allows the central bank to maintain confidence in the currency and economy. Again, external reserve management can be used for currency stabilization. Here, central banks can use foreign exchange reserves to intervene in the foreign

exchange market to manage the value of their currency. For instance, by selling foreign currency and buying its own currency, a central bank can prevent its currency from depreciating excessively (Tubotamuno & Oladosu, 2024; Schrank, 2024).

However, on the empirical front, existing studies on monetary policy and capital market performance in Nigeria present conflicting and inconclusive results. While some studies found a significant positive relationship between them, others reported negative or insignificant effects (Anyanwu & Ohurogu, 2024; Anyamaobi, 2023; Lawson & Amenze, 2022; Alugbuo & Chika, 2020; Leith, 2019; Chen & Xie, 2016; Nkoro & Uko, 2016; Schrank, 2024; Muktadir-Al-Mukit, 2013; Hsing, 2013; Mohamadpour, Behravan, Espahbodi & Karimi, 2012; Geraldo, 2021; Akinkuotu, 2018; Meshack & Nyamute, 2016). This inconsistency suggests that the transmission mechanism is not yet fully understood.

More importantly, a critical review of literature shows that most studies have focused on traditional monetary policy variables like monetary policy rate, money supply, liquidity ratio and cash reserve ratio, while ignoring the role of external reserves. In Nigeria, external reserve is a de-facto monetary policy tool. The CBN uses it to manage exchange rate volatility, signal macroeconomic strength and boost foreign investor confidence, all of which directly affect capital market performance, especially market liquidity and capitalization. The omission of external reserves therefore leads to omitted variable bias and incomplete understanding of monetary policy dynamics.

Furthermore, many recent studies covered relatively shorter periods and employed models that captured short-run dynamics, despite the long-run nature of monetary policy and capital market relationship. A study that captures both shirt-run and long-run dynamics over an extended period (1981 – 2024) using VECM becomes imperative, particularly given major reforms such as SAP (1986), banking consolidation (2005), global financial crisis (2008), and COVID-19 (2020). It is against this backdrop that this study seeked to examine the effect of monetary policy, inclusive of external reserves, on capital market performance in Nigeria, in order to have a more robust evidence for policy formulation.

Literature Review

Conceptual Framework

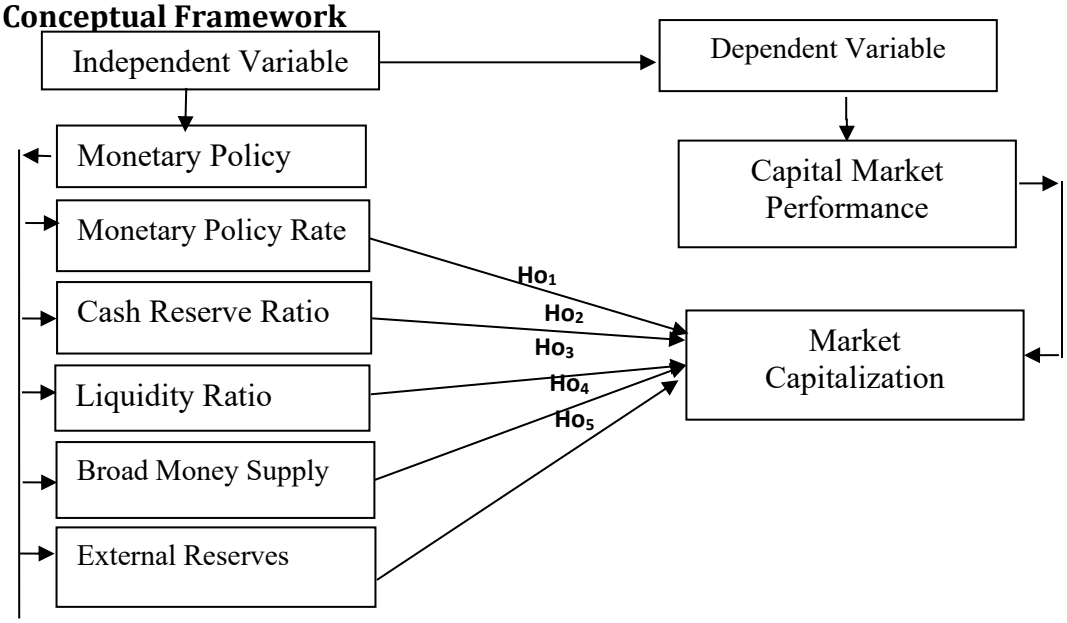


Fig. 2.1: Conceptual Framework
Source: Researcher's Desk, 2026

Theoretical Framework

This study was underpinned by the Portfolio Balance theory which was originally propounded by Tobin (1969) and extended by Branson and Henderson (1985) (Mohamadpour, Behravan, Espahbodi & Karimi, 2022). The theory posits that investors allocate their wealth among alternative assets (money, domestic equities, foreign assets, and bonds) based on relative returns and risks. The theory provides an open-economy perspective of monetary policy transmission.

According to the theory, monetary policy instruments alter the relative returns on assets, thereby causing portfolio adjustments. An expansionary monetary policy (increase in money supply, reduction in MRR, CRR) reduces returns on money market instruments and induces investor to rebalance their portfolios in favour of capital market instruments, thereby increasing stock demand and market capitalization.

Critically, the theory incorporates the external sector through external reserves. In an import-dependent economy like Nigeria, external reserve serves as a buffer for exchange rate stability and a signal of macroeconomic credibility. High external reserves reduce exchange rate risk and sovereign risk, making domestic equities more attractive to both domestic and foreign portfolio investors. Conversely, depleting reserves signals vulnerability and triggers capital flight from the capital market. Hence, external reserve is not just an external sector variable but an integral part of investors' portfolio decision and monetary policy transmission channel.

Empirical Review

A multitude of studies exist on the cause effect relationship between monetary policy indicators and capital market performance. To start with, Udeorah, Oladosu and Odiche (2025) explored the interplay between monetary policies and stock market development in Nigeria with focus on key monetary policy variables such as interest rate, money supply, exchange rate, and liquidity ratio. Stock market development was measured through market capitalization. Anchored in Monetarism theory and the Efficient Market Hypothesis, the research utilized annual time series data spanning from 1990 to 2023, sourced from the Central Bank of Nigeria (CBN) statistical bulletin and Nigeria Exchange Group (NGX). Analytical methods included descriptive statistics, the Augmented Dickey-Fuller (ADF) unit root test, and the Autoregressive Distributed Lag (ARDL) approach. Results revealed that interest rates negatively and significantly impact stock market capitalization, while broad money supply and exchange rates exhibit positive and significant effects.

Conversely, liquidity ratio was found to have a negative but non-significant impact on market capitalization. The study concluded that monetary policy serves as a critical stabilization tool influencing stock market development in Nigeria.

Akani and Lucky (2024) examined the relationship between money supply and aggregate stock prices in Nigeria using time series data from 1980 – 2012; while Engle and Granger, and Johansen-Juselius method of co-integration in a Vector Error Correction Model setting were used for data analysis. Empirical results demonstrated that there exists a long-run relationship between currency in circulation, demand deposit and aggregate stock price; while time deposit, savings deposit and net foreign assets have negative relationship with aggregate stock prices.

Anyanwu and Ohurogu (2024) investigated the effects of interest rates and money supplies on stock market liquidity in Nigeria for the period 1985 – 2022. The study employed ex-post-facto research design. Secondary data extracted from Central Bank of Nigeria statistical bulletin and Nigerian Exchange Group (formerly Nigerian Stock Exchange until 2021) reports were used for the study. Vector Autoregression (VAR) estimation techniques with variance decomposition and impulse response function were employed for data analyses. Findings revealed that the interest rate has a significant negative effect on stock market liquidity while money supply has a significant positive effect on stock market liquidity in Nigeria.

Ime and Queensley (2024) adopted semi-annual data between 1986 and 2021 to determine the impact of interest rate on share prices in Nigeria. Using a linear regression model where interest rate, GDP and inflation were considered as explanatory variables while Nigeria Stock Exchange (NSE) All Share Index was considered a dependent variable, it was found that interest rate as a standalone predictor variable has a significant negative impact on the NSE All-Share Index. The study submitted that interest rate is not significant when other variables affecting stock prices are controlled.

Edori, Ogbulu and Okanta (2024) examined the impact of monetary policy on the performance of Nigerian capital market between 1985 and 2021. The time series

data were extracted from Central Bank of Nigeria statistical bulletin 2022. The study employed various econometric tools such as Error Correction mechanism to analyse the data obtained. Stock performance as the dependent variable was proxied by market capitalization while monetary policy variables were proxied by monetary policy rate, loan to deposit ratio and liquidity ratio respectively. The results showed that all monetary policy variables employed in this study significantly relate to stock market performance. This result was in line with the quantity theory of money supply. Daneji and Barinde (2023) investigated the relationship between monetary policy variables and capital market deepening in Nigeria using ARDL technique during the period 1981-2021.

Considering monetary policy rate, inflation, treasury bills, liquidity and cash reserve as measures of monetary policy, the study found a significant negative impact of monetary policy rate on capital market deepening in Nigeria while liquidity rate and cash reserve were found to have significant positive impact on stock market prices in Nigeria.

Elite (2023) examined the relationship between foreign exchange reserves and the Karachi stock market over the period 2001 and 2019. Using a simple linear regression model, the study showed positive but not significant relationship between foreign exchange reserves and the stock market.

Ray (2022) examined the relationship between foreign reserves and BSE stock market capitalization in India using annual data from 1990 to 2018. Specifying three related models, the VAR econometric approach was adopted for data analysis of which the results revealed that foreign reserves have a positive impact on stock market capitalization and that foreign reserves Granger cause stock market capitalization.

Gap in Literature

Given the volume of empirical studies reviewed, it is evident that there is a preponderance of studies on monetary policy and capital market performance in Nigeria and beyond. However, these studies have primarily focused on individual monetary policy tools with less emphasis in understanding how these tools interact and impact stock market capitalization in Nigeria. Again, many of the reviewed studies concentrated on short-term effects, neglecting the long term implications of monetary policy decisions on market capitalization.

Hence, this work adds to the already existing Nigeria specific literature on monetary policy-capital market performance linkages and provides a framework for future studies in emerging markets. In addition, this study provides a model that factored in external reserves as one of monetary policy instruments. This is because external reserves management like monetary policy is geared towards currency stabilization.

Methodology

In a bid to achieve the objectives which this study sets out to achieve, a number of research designs were considered, but at the end of the day, the

researchers settled for the ex-post-facto research design. This is because the ex-post-facto research design is a design for measuring or ascertaining the impact of one variable on another or the relationship between one variable and another. In addition, the design is suitable for variables that are inherently non-manipulative. In other words, its manifestation has already occurred (Agbonofoh & Yomere, 2011).

With the options of primary and secondary data, the researchers opted for the latter. The data were annual time series in nature. The said data are on monetary policy rate, cash reserve ratio, liquidity ratio, broad money supply, external reserve and market capitalization. These data were collected from an annual publication of the Nigerian apex bank called Central Bank of Nigeria (CBN) Statistical Bulletin for 2023. To depict the relationship between monetary policy and capital market performance in Nigeria, the study adopted a multiple regression model which is functionally and econometrically given as:

MCAP = F (MPR, CRR, LQR, BMS, EXTR) …….. (3.1)

$L_nMCAP_t = b_0 + b_1L_nMPR_t + b_2L_nCRR_t + b_3L_nLQR_t + b_4L_nBMS_t + b_5L_nEXTR_t + \mu_t$ …… (3.2)

A priori Expectations/Tests: $b_1, b_2, b_3 < 0$; $b_4, b_5 > 0$

Where:

MCAP	=	Market Capitalization
MPR	=	Monetary Policy Rate
CRR	=	Cash Reserve Ratio
LQR	=	Liquidity Ratio
BMS	=	Broad Money Supply
EXTR	=	External Reserve
F	=	Functional notation
L_n	=	Natural logarithm of numbers
b_0	=	Intercept term
b_i	=	Model Slopes
t	=	Time period

Following preliminary analysis (descriptive and unit root tests), and the study delved into co-integration analysis. This is because according to Granger and Newbold (1974), to test for co-integration, study ensured that the variables involved are stationary at first difference only. The essence of this analysis is to find out if there is co-integration among variables, to determine the number of co-integration equations and to define normalization of equations. The test procedure adopted for the co-integration analysis was Johansen-Juselius (JJ) technique, which is used to find a possible correlation between time series processes in the long term.

In other words, the choice of the Johansen-Juselius (JJ) technique for co-integration analysis was because it allows for more than one co-integrating relationship and it is subject to asymptotic properties (large sample size), since a small sample size will produce unreliable results (Engle & Granger, 1987). This technique utilizes two test statistics to determine the number of co-integrating vectors. These are trace and maximum eigenvalue test statistics. To test for co-integration, the value of likelihood ratio was compared to the critical value at 5

percent. If the likelihood ratio test value is greater than the critical value at 5%, Hatanaka (1996) advised that the alternative hypothesis (H_1) should be accepted which implies concluding that there is co-integration among the variables.

Then there was the Vector Error Correction Model (VECM) estimation. A VECM is a powerful statistical tool used in econometrics and time series analysis to model the short-term and long-term dynamics of multiple related time-series variables that exhibit a specific statistical property called cointegration (Granger & Newbold, 2012). Thus, it is a model used when variables are cointegrated. That is, when a long run equilibrium relationship subsists between variables. VECM analyses long-run equilibrium and short run dynamics between variables. Put differently, VECM encompasses cointegration equation, which shows long run relationships, and error correction term (ECT), which shows the speed of adjustment to equilibrium. The main advantage of the VECM is that it allows researchers to distinguish between temporary shocks that cause short-term fluctuations and permanent shocks that influence the long-run equilibrium path of the system. This allows for more robust forecasting and policy analysis.

According to Hatanaka (1996), the long-run equilibrium relationship often appears in the form: $Y_{t-1} + \beta_1 X_{1,t-1} + \ldots + \beta_k X_{k,t-1} + C$

Where:

β = Long run impact of the of the independent variables on the dependent variable (once normalized)

Y = Dependent variable

X = Independent variable

C = Constant term

t-1 = One year lag

However, the short run dynamic relationship, given that MCAP is the dependent variables, can be expressed as:

$D(L_nMCAP_t) = b_0ECT_{t-1} + b_1D(L_nMPR_{t-1}) + b_2D(L_nCRR_{t-1}) + b_3D(L_nLQR_{t-1}) + b_4 D(L_nBMS_{t-1}) + b_5D(L_nEXTR_{t-1}) + C_t$ …… (3.3)

Where: ECT = Error Correction Term, C_t = Constant Term, and b_i = Parameters.

Analysis and Interpretation Of Results

Descriptive Analysis

Table 1: Result of Descriptive Analysis

	MCAP	MPR	CRR	LQR	BMS	EXTR
Mean	3686.091	13.05114	10.55682	41.45500	10118.71	19372.93
Median	10.50000	13.25000	8.450000	40.10000	1387.640	9197.605
Maximum	33066.60	26.00000	32.50000	81.42000	63512.40	53000.36
Minimum	2.100000	6.000000	1.000000	25.00000	14.47000	224.4000
Std. Dev.	7047.122	4.095367	8.492771	12.76491	15424.48	17453.04
Skewness	2.511806	0.541065	0.995115	0.974539	1.691416	0.417985
Kurtosis	9.273229	3.964811	2.923800	3.647793	5.248826	1.551613
Jarque-Bera	118.4151	3.853422	7.272512	7.733996	30.25140	5.127228

Probability	0.000000	0.145626	0.026351	0.020921	0.000000	0.077026
Sum	162188.0	574.2500	464.5000	1824.020	445223.4	852409.1
Sum Sq. Dev.	2.14E+09	721.1974	3101.468	7006.547	1.02E+10	1.31E+10
Observations	44	44	44	44	44	44

Sources: E-Views 10 Output (2026)

The table above contains the data characteristics of the variables used in the study. The table as such contains the mean, median, maximum value, minimum value, standard deviation, skewness and kurtosis of the variables: MCAP, MPR, CRR, LQR, BMS and EXTR. Thus, for the period covered, market capitalization (MCAP) averaged ₦3686.09 billion and varied from ₦2.10 billion to ₦33066.60 billion with a standard deviation of ₦7047.12 billion.

Monetary policy rate (MPR), which is also a monetary policy instrument, averaged 13.05% for the period and varied between 6.00% and 26.00% with a standard deviation of 4.09%. Within the same period, the mean values of cash reserve ratio (CRR), liquidity ratio (LQR), broad money supply (BMS) and external reserves (EXTR) were approximately: 10.56%, 41.46%, ₦10118.71 billion and $19372.93 billion respectively. In addition, the table shows that all the variables (2.511806, 0.541065, 0.995115, 0.974539, 1.691416 and 0.417985) were positively skewed (to the right).

Finally, given that the kurtosis of a normal distribution is 3, the variables CRR and EXTR have flat (platykurtic) distributions, while MCAP, MPR, LQR and BMS have peaked (leptokurtic) distributions.

Unit Root Test

Table 2: P-P Unit Root Test Result

Variables	P-P Statistic	5% Critical Value	P-Value	Decision
Log_MCAP	-4.474815	-2.933158	0.0009	I(1)
Log_MPR	-7.714130	-2.933158	0.0000	I(1)
Log_CRR	-5.350649	-2.933158	0.0001	I(1)
Log_LQR	-8.871793	-2.933158	0.0000	I(1)
Log_BMS	-4.326321	-2.933158	0.0013	I(1)
Log_EXTR	-7.288431	-2.933158	0.0000	I(1)

Source: Researcher's Desk

Results of unit root test using the Phillips-Perron approach revealed that all the variables (Log_MCAP, Log_MPR, Log_CRR, Log_LQR, Log_BMS and Log_EXTR) were stationary at the first point of differencing. This informed the decision to adopt Johansen cointegration analytical technique.

Johansen Cointegration Test

Table 3: Result of Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.691635	120.4057	95.75366	0.0004
At most 1 *	0.589260	70.99396	69.81889	0.0402
At most 2	0.318827	33.62253	47.85613	0.5225
At most 3	0.156074	17.49710	29.79707	0.6033
At most 4	0.155156	10.37008	15.49471	0.2533
At most 5	0.075316	3.288729	3.841466	0.0698

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.691635	49.41178	40.07757	0.0034
At most 1 *	0.589260	37.37143	33.87687	0.0183
At most 2	0.318827	16.12543	27.58434	0.6551
At most 3	0.156074	7.127017	21.13162	0.9487
At most 4	0.155156	7.081353	14.26460	0.4796
At most 5	0.075316	3.288729	3.841466	0.0698

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Sources: E-Views 10 Output (2026)

Johansen cointegration test revealed that there is cointegration between the variables. In essence, there is a long run equilibrium relationship between monetary policy (monetary policy rate, cash reserve ratio, liquidity ratio, broad money supply and external reserves) and capital market performance (stock market capitalization). This is because there is at least one cointegrating equation in the Trace and Maximum Eigen value results.

Granger Causality Test

Table 4: Result of Pairwise Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
LOG_MPR does not Granger Cause LOG_MCAP	42	0.74209	0.4831
LOG_MCAP does not Granger Cause LOG_MPR		0.86890	0.4278
LOG_CRR does not Granger Cause LOG_MCAP	42	0.66744	0.5191
LOG_MCAP does not Granger Cause LOG_CRR		1.10133	0.3431
LOG_LQR does not Granger Cause LOG_MCAP	42	2.26830	0.1177
LOG_MCAP does not Granger Cause LOG_LQR		5.67694	0.0071
LOG_BMS does not Granger Cause LOG_MCAP	42	2.37340	0.1072
LOG_MCAP does not Granger Cause LOG_BMS		1.18541	0.3170
LOG_EXTR does not Granger Cause LOG_MCAP	42	0.87043	0.4272
LOG_MCAP does not Granger Cause LOG_EXTR		3.06504	0.0587
LOG_CRR does not Granger Cause LOG_MPR	42	0.30899	0.7361
LOG_MPR does not Granger Cause LOG_CRR		0.11487	0.8918
LOG_LQR does not Granger Cause LOG_MPR	42	0.60544	0.5512
LOG_MPR does not Granger Cause LOG_LQR		2.54216	0.0924
LOG_BMS does not Granger Cause LOG_MPR	42	0.42386	0.6577
LOG_MPR does not Granger Cause LOG_BMS		1.51976	0.2321
LOG_EXTR does not Granger Cause LOG_MPR	42	0.74761	0.4805
LOG_MPR does not Granger Cause LOG_EXTR		2.04058	0.1443
LOG_LQR does not Granger Cause LOG_CRR	42	5.43087	0.0085
LOG_CRR does not Granger Cause LOG_LQR		1.86865	0.1686
LOG_BMS does not Granger Cause LOG_CRR	42	3.21450	0.0516
LOG_CRR does not Granger Cause LOG_BMS		0.17448	0.8406

LOG_EXTR does not Granger Cause LOG_CRR	42	2.52641	0.0937
LOG_CRR does not Granger Cause LOG_EXTR		0.05176	0.9496
LOG_BMS does not Granger Cause LOG_LQR	42	2.95660	0.0644
LOG_LQR does not Granger Cause LOG_BMS		0.63327	0.5365
LOG_EXTR does not Granger Cause LOG_LQR	42	6.07123	0.0052
LOG_LQR does not Granger Cause LOG_EXTR		0.42679	0.6558
LOG_EXTR does not Granger Cause LOG_BMS	42	0.93514	0.4016
LOG_BMS does not Granger Cause LOG_EXTR		5.59197	0.0076

Sources: E-Views 10 Output (2026)

Pairwise granger causality test revealed that there is a unidirectional causality (relationship) between market capitalization and liquidity ratio (p = 0.0071), liquidity ratio and cash reserve ratio (p = 0.0085), external reserves and liquidity ratio (p = 0.0052), and broad money supply and external reserves (p = 0.0076). This is because their respective probability values are less than 5% (0.05).

VECM Estimation

Table 5: Result of VECM Estimation

Cointegrating Eq:	CointEq1
LOG_MCAP(-1)	1.000000
LOG_BMS(-1)	-0.310883 (0.23503) [-1.32275]
LOG_CRR(-1)	0.241097 (0.32975) [0.73114]
LOG_EXTR(-1)	-1.004337 (0.39619) [-2.53500]
LOG_LQR(-1)	9.712562 (1.22472) [7.93046]
LOG_MPR(-1)	0.234336 (0.79450)

	[0.29495]					
C	-29.93380					
Error Correction:	D(LOG_MCAP)	D(LOG_BMS)	D(LOG_CRR)	D(LOG_EXTR)	D(LOG_LQR)	D(LOG_MPR)
CointEq1	-0.326841	-0.000985	-0.185001	0.073212	-0.032532	-0.014888
	(0.04367)	(0.01200)	(0.03747)	(0.06453)	(0.01843)	(0.02308)
	[-7.48434]	[-0.08208]	[-4.93786]	[1.13446]	[-1.76558]	[-0.64512]
D(LOG_MCAP(-1))	0.285774	0.039122	0.345552	0.020571	0.049559	-0.076500
	(0.17262)	(0.04745)	(0.14811)	(0.25513)	(0.07284)	(0.09123)
	[1.65548]	[0.82452]	[2.33301]	[0.08063]	[0.68036]	[-0.83851]
D(LOG_BMS(-1))	1.211787	0.367052	-0.335406	-0.148765	-0.494753	-0.431358
	(0.54977)	(0.15111)	(0.47171)	(0.81253)	(0.23199)	(0.29056)
	[2.20417]	[2.42899]	[-0.71104]	[-0.18309]	[-2.13268]	[-1.48456]
D(LOG_CRR(-1))	0.295422	0.015835	-0.269143	-0.161024	0.042717	-0.040732
	(0.20698)	(0.05689)	(0.17759)	(0.30590)	(0.08734)	(0.10939)
	[1.42732]	[0.27834]	[-1.51552]	[-0.52640]	[0.48910]	[-0.37235]
D(LOG_EXTR(-1))	-0.021723	0.017941	-0.074247	-0.074280	-0.105560	-0.057500
	(0.11125)	(0.03058)	(0.09546)	(0.16442)	(0.04695)	(0.05880)
	[-0.19526]	[0.58668]	[-0.77781]	[-0.45176]	[-2.24857]	[-0.97790]
D(LOG_LQR(-1))	-0.008742	-0.012144	0.866326	-0.020498	-0.036717	-0.091431
	(0.38710)	(0.10640)	(0.33214)	(0.57211)	(0.16335)	(0.20459)
	[-0.02258]	[-0.11414]	[2.60831]	[-0.03583]	[-0.22478]	[-0.44690]
D(LOG_MPR(-1))	-0.582897	-0.026844	0.217403	0.971613	0.180446	-0.188775
	(0.36384)	(0.10001)	(0.31218)	(0.53773)	(0.15353)	(0.19229)
	[-1.60208]	[-0.26842]	[0.69640]	[1.80688]	[1.17532]	[-0.98170]
C	0.147737	0.120178	0.037911	0.070130	0.078701	0.133045
	(0.12753)	(0.03505)	(0.10942)	(0.18847)	(0.05381)	(0.06740)
	[1.15849]	[3.42853]	[0.34648]	[0.37209]	[1.46252]	[1.97398]
R-squared	0.259834	0.197581	0.447287	0.195313	0.446468	0.224817
Adj. R-squared	0.162452	0.032377	0.333493	0.029642	0.332505	0.065220
Sum sq. resids	6.385139	0.482401	4.700730	13.94698	1.136929	1.783561
S.E. equation	0.433357	0.119115	0.371829	0.640473	0.182864	0.229036
F-statistic	1.704392	1.195979	3.930673	1.178921	3.917669	1.408656
Log likelihood	-20.03780	34.20421	-13.60643	-36.44488	16.20069	6.744793
Akaike AIC	1.335133	-1.247819	1.028878	2.116423	-0.390509	0.059772
Schwarz SC	1.666118	-0.916835	1.359862	2.447408	-0.059524	0.390756
Mean dependent	0.220830	0.199688	0.029284	0.062153	-0.005940	0.027129

S.D. dependent	0.458675	0.121091	0.455450	0.650182	0.223822	0.236892

Determinant resid covariance (dof adj.)	8.57E-08
Determinant resid covariance	2.41E-08
Log likelihood	10.76335
Akaike information criterion	2.058888
Schwarz criterion	4.293035
Number of coefficients	54

Sources: E-Views 10 Output (2026)

From the VECM result, it was revealed that in the long run, broad money supply (-0.310883) and external reserve (-1.004337) have negative effects on market capitalization while cash reserve ratio (0.241097), liquidity ratio (9.712562) and monetary policy rate (0.234336) have positive effects on stock market capitalization. This is because of the sign reversal effects of long-run equilibrium relationship between variables ($Y_{t-1} + \beta_1 X_{1,t-1} + \ldots + \beta_k X_{k,t-1} + C$). In the long run also, the effects of external reserves (t = -2.53500) and liquidity ratio (t = 7.93046) were significant while the effects of broad money supply (t = -1.32275), cash reserve ratio (t = 0.73114) and monetary policy rate (t = 0.29495) were insignificant. This is because the t-values of external reserves and liquidity ratio are greater than ±1.96 while the test statistic values of broad money supply, cash reserve ratio and monetary policy rate are less than ±1.96.

However, in the short run, monetary policy rate, liquidity ratio and external reserves have negative effects on stock market capitalization while cash reserve ratio and broad money supply have positive influences on stock market capitalization. This implies that a percentage or unit increase in monetary policy rate, liquidity ratio and external reserves leads to about 0.582897, 0.008742 and 0.021723 unit decrease in stock market capitalization respectively while a unit increase in cash reserve ratio and broad money supply generates about 0.295422 and 1.211787 unit increases in stock market capitalization and vice versa. In addition, with the value of R-square being 0.259834 and F-statistic being 1.704392, it can be deduced that monetary policy rate, cash reserve ratio, liquidity ratio, broad money supply, and external reserves have a joint insignificant effect of about 26% on stock market capitalization in the short-run.

The above table also shows that the ECM equation has the desired negative sign of -0.326841 and t-value of -7.48434 (which is greater than ±1.96). Thus, in an event of any shock to the established long run equilibrium relationship between monetary policy and capital market performance, the speed at which equilibrium can be re-established is about 32.68% per annum.

Diagnostic Tests

Table 6: Result of Diagnostic Tests

Tests	Criterion	Tests	Probability	Remark

		statistic Value	**Value**	
Normality Tests	Jarque-Bera	5.973140	0.050460	Present
Serial Correlation	Breusch-Godfrey LM Test	0.225638	0.7992	Absent
Heteroscedasticity	ARCH	2.719466	0.1070	Absent

Source: Researcher's Desk

First, given that the probability value of Jarque-Bera statistic (0.050460) is slightly greater than 0.05 (5% level of significance), it follows that the errors of model are normally distributed as expected. In other words, the generated errors of the model, if plotted in a graph, will depict a bell-shaped normal curve, which is one of the major OLS (Ordinary Least Square) assumptions.

Second, since the probability value of Breusch-Godfrey LM Test statistic (0.7992) is greater than 0.05 (5% level of significance), it follows that there is no evidence to suggest the presence of serial correlation in the results. In essence, the errors of the model are not correlated. Put differently, the error of one observation does not affect that of another observation. This result was expected because one of the OLS assumptions is that there should be no presence of serial correlation.

Finally, given that the probability value of F-statistic (0.1070) is greater than 0.05 (5%), it means that the errors of the model are not heteroscedastic but homoscedastic. This means that the errors of the model have equal or constant variance, which is a desired feature of regression models.

Discussion of Findings

Monetary Policy Rate and Market Capitalization

Like Isah (2024) and Nkoro and Uko (2016), this study revealed that monetary policy rate has negatively and insignificantly affected stock market capitalization in Nigeria. This is so because an increase in Central Bank of Nigeria's monetary policy rate will first of all push other rates like lending rate up. When lending rate goes up, people will borrow less from the banks and this will reduce liquidity in the banking system and by extension the economy. This as well will affect corporate entities as their investments will be curtailed, which will affect their individual performances and the overall performance of the capital market and vice versa (Leith, 2019; Chen & Xie, 2016).

However, the study expected the effect to be significant as well but the reverse was the case. It is possible that this is as a result of the poor manner in which Nigerian banks are regulated. These banks are allowed to maintain excess reserves which they can always fall back on in an even where the apex bank comes up with tightening measures like increasing monetary policy rate. Such a move by the banks ends up making CBN's monetary policy directives with respect to monetary policy rate ineffective (Akinkuotu, 2018).

Cash Reserve Ratio and Market Capitalization

This study subsequently showed that there is a positive insignificant nexus between cash reserve ratio and stock market capitalization in Nigeria. In essence, this result is saying that if by chance the CBN increases the primary reserves of deposit money banks, it will lead to an increase in the performance of the capital market. This outcome of the study disagrees with the study's expectation of a negative nexus between cash reserve ratio and stock market capitalization because in an event where cash reserve ratio is increased in an event to pursue a contrast economic activities and reduce money supply, corporate entities will find it difficult to expand and this will affect the performance of the capital market (Akani & Imegi, 2017).

However, this unexpected outcome of a positive and insignificant nexus between cash reserve and market capitalization can be attributed to the underdeveloped nature of the Nigerian money and capital markets which is a prerequisite for the effectiveness of monetary policy (Akinkuotu, 2018).

Liquidity Ratio and Market Capitalization

With respect to liquidity ratio and market capitalization in Nigeria, the study showed a negative insignificant effect. The first part of this result was envisaged because like monetary policy rate and cash reserve ratio, any move by the Nigerian apex bank to increase liquidity ratio will lead to a decline in the performance of the capital market because of the negative multiplier effects of a fall in banks' loanable funds and output of business organizations (Anyanwu & Ohurogu, 2024; Meshack & Nyamute, 2016). Nevertheless, it was expected that the effect of liquidity ratio, a major monetary policy tool, should be significant. This less desired insignificant outcome of liquidity ratio on market capitalization can be attributed to the reactive, instead of proactive, nature of monetary policy in Nigeria.

Basically, monetary authorities are expected to be proactive but in Nigeria, the reserve is the case and this makes monetary policy less effective in this part of the world. Again, there is need to factor in the lag between monetary policy formulation, execution and results.

Broad Money Supply and Market Capitalization

Again, this study projected that money supply has a positive and significant relationship with stock market capitalization in Nigeria. These outcomes were very much expected because an increase in money supply ordinarily will lead to a spike in economic activities which has the tendency to lead to business growth and expansion. A boom in economic and business activities ordinarily translates to increase in the share prices of companies and this leads to enhanced performance of the capital market and vice versa (Schrank, 2024; Muktadir-Al-Mukit, 2013).

In addition, when the capital market is doing well as market capitalization and other performance indicators like the All-Share index, volume and value of transactions will suggest, investors from within and outside the country will be encouraged to invest more in the market and the circle continues. This buttresses the

fact that the capital market is a major macroeconomic signpost that signals the health or otherwise of a country over time (Udeorah, Oladosu & Odiche (2025).

External Reserves and Market Capitalization

Finally, it was observed that external reserves have a negative insignificant influence on stock market capitalization in Nigeria which runs contrary to the expectation that external reserves should have a positive and significant effect on stock market capitalization. This anticipated outcome is based on the fact that external reserve management is aimed at ensuring that the value of currency is stabilized against volatility. As such, in an event where the external or foreign reverses of a country goes up, value of the country's currency should be stable and stronger and this attracts investors into a country. The inflow of investors no doubt will trigger the performance of the capital market alongside other financial markets (Elite, 2023).

However, this unwanted outcome may not be unconnected with the poor state of Nigeria's external reserves which is poorly managed (Lawson & Amenze, 2022; Alubuo & Chika, 2020). According to Anyamaobi (2023), there is no concerted and well-structured plan to ensure that the country's foreign reserves do not fall below a given threshold.

Conclusion and Recommendations

Conclusion

The main purpose of this study was to investigate the effects of selected monetary policy tools on capital market performance over a period of 44 years (1981 and 2024). The study produced mixed outcomes suggesting that monetary policy rate, liquidity ratio and external reserves have negative effects on stock market capitalization while cash reserve ratio and broad money supply have direct influences on stock market capitalization.

Also, the considered monetary policy variable exerts only about 26% effect on market capitalization, which underlines the fact that monetary policy alone does not determine the performance of the Nigerian capital market. Hence, the study concluded that monetary policy has mixed effects on capital market performance in Nigeria.

Recommendations

1. The Central Bank of Nigeria should sustain a controlled expansionary money supply policy. This is because increase in money supply significantly boosts market capitalization in the short-run by enhancing liquidity. However, this should be channeled to the productive sector and capital market to avoid inflationary pressure.
2. The CBN should maintain a low and stable MPR. High MPR increases cost of borrowing and makes fixed income securities more attractive than equities, which depresses market capitalization. A moderate MPR will reduce portfolio switch from the capital market to money market.

3. The apex bank should review the current high liquidity ratio. Excessive high liquidity ratio locks up loanable funds in banks that could have been invested in the capital market. An optimal liquidity ratio that balances financial stability and investable funds should be adopted.
4. The apex bank again should keep cash reserve ratio at an optimal level that ensures banking system stability and investor confidence without excessively crowding out private sector credit to the capital market.
5. The CBN once more should ensure efficient management of external reserves. The negative short-run effect suggests that excessive accumulation of reserves at the expense of domestic market liquidity may dampen capital market performance. reserves should be used strategically to defend the naira and boost foreign investor confidence rather than just for accumulation.

Contribution to Knowledge

To a very large extent, this study contributes to bridge knowledge gap in the sense that it introduces a model for predicting the relationship between monetary policy and capital market performance in the context of Nigeria. The said model, as a departure from the norm, considered external reserves as a monetary policy related variable. This is because the objective of external reserves management aligns with that of monetary policy which is stabilization of price.

Limitations of the Study

This study, like others, was not without its limitations. The most pronounced of these limitations is the use of the Johansen analytical technique which ordinarily requires a large sample. Hence, applying it to 44 annual observations with six variables is a limitation. Again, the CBN introduced monetary policy rate (MPR) in December 2006, so for the period 1981 to 2006, minimum rediscount rate was used to proxy MPR. Finally, the recent delays by the CBN in publishing its annual bulletin affected the period scope of the study.

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