
STOCK MARKET LIQUIDITY IN NIGERIA: THE EFFECTS OF INTEREST RATE AND MONEY SUPPLY

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ABSTRACT

This study investigated effects of interest rate and money supply 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 Reports was used in the study. Vector Auto regression estimation technique with Variance Decomposition and Impulse Response Function were employed to analyze the data. Findings suggest that interest rate has a significant negative effect on stock market liquidity while money supply has significant positive effect on stock market liquidity in Nigeria. The study concludes that shock from interest rate reduces stock market liquidity, also, shock from money supply increases stock market liquidity, although, shock from money supply has more explanatory power on stock market liquidity in Nigeria. The study thus recommends that the Central Bank of Nigeria should reduce the interest rates in order to stimulate the stock market liquidity in Nigeria. Also, the Central Bank of Nigeria should control money supply, the Central Bank of Nigeria needs to explore other measures such as contractionary open market operation to mop-up excess liquidity where and when necessary.

Keywords: Interest rate, money supply, stock market liquidity, vector auto regression

INTRODUCTION

The stock market has become an important institution of great concern to investors, stakeholders and governments. It is part of the broader market referred to as financial market, that deals in exchange of securities issued by publicly quoted companies and the government. The provision of liquidity is an important role played by any thriving stock market in a country's economy. In this way, the stock market provides investors with an efficient mechanism to liquidate their investments in securities when they want (Gompers, 2022).

Stock market liquidity is the ability of the market to absorb fairly, large volumes of stock trade without causing significant movement in prices and with minimum loss of value. A liquid stock market is one whose assets are easily and rapidly sold with minimum loss of value, at any time within market hours. Stock market liquidity reflects investor expectations about corporate performance in terms of earnings, cash flow and required rate of return. They are one of the better leading indicator series in any economy and react to various leading indicator series like interest rate and money supply (Khan et al., 2022).

Liquid markets are characterized by ready and willing buyers and sellers at all times. In addition, the liquidity created by stock markets enable investors to buy or sell stocks without hampering their long-term investment plans, while providing long-term capital to companies (Pan & Mishra, 2018). In an economy such as Nigeria, stock market liquidity has been identified as an agent of economic stability and growth.

The effects of interest rate on stock exchange provide important implications for monetary policy, risk management practices, financial securities valuation and government policy towards financial markets. Interest rate is the rental payment for the use of credit by borrowers and return for parting with liquidity by lenders. Interest rate may also be seen as the price of credit which might be subject to distortions due to inflation and can affect the stock market liquidity. In the wake of interest rate being high, the debtor will have a tendency to compensate for the rise in interest rates. Therefore, loan lenders will avail loans at a higher rate. This plays a significant role in prohibiting funds from being invested in stock markets (Yao & Yang, 2022).

The term money supply is a monetary variable that refers to the quantity of money issued by a country's monetary authority. It is the total amount of money available in an economy at a point in time. An increase in money supply usually results in excess money pursuing few goods and services within the economy, these include stocks. Money supply is a monetary variable that refers to the quantity of money issued by a country's monetary authority. An increase in money supply usually results in excess money pursuing fewer goods and services within the economy, these include stocks. When money supply increases in the economy, there is a higher demand for stocks causing an increase in the stock price. An increase in the money supply is expected to create excess supply of money balances and, in turn, excess demand for stocks. Stock prices are expected to rise as a result of increase in the supply of money in the economy (Hirota, 2023).

The stock market houses a large chunk of the nation's wealth and has continued to be the major discuss of various studies such as (Okechukwu et al., 2019; Kakoti, 2019; Temuhale & Achugbu, 2019; Odiche & Udeorah, 2020) since the advent of the global financial crisis. With the recent decline observed in the Nigerian stock market, various studies have examined the effectiveness of macroeconomic variables like interest rate and money supply on improving the stock market liquidity in Nigeria. Evidence concerning the relationship among interest rate, money supply and stock market liquidity in Nigeria still offers some methodological gaps.

Research on the relationship among interest rate, money supply and stock market in developing countries, such as Nigeria is still ongoing. The growing theoretical literature in these areas has also witnessed increasing empirical testing and validation but most of these empirical studies have been for advanced economies and only few studies like (Oyedeko, 2016; Okoro, 2017; Temuhale & Achugbu, 2019; Josiah & Akpoveta, 2019; Etale & Tabowei, 2019; Okechukwu et al., 2019; Olokoyo et al., 2020) have studied emerging and developing countries like Nigeria. Obviously, there exists scope, methodological and findings gaps in many of the studies reviewed.

Studies carried out in Nigeria mostly employed GARCH technique of analysis to test volatility. Contrarily, this study employed Vector Auto regression Model since its objective was not to test for volatility of the stock market. Lastly, studies on effect of interest rate and money supply on stock market liquidity in Nigeria used data from 1981 to 2018. As such, no extant study on the topic in Nigeria captured data on the considered variables up to the year 2022. Therefore, this study also fills the gap in knowledge in terms of period covered in this regard.

The main objective of this study is to examine the effect of interest rate and money supply on stock market liquidity in the Nigerian capital market. The specific objectives are to:

- i. Examine the effect of interest rate on stock market liquidity in Nigeria.
- ii. Ascertain the effect of money supply on stock market liquidity in Nigeria.

The rest of the paper is structured into five sections. Following this introduction is literature review and hypotheses formulation. Section three discussed the methodology adopted for the study, section four discussed the data analysis and results, while section five provides conclusion and recommendations.

LITERATURE REVIEW

Concept of Interest rate

Interest rate is the reward for not hoarding, but for parting with liquidity for a specific period of time (Keynes, 1995). This definition of interest rate focuses more on lending rate. Adebisi (2002) defined interest rate as the return or yield on equity or the opportunity cost of deferring current consumption in the future. To Jhingan (2001), interest is the price which equates the supply of credit or savings plus net increase in the amount of money in the period, to the demand for credit or investment plus net hoarding in the period. This definition implies that interest rate is the price of credit, which like other price is determined by forces of demand and supply; in this case, the demand and supply of loanable funds. Anyanwu (2003) viewed interest rate as the price of money, the amount of interest paid per unit of time

expressed as a percentage of the amount borrowed. Interest rates differ mainly in term/maturity, that is, the length of time for repayment and liquidity that is quick conversion of assets to funds.

Concept of Money Supply

Money supply is the total amount of monetary assets available in an economy at a specific time. There are several ways to define money supply but standard measures usually include currency in circulation and demand deposits. The supply of money at any moment is the total amount of money in the economy. According Anyanwu and Oaikhenan (2005), money supply is the assets which represent immediate purchasing power in the economy and which as a result, function as a medium of exchange. The supply of money is the stock of money at a particular point in time.

Jhingan (2006) defined money supply as the total supply of money in circulation in a given country's economy at a given time. Money supply is an important instrument for controlling inflation. Some economists argue that growth in money lead to inflation if money demand is stable. Money supply variable used in this study is M2 otherwise known as broad money supply. There are several standard measures of the money supply, including the monetary base, M1, and M2. The monetary base is defined as the sum of currency in circulation and reserve balances (deposits held by banks and other depository institutions in their accounts at the Central Bank).

Stock Market Liquidity

According to Omet (2011), liquidity is the ability to trade financial securities easily and at a low cost. This definition sees liquidity as the market's ability to absorb large amount of trades without causing excessive price movements. In addition, liquid markets are characterized by narrow bid and ask spreads. This means that transactions are carried out in a cost effective manner. Bokpin (2013) defined liquidity as the easiness to trade, in order words, investors do not lose access to their savings for the duration of the investment project because they can easily, quickly and cheaply, sell their stake in the company. It is a measure of the value of securities transactions relative to the size of the securities market.

Interest Rate and Stock Market Liquidity

Gu et al. (2022) examined whether the central bank should use monetary policy to help the stock market or not. Based on macroeconomic data such as interest rate and the stock market, the study adopted Bayesian time-varying regression model to determine that the impact of interest rate change on stock return vary over time in China, after controlling various macroeconomic factors. Although interest rates negatively impact stock price returns on average, they have an abnormal positive effect at market high points, following a time-varying dynamic pattern. Surprisingly, during periods of overheated economic development, an increase in interest rates cannot suppress the rise in stock prices.

Similarly, Conrad (2021) examined the effects of monetary expansion and interest rate changes on investment behavior on the stock market by illustrating two behavioral experiments with students. The study found that increase in money supply and decrease in interest rates had a direct positive impact on share prices. These findings support the hypothesis that extreme expansive monetary policy with low, zero or negative interest rates encourage financial bubbles on the stock market.

Also, Sampene et al. (2021) examined the impact of interest rates on the Ghana Stock Exchange performance from 2000 to 2019 and found that interest rates significantly impact stock composite index. The inference is that increase in interest rates would result in a drop in Ghana Stock Exchange Composite Index. Results of the study also indicated a long-run cointegration among interest rate and the Ghana stock composite index was a significant. In addition, Awadzie (2020) and Olokoyo et al. (2020) investigated effect of macroeconomic variables on stock market performance, focusing on the impact of interest rate, inflation rate fluctuation, foreign capital flows, exchange rate, GDP growth, and trade. The both studies reported that macroeconomic indicators have negative relationship with stock market performance.

In other studies, Josiah and Akpoveta (2019) found that sound macroeconomic environment reflective of coherent exchange rate, sufficient money supply, exchange rate, increased output and financial

openness stimulates stock market returns in Nigeria. Demir (2019) analysed the impact of macroeconomic factors on the Turkish Stock Market and found that that interest rate and crude oil prices negatively affect Turkish Stock Market index. Kakoti (2019) observed that real interest rate, real effective exchange rate, broad money supply and rate of inflation are determinants of stock market volatility.

Also, Keswani and Wadhwa (2019) found negative relationship between interest rate and inflation rate and share price. Etale and Tabowei (2019) showed that interest rate and inflation have insignificant negative association with market capitalization in Nigeria. Okechukwu et al. (2019) showed that interest rate has a negative relationship with stock market returns, while Haider and Tariq (2018) reported that macroeconomic variables have significant explanatory power on stock market fluctuations in various portfolios. More so, Fernando (2018) examined impact of macroeconomic variables (Interest rate, inflation, money supply and exchange rate) on stock market volatility in Sri Lankan stock market and found that a significant negative effect of Treasury bill Rate and Exchange Rate on stock returns, while Khalid and Khan (2017), Egbetunde et al. (2017), Jareno and Negrut (2016) and Balogun et al. (2016) revealed that interest rate has negative long run impact on stock market development.

Consequently, the study conjectured as follows:

H₀₁: Interest rate has no significant effect on stock market liquidity in Nigeria.

Money Supply and Stock Market Liquidity

Gunardi and Disman (2023) examined effect of money supply and interest rates on stock prices in Indonesia and Malaysia for a period covering 2000-2020. The results of the study show that both money supply and interest rates have influence on stock prices in Indonesia, while only interest rates have influence on stock prices in Malaysia. In Aremo et al. (2020), the effect of macroeconomic variables on stock market returns in Nigeria within the period 1985 and 2014 was examined. The findings showed that money supply and trade openness have significant positive effect on stock market returns in the long-run.

Also, Odiche and Udeorah (2020) used secondary data sourced from the CBN statistical bulletin to evaluate the dynamic influence of activities of macroeconomic variables and stock performance in Nigeria from 1986 to 2015. The study discovered the existence of long-run relationships among market capitalization and interest rate, exchange rate, and money supply. The Granger causality test revealed no bidirectional relationship among the independent variables and market capitalization.

Molefhi (2019) and Temuhale and Achugbu (2019) examined impact of macroeconomic variables on stock and bond market development in Botswana and Nigeria respectively. The studies show that in the short run, real output, money supply and inflation have positive influence on stock market development, while money supply has weak negative and statistically significant effect on stock market returns both in the short run. Also, Ndlovu et al. (2018) assessed the relationship between macroeconomic variables (money supply growth, interest rates and exchange rate) using data spanning 1981 to 2016. The study reported that in the long run, interest rates, money supply and inflation have positive relationship with share price while exchange rate has negative effect on stock prices. Also, the impulse response function further confirmed causal relationships between the variables and the stock price.

Furthermore, Celebi and Michaela (2018) investigated impact of macroeconomic factors on the German main stock index for the period of 1991 to 2016 and found evidence that growth rates of money supply have strong impact on stock returns. Rathnayaka and Seneviratna (2017) examined the relationships between the stock market indices and macro-economic factors in Sri Lankan during the period from 2009 to 2016 using VAR and VECM and revealed that macroeconomic variables have direct effect on high volatility in Stock Market fluctuations. Rjoub et al. (2017) undertook a fixed panel data analysis for the period of 1995 to 2015 and showed that money supply and interest rate are significantly related to stock price, and that a bidirectional causality exists between money supply and bank stock price.

In other studies, Okoro (2017) examined the effect of selected macroeconomic factors on stock market performance in Nigeria and observed that a combination of GDP, money supply, interest rate, inflation rate and exchange rate could not be used to predict performance of the stock market in Nigeria. Vladimír (2017) showed that money supply influence valuation of S&P 500 index with 6 months lag. Rasmiah and Rasmiah (2016) revealed that money supply positively and significantly influence stock market liquidity. Ernest et al. (2016) discovered that increase in money supply does influence stock market positively. Ahzabeen (2016) indicates a relationship with money growth, interest rate. But Granger causality test shows that there is only a slight relationship with short term interest rate. Oyedeko (2016) revealed that money supply exerts positive influence on stock market performance.

Based on the forgoing, we hypothesize that:

H₀₂: Money supply has no significant effect on stock market liquidity in Nigeria.

Theoretical Framework

This study is anchored on Arbitrage Pricing Theory (APT) propounded by Stephen Ross in 1976. APT is a multifactor model where multiple risk factors are used to explain asset returns (Ross, 1976), and in which, every investor believes that the stochastic properties of returns of capital assets are consistent with factors structure. Ross (1976) argued that if equilibrium prices offer no arbitrage opportunities over static portfolio of assets, then expected returns on assets are approximately linearly related to the factor loadings or beta. In other words, expected returns of a financial asset can be modeled as a linear function of various macroeconomic variables or theoretical market indices, where sensitivity to change in each factor is represented by a factor specific beta coefficient. The model-derived rate of return will then be used to price assets correctly and asset prices should equal expected end of period price discounted at the rate.

APT posits another way of relating macroeconomic fundamentals to stock market liquidity. It is however, an extension of Capital Asset Pricing Model (CAPM) based on the mean variance framework anchoring on the assumption of the process generating security. Assumptions of APT include competitive market, homogenous expectations, and frictionless capital markets. According Ross (1976), the main influences on stock returns are economic players such as unanticipated shifts in risk premiums; changes in the expected level of industrial production; unanticipated inflation and unanticipated movements in the shape of the term structure of interest rate.

These factors are denoted with factor specific coefficients that measure the sensitivity of the assets to each factor. APT is a different approach to determining asset prices and it derives its basis from the law of one price. In an efficient market, two items that are the same cannot sell at different prices; otherwise an arbitrage opportunity would exist. APT requires that the returns on any stock should be linearly related to a set of indexes.

From the foregoing, the researcher note that the basic assumption of APT is that many macroeconomic factors such as GDP, inflation rate; Interest Rate, Exchange Rate and Money Supply are involved in the determination of risk and return relationship. Hence, APT is used to underpin the study. Interestingly, APT does not specify the type or the number of macroeconomic factors for researchers to include in their study. According to APT, any new information about the fundamental macroeconomic factors such as real output, inflation, exchange rate, interest rate, foreign investment and so on may influence the stock price/returns through the impact of expected dividends, the discount rate or both (Naik & Padhi, 2012).

METHODOLOGY

This study adopted an ex post facto research design. The independent variables are interest rate and money supply while the dependent variable is stock market liquidity. The study covered the periods of 1985 to 2022 and employed Vector Auto regression (VAR) as the estimation technique since it was established that there is no long run relationship among the variables. Based on the co-integration test

result that revealed that the variables have no long-run equilibrium relationship, then, it is a sufficient condition for VAR. If variables are stationary at first difference, and not co-integrated, their dynamic relationship is specified correctly by VAR model (Granger & Engle, 1987).

The model of this study is specified as;

$$\log\text{SMKLA}_t = \beta_0 + \beta_1 \log\text{INTR}_t + \beta_2 \log\text{MSPL}_t + \mu_t \text{-----(1)}$$

Where:

logSMKLA= log value of Stock Market Liquidity

logINTR= log value of Interest Rate

logMSPL= log value of Money Supply

β_0 = Constant term

β_1 - β_2 = coefficient of the explanatory variable

The VAR model is estimated thus;

$$\log\text{SMKL}_t = \alpha + \sum_{i=1}^k \beta_i \log\text{SMKL}_{t-i} + \sum_{j=1}^k \phi_j \log\text{INTR}_{t-j} + \sum_{m=1}^k \varphi_m \log\text{MSPL}_{t-m} + \mu_{1t} \text{-----(2)}$$

$$\log\text{INTR}_t = \sigma + \sum_{i=1}^k \beta_i \log\text{INTR}_{t-i} + \sum_{j=1}^k \phi_j \log\text{SMKL}_{t-j} + \sum_{m=1}^k \varphi_m \log\text{MSPL}_{t-m} + \mu_{2t} \text{-----(3)}$$

$$\log\text{MSPL}_t = \vartheta + \sum_{i=1}^k \beta_i \log\text{MSPL}_{t-i} + \sum_{j=1}^k \phi_j \log\text{SMKL}_{t-j} + \sum_{m=1}^k \varphi_m \log\text{INTR}_{t-m} + \mu_{3t} \text{-----(4)}$$

DATA ANALYSIS AND RESULTS

Table 1: Descriptive Statistics

	SMKL	INTR	MSPL
Mean	6.506389	13.56111	2908993.
Maximum	17.56000	26.00000	31010122
Minimum	1.020000	6.100000	22.29924
Std. Dev.	3.563158	3.609118	8402600.
Jarque-Bera	3.178528	15.55124	72.64688
Probability	0.204076	0.000420	0.000000
Observations	38	38	38

Source: Eviews 12 Output, 2023.

Table 1 shows the mean of Stock Market Liquidity (SMKL), Interest Rate (INTR) and money supply (MSPL) for the period under study. The mean of stock market liquidity is 6.506389, Interest Rate is 13.56111, while that of money supply is 2908993. The maximum value of SMKL, INTR and MSPL are 17.56, 26 and 31010122 respectively. The minimum value of SMKL, INTR and MSPL are 1.02, 6.1 and 22.29924 respectively.

Table 2: Correlation Analysis

	LOG(SMKL)	LOG(INTR)	LOG(MSPL)
LOG(SMKL)	1		
LOG(INTR)	-0.4447	1	
LOG(MSPL)	0.4396	-0.2008	1

Source: Eviews 12 Output, 2023.

The correlation matrix is used to determine the relationship between the dependent and independent variables; it is also used to examine the relationship among the independent variables of the study to detect multicollinearity problem. Interest rate has a negative relationship with stock market liquidity. Likewise, money supply has a positive relationship with stock market liquidity. The relationship between money supply and interest rate is 20 per cent. The relationship among the independent variables is not too high to cause multicollinearity among them. There correlation coefficient between interest rate and money supply is not greater than 0.8, hence there is could be no problem of multicollinearity of data (Wallace & Naser, 2005).

Table 3: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-122.1957	NA	0.396152	7.587618	7.723664	7.633393
1	-60.63428	108.1989*	0.016441*	4.402077*	4.946262*	4.585179*
2	-57.53847	4.878242	0.023895	4.759907	5.712230	5.080335
3	-54.58316	4.119523	0.035849	5.126252	6.486714	5.584006

Source: Eviews 12 Output, 2023.

Table 3 above shows that Akaike Info Criterion has the lowest absolute value of -0.093551 at lag 1. This shows that lag 1 is the most preferable lag to be selected for this analysis.

Stationarity Test

Table 4: Augmented Dickey-Fuller Unit Root Test

LEVEL		FIRST DIFFERENCE				
Variables	ADF Test Statistic	Critical Value @ 5%	ADF Test Statistic	Critical Value @ 5%	Max Lag	Order of Integration
LogSMKL	-2.348191	-3.544284	-6.248760	-3.548490	1	1(1)
logINTR	-2.971661	-3.544284	-6.341543	-3.548490	1	1(1)
logMSPL	-1.591546	-3.544284	-6.160425	-3.548490	1	1(1)

Source: E-views 12 Output, 2023.

At level, SMKL, INTR and MSPL are not stationary because their absolute values of the ADF test statistics are less than the critical values at 5% level of significance respectively. After first difference, SMKL, INTR and MSPL became stationary as their ADF test statistics values become greater than their critical value at 5% level of significance.

Co-Integration Analysis

Table 5: Johansen Co-Integration

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.311932	18.41204	29.79707	0.5357
At most 1	0.150190	5.700550	15.49471	0.7306
At most 2	0.004908	0.167289	3.841466	0.6825
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.311932	12.71149	21.13162	0.4791
At most 1	0.150190	5.533261	14.26460	0.6735
At most 2	0.004908	0.167289	3.841466	0.6825

Source: Eviews 12 Output, 2023.

Table 5 shows the Johansen test of co-integration that displays the Trace and Maximum Eigen value test, this test is performed to decide the order of co-integration; the result of the co-integration test indicates that this study accepts the null hypotheses that there is no co-integration among the variables because the p-value of trace statistics of 0.5357 and maximum Eigen value of 0.4791 are greater than 0.05. It therefore means that the three variables have no long run relationship. But since the variables are stationary at the same order of I(1) using Augmented Dickey Fuller Test. Therefore, the study employs Vector Auto regression Estimation technique.

Table 6: Variance Decomposition of log(SMKL)

Variance Decomposition of LOG(STRA):				
Period	S.E.	LOG(SMKL)	LOG(INTR)	LOG(MSPL)
1	0.451029	100.0000	0.000000	0.000000
2	0.559608	98.94024	0.217717	0.842040
3	0.606680	96.56327	0.839234	2.597499
4	0.634292	93.49753	1.225191	5.277284
5	0.656569	89.89164	1.279179	8.829185
6	0.678321	85.71642	1.205883	13.07770
7	0.701163	81.07915	1.142316	17.77854
8	0.725600	76.17983	1.131888	22.68828
9	0.751754	71.21688	1.178238	27.60488
10	0.779581	66.34564	1.273274	32.38109

Source: Eviews 12 Output, 2023.

Table 6 shows the Variance Decomposition of. It can be noticed that from the first period to the fifth periods, which account for the short run shock, it can be noticed that variation in stock market liquidity is attributed stock market liquidity mainly to own shock representing about 898%, with shocks in interest rate accounting for 127%, while shocks from money supply accounted for about 882% of the changes in stock market liquidity in the short run respectively. Moving from the sixth to tenth period, stock market liquidity shock in the long run accounted for 663% for its own shock. Shock from interest rate can cause 127% percent fluctuation in stock market liquidity in the long run. Also, shock from money supply can cause 323% fluctuation in stock market liquidity in the long run.

Test of Hypotheses

Ho₁: Interest rate has no significant effect on stock market liquidity in Nigeria

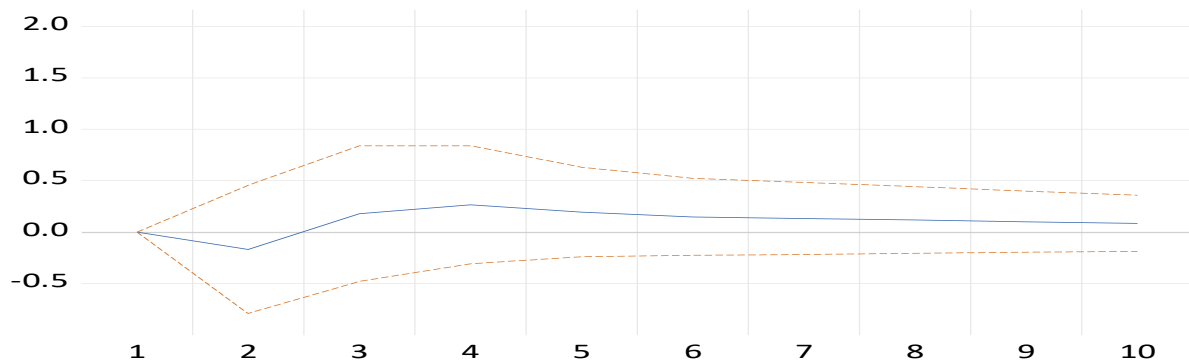


Fig. 1: Response of stock market liquidity to changes in interest rate

Source: Eviews 12 Output, 2023.

Fig. 1 shows a negative response of stock market liquidity to shock from interest rate. The response falls below the zero origin before it does slip above the point of origin. It can be inferred from the figure above that interest rate has significant negative effect on stock market liquidity in Nigeria. The effect of interest rate on stock market liquidity is significant because the variance decomposition indicates that interest rate contributes 127% to stock market liquidity in the short and long run respectively.

H₀₂: Money Supply has no significant effect on Stock Market Liquidity in Nigeria

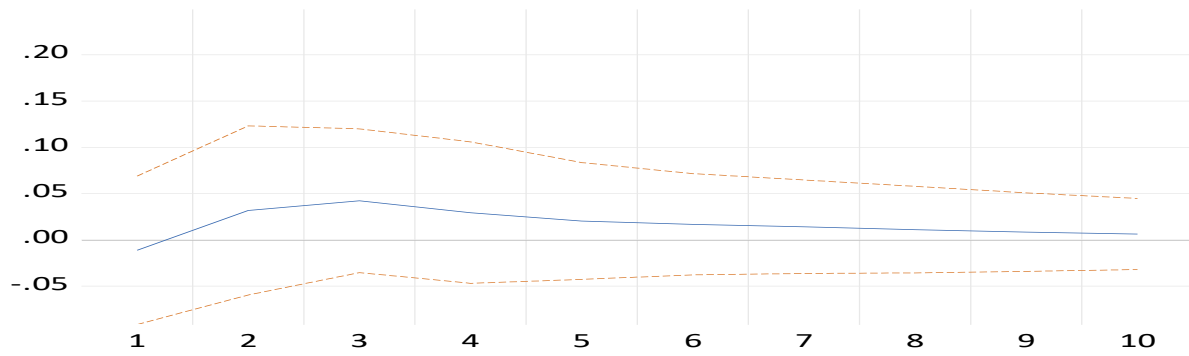


Figure 2 Response of Stock Market Liquidity to Changes in Money Supply
Source: Eview 12 Output, 2023.

Fig. 2 shows a positive response of stock turnover ratio to the shock from money supply. The response rise above the zero origin and it does slip below the point of origin. It can be inferred from the figure above that money supply has a significant positive effect on stock market liquidity in Nigeria. The effect of money supply on stock market liquidity is significant because the variance decomposition indicates that money supply contributes 882% and 323% to stock market liquidity in the short and long run respectively.

Table 7 Residual Analysis

Test	P-Values
Heteroskedasticity Test	0.2175
Serial Correlation LM Test	0.8559
Normality Test	0.2175

Source: Eviews 12 Output, 2023.

Table 7 shows the result of the residual examination performed to test for the adequacy of the model, the outcome showed that the residuals have no serial correlation, they are homoscedastic and are normally distributed since all the p-value are more than 0.05.

DISCUSSION OF FINDINGS

This study examined effects of interest rate and money supply on stock market liquidity in Nigeria for the periods of 1985 to 2020. The study found that shock from interest rate has significant negative effect on stock market liquidity in Nigeria. It shows that an increase in interest rate reduces stock market liquidity in Nigeria. And this means that individuals will move towards depositing their money in banks rather than investing them in stocks, which will decrease the prices of stocks. This is consistent with the results of Demir (2019); Okechukwu et al. (2019); Awadzie (2020); Olokoyo et al. (2020).

Likewise, the study found that shock from money supply has significant positive effect on stock market liquidity in Nigeria for the period under study. The effect of money supply on stock market liquidity is significant because the variance decomposition indicates that money supply contributes 882% and 323% to stock market liquidity in the short and long run respectively. Increase in money supply will influence the willingness of individuals to exchange money for goods, services and assets. Increase in money supply propels a general increase in the level of aggregate demand.

The increase in demand further translates to the stock market through increase in the level of investment. The increase in money supply and its resulting decrease in interest rates make stock and equity more attractive investment. This has every tendency of not just to increase the size of the stock market but also its liquidity. When money supply increases in the economy, there is a higher demand for equity. Investors tend to switch to equity because of it promised higher return, causing an increase in stock

market liquidity. This corroborates the findings of earlier studies done by Rasmiah and Rasmiah (2016); Ernest et al. (2016); Oyedeko (2016); Celebi and Michaela (2018); Molefhi (2019).

CONCLUSION AND RECOMMENDATIONS

This study concludes that interest rate has negative effect on stock market liquidity in Nigeria, Shock from interest rate reduces stock market liquidity, also, shock from money supply increases stock market liquidity, although, shock from money supply has more explanatory power on stock market liquidity in Nigeria.

The study recommends that the Central Bank of Nigeria should reduce the interest rates in order to stimulate the stock market in Nigeria. A reduction in interest rates will create a bullish stock market in Nigeria. Investors prefer bank deposits as the best instruments in which to invest their savings when interest rate is high. The Central Bank of Nigeria should control money supply, the CBN needs to explore other measures such as contractionary open market operation to mop-up excess liquidity where and when necessary. The CBN also needs to collaborate with the fiscal authorities in order to ensure that the contractionary monetary policy is not crowded out by an opposing expansionary fiscal policy.

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