

Navigating Financial Stability Through Monetary Policy Instruments in Nigeria

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Abstract

This study examines the dynamic effects of monetary policy on financial stability in Nigeria from 1981 to 2022. The study draws upon the "leaning against the wind" theory to explore how variables such as financial stability, exchange rate, interest rate, and money supply interact within the Nigerian economy. Data for the analysis were collected from Statistical Bulletin of "Central Bank of Nigeria" (CBN) and the National Statistics Bureau. Using the Ordinary Least Squares (OLS) technique, the findings reveal that interest rate has positive non-significant effect on financial stability, the exchange rate has significant negative effect, suggesting that the fluctuations in exchange rates may destabilize the financial system. While money supply on the other hand, has positive significant influence on financial stability, indicating a critical role in economic management and financial stability in Nigeria. The study concludes that monetary policy significantly impacts financial stability, with the exchange rate channel playing a pivotal role in ensuring stability.

Keywords: Exchange rate, Financial Stability, Financial Deepening, Monetary Policy

1.0 Introduction

Financial instability has significantly affected economic performance, bringing the nexus of monetary policy and financial stability into sharp focus. Scholars such as Gali (2014) and Svensson (2012) have debated the extent to which monetary policy can mitigate financial instability, contrasting with the arguments presented by Woodford (2012) and Mishkin (2011). Prior to the 2007–2009 global financial crises, monetary policy primarily was to achieve price stability. However, the advent of COVID-19 pandemic brought about a

paradigm shift, by broadening monetary policy objectives to include macroeconomic stability (Ajisafe et al., 2021).

Historically, the Central Bank of Nigeria since its establishment in 1958 has pursued various monetary policy measures to promote financial stability in the banking sector. These measures, including prudential guidelines and the Banks and Other Financial Institutions Act (BOFIA) of 1991, sought to address recurring challenges such as bank failures and financial instability. Despite these interventions, the Nigerian banking sector continues to struggle with internal and external shocks. For example, the number of Deposit Money Banks (DMBs) declined from 89 in 2005 to 20 in 2012, partly due to financial instability (International Monetary Fund, 2013). By 2015, further mergers reduced the number to 19 (Central Bank of Nigeria, 2015). At the end of 2022, it became 26 DBMs. As at April 2024, the total licensed DBMs in Nigeria. These banks are classified into three groups: international, national and regional banks with capitalization of N50 billion, N25 billion and N10 billion respectively (CBN 2024).

The assumption was that price stability would automatically lead to financial stability, a view supported by Padoa-Schioppa (2002) and Issing (2003). However, the global financial crisis exposed weaknesses in this assumption, prompting the central banks to integrate financial system stability into their mandates (International Monetary Fund, 2015). Hence, the Central Bank of Nigeria (CBN) embraced this perspective, with its 2007 Act emphasizing the promotion of financial system stability.

The importance of financial stability lies in its role in enhancing monetary policy transmission mechanisms. Boyarchenko et al. (2022) argue that a stable financial system supports the achievement of price stability, while Oboh (2014) underscores the risk of economic collapse from systemic financial instability. Recognizing this, the CBN has implemented various reforms, including the 1986 Structural Adjustment Programme (SAP), which introduced interest and exchange rate deregulation, market-based monetary policy frameworks, and the establishment of the Nigeria Deposit Insurance Corporation (NDIC). Despite these efforts, persistent exchange rate volatility and public sector deficits have continued to undermine financial stability.

Given these challenges, this study differentiates itself by examining monetary policy's impact on financial stability from a holistic, macro-level perspective, considering the entire banking industry rather than individual institutions in Nigeria from 1981 to 2022. The main objective of this research is to specifically address:

1. Analyze the effect of the monetary policy rate on financial stability in the Nigerian banking industry.

2. Assess the impact of the exchange rate on financial stability in the Nigerian banking industry.
3. Examine the influence of money supply on financial stability in the Nigerian banking industry.

2.0 Monetary Policy Concept

Monetary policy refers to measures employed by the Federal Government, through the Central Bank of Nigeria (CBN), to regulate the cost, availability, and supply of credit in the economy. It involves the discretionary control of money supply to achieve macroeconomic objectives such as price stability, economic growth, and financial stability. According to Jhingan (2005) and Dwivedi (2005), monetary policy encompasses strategies designed to influence the behavior of the monetary sector by regulating money supply and credit flow. Governments often use monetary policy to manage inflation, employment, and economic growth.

Therefore, monetary policy operates through two broad categories of instruments: Quantitative (Indirect) Instruments: These include tools like the bank rate policy, open market operations (OMO), and variations in reserve ratios. These instruments control the overall money supply and credit in the economy, influencing aggregate demand and credit availability. Secondly, the Qualitative (Direct) Instruments: These are selective tools aimed at directing credit towards specific sectors or purposes. Examples include credit rationing, moral suasion, and consumer credit regulations, designed to discriminate between essential and non-essential credit needs. The effectiveness of monetary policy depends significantly on the presence of well-developed financial markets, as observed in advanced economies. In these settings, deliberate changes in monetary variables influence a range of economic and financial indicators, ensuring a robust monetary transmission mechanism (Ajisafe, Odejide, & Folorunsho, 2021; Oparah, & James 2020; Ogunjimi, 1997).

2.1.1 Financial Stability Concept

It is easier to describe financial instability than financial stability because there is no clear cut for defining it due to the complex and multiple dimensions of the financial sector/markets. However, financial stability is a condition where the financial system comprising financial intermediaries, markets, and infrastructure remains resilient to shocks and facilitates the efficient allocation of resources. The European Central Bank (ECB, 2012) identifies three key aspects of financial stability:

1. Efficient resource transfer from savers to investors.
2. Reasonable assessment and management of financial risks.
3. Ability to absorb economic shocks without systemic disruptions.

The resilience of financial systems to shocks is critical to avoiding a downward spiral of crises that could undermine economic growth. Schinasi (2004) emphasized that a stable financial system dissipates imbalances and supports economic performance, even in the

face of adverse events. On the contrary, systemic risks defined as disruptions to financial services causing negative consequences for the economy pose threats to financial stability (CGFS, 2010).

2.1.2 Monetary Policy and Financial Stability in Nigeria

The relationship between monetary policy and financial stability is central to macroeconomic management. In Nigeria, persistent financial instability manifested through inflation, exchange rate volatility, and banking sector vulnerabilities has raised concerns about the effectiveness of monetary policy in promoting stability. The CBN's monetary policy instruments, such as interest rate adjustments and exchange rate management, aim to address these challenges and enhance financial resilience.

Researchers have debated the monetary policy role in fostering fiscal stability. While some argue that monetary policy directly influences stability through its impact on credit and liquidity, others contend that it indirectly affects stability by ensuring price stability. This study explores how key monetary policy variables interest rate, exchange rate, and money supply affects financial stability, using financial deepening (credit to the private sector as a percentage of GDP) as a proxy for stability.

2.2 Theoretical Premise and Hypothesis Development

The nexus of monetary policy and financial stability in Nigeria can be underscored through a number of theoretical lenses. The insights of these theories offer us the various approaches that can be adopted to mitigate financial instability challenges. This also aligns with the proactive stance of the CBN in addressing financial system vulnerabilities. Hence, this research work is anchored on the theory of Leaning against the Wind by Cecchetti et al. (2002). They argued for proactive monetary policies to mitigate potential crises. This theory highlights the need to address financial imbalances early, emphasizing interest rate adjustments to curb speculative bubbles and prevent systemic risks. The proponents of this theory argument was that leaning justification goes beyond financial crisis prevention to fiscal stability promotion, where the possibility of financial instability occurring at the remote level could be addressed (Borio & Lowe, 2002; Bank of International Settlement [BIS, 2016]; and Juselius et al., 2016). The theory aligns with the proactive stance of the CBN in addressing financial system vulnerabilities. In the light of this, some empirical evidence were explored to give more credence to the study.

Ajisafe, Odejide, and Folorunsho (2021) investigated the nexus of monetary policy instruments and fiscal stability in Nigeria using time series data from 1986 to 2017, sourced from CBN statistical bulletin. The study adopted the vector error correction; they found that exchange rate significantly impacts financial stability in Nigeria.

Hamilton, Ogbeide, Adeboje, and Mande, (2020) examined the relationship between monetary policy and distress banking system in Nigeria. The study employed time series data ranging from 1989 to 2018 and used error correction technique for the analysis. Their findings revealed that monetary policy rate negatively affects distress banking in the long term, while exchange rate volatility exacerbates it in the short term.

Oparah and James (2020) to achieve financial or fiscal stability, the role of monetary policy of the Nigerian financial sector was explored, using quarterly data from 2008 to 2016 sourced from Nigeria Bureau of statistics and CBN bulletin. The study employed “error correction model (ECM) technique” and concluded that monetary policy enhances fiscal stability through tools like “open market operations”.

However, these findings underscore the importance of monetary policy in fostering financial stability, particularly in developing economies like Nigeria. However, the challenges such as structural deficiencies and external shocks necessitate adaptive and forward-looking policy measures. Based on the foregoing, the hypotheses of our study are stated in null form as:

- H0₁: There is no significant effect between monetary policy rate and financial stability in the Nigerian banking industry.*
- H0₂: There is no significant effect between exchange rate and financial stability in the Nigerian banking industry*
- H0₃: There is no significant effect between money supply and financial stability in the Nigerian banking industry*

3. Data and Methodology

3. Methodology

The research adopts an ex-post facto design. This approach relies on pre-existing secondary data, which eliminates the possibility of researcher-induced manipulation. The study empirically evaluates the effect of monetary policy instruments monetary policy rate (MPR), exchange rate (EXR), and inflation rate (INR) on financial stability in Nigeria using descriptive statistics and ordinary least square method. Financial deepening serves as a proxy for financial stability. The sample spans from 1981–2022, a duration selected due to its comprehensiveness and availability of reliable data. The annual time-series data were used because of their granularity and consistency with macroeconomic analysis. The data were obtained from the Central Bank of Nigeria (CBN) statistical bulletins and National Bureau of Statistics (NBS) reports. The functional model is adapted from the works of Afande and Mbugua (2015) and it is expressed as:

$$FS = f(MPR, EXR, INR)$$

$$FS = \beta_0 + \beta_1 INR + \beta_2 EXR + \beta_3 INR + \mu \dots \dots \dots 2$$

Where;

- β_0 = intercept (constant)
- $\beta_1 - \beta_3$ = coefficients to be estimated
- FS = Financial stability
- INTR = Interest Rate (Monetary policy rate)
- EXR = Exchange rate
- INR = Inflation rate
- μ - Stochastic variable
- f - Functional notation

For standardization and better interpretability, the variables are transformed into logarithmic form:

$$L(\text{FS}) = \beta_0 + \beta_1 L(\text{INTR}) + \beta_2 L(\text{EXR}) + \beta_3 L(\text{INR}) + \mu \dots \dots \dots 3$$

This basic model captures the relationship between monetary policy instruments and financial stability.

4. Data Analysis and Discussion of Findings

Table 4.1: Summary of Descriptive Statistics

	LOG(FS)	LOG(MPR)	LOG(EXR)	LOG(MS)
Mean	2.349806	2.525591	3.658569	6.963694
Median	2.091863	2.583820	4.746733	7.231711
Maximum	3.124565	3.258097	6.054392	10.78854
Minimum	1.759581	1.791759	-0.494296	2.672078
Std. Dev.	0.457702	0.313129	2.016111	2.743172
Skewness	0.451780	-0.473825	-0.818188	-0.168876
Kurtosis	1.482213	3.514935	2.427688	1.597405
Jarque-Bera	5.460172	2.035600	5.259220	3.642363
Probability	0.065214	0.361389	0.072107	0.161834
Sum	98.69185	106.0748	153.6599	292.4751
Sum Sq. Dev.	8.589149	4.020030	166.6528	308.5247
Observations	42	42	42	42

Source: Authors' computation using E Views 10

The descriptive statistics confirmed normality for all variables. For instance, the mean log of financial stability (FS) was 2.35, with a standard deviation of 0.46. The Jarque-Bera test results indicated no significant deviations from normality.

4.2 Augmented Dickey- Fuller (ADF) Stationarity Test

Unit Root Test Results

Table 4.2: Unit root test result using ADF procedure for the model

Variables	Augmented Dickey Fuller Test			5% C. L.	d(I)	Remark
	@level	@ 1 st Diff	Lag			
LOG(FS)	-2.316509	-5.489426	2	-3.526609	I (1)	Stationary
LOG(MPR)	-3.187110	-7.529208	2	-3.526609	I (1)	Stationary
LOG(EXR)	-1.427347	-5.815986	2	-3.526609	I (1)	Stationary
LOG(MS)	-0.149654	-4.302548	2	-3.526609	I (1)	Stationary

Table 4.2 indicates that all variables were stationary at the first difference (1), ensuring suitability for co-integration analysis.

4.3 Johansen Co-integration Test Results

Table 4.3: Johansen Co-integration test results for the Model

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.469707	71.12142	63.87610	0.0109
At most 1 *	0.417082	45.74842	42.91525	0.0253
At most 2	0.329470	24.16005	25.87211	0.0805
At most 3	0.184794	8.172600	12.51798	0.2379

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	0.469707	25.37300	32.11832	0.2652
At most 1	0.417082	21.58837	25.82321	0.1644
At most 2	0.329470	15.98745	19.38704	0.1458
At most 3	0.184794	8.172600	12.51798	0.2379

Max-eigenvalue test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The Johansen test in Table 4.3 confirmed two co-integrating equations, indicating stable long-term relationships among the variables.

4.4 Regression Analysis

Table 4.4: Ordinary Least Squares Regression

Dependent Variable: LOG(FS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.556032	0.461123	1.205823	0.2362
LOG(MPR)	0.198767	0.153705	1.293172	0.2047
LOG(EXR)	-0.315184	0.069894	-4.509437	0.0001
LOG(MS)	0.352395	0.048334	7.290757	0.0000
ECM(-1)	0.560903	0.196048	2.861054	0.0072
R-squared	0.839262	Mean dependent var	2.382364	
Adjusted R-squared	0.820351	S.D. dependent var	0.458598	
F-statistic	44.38097	Durbin-Watson stat	1.126817	
Prob(F-statistic)	0.000000			

Source: Computed Result Using (E-Views 10)

Table 4.4 show the effect of monetary policy instruments on financial stability in Nigeria. The regression result revealed R-square value of 0.8393 and adjusted R-square of 0.8205. This indicates that the model involving the selected variables (interest rate, exchange rate and money supply) can explain about 82percent of systematic change in financial stability in Nigeria. The F-statistic of 44.381 ($P < 0.05$) reveals that our overall model is significance at 5% level. Hence, the null hypothesis is rejected. This means that the independent variables of(interest rate, exchange rate and money supply are jointly significant in determining financial stability in Nigeria.

In terms of the individual variables, it is observed that all the variables were significant except Interest rate. The result indicates that the coefficients of interest rate has a positive non-significant effect on financial stability, whereas exchange rate has a negative significant effect on financial stability; while money supply has a positive significant effect on financial stability at 5percent level using the t-statistics. The a-priori expectations about the signs of the parameters were met in all the variables except interest rate variable.

4.5 Discussion of findings

From the above result, it is obvious that the overall selected independent variables have significant effect on financial stability in Nigeria. However, at the individual level, interest rate has a non-significant positive relationship with the dependent variable at 5% level. This means that an increase in MPR, will lead to a non significant decrease in financial stability in Nigeria. This suggests minimal impact on financial stability within the studied period.

Exchange rate on the other hand, has a negative significant effect on the dependent variable at 5percent level. This implies that a decrease in exchange rate will lead to an increase in financial stability in Nigeria. This implies that exchange rate volatility undermines financial stability.

Thirdly, money supply (MS) has positive significant effect on the dependent variable at 5percent level. This suggests that an increase in money supply will lead to a corresponding increase in financial stability in Nigeria. Therefore, it can be concluded from the overall regression result in table 4.5, that monetary policy instruments of (MPR, EXR and MS) has significant effect on financial stability in Nigeria. These findings align with prior studies, including Ajisafe et al. (2021) and Oparah & James (2020), highlighting the critical role of monetary policy in enhancing financial stability. Therefore, while monetary policy instruments collectively impact financial stability significantly, their individual effects vary. Exchange rate management and optimal money supply levels are particularly critical for stabilizing Nigeria's financial system.

5.0 Conclusion and Recommendations

This study explored the impact of monetary policy instruments on financial stability in Nigeria, addressing ongoing debates about the effectiveness of the Central Bank of Nigeria (CBN)'s monetary tools in achieving economic stability. Also, given the increasing demands on the CBN to stabilize the Nigerian economy amidst recurring financial challenges, this study provides empirical evidence supporting the role of monetary policy instruments in maintaining financial stability. The findings highlight that while interest rates positively influence financial stability, their impact is not statistically significant. Conversely, exchange rates have a significant negative effect, suggesting that fluctuations in exchange rates may destabilize the financial system. On the other hand, money supply positively and significantly influences financial stability, emphasizing its crucial role in economic management.

Overall, the study concludes that monetary policy tools, when effectively managed, have the potential to enhance financial stability in Nigeria. This underscores the need for innovative and adaptable approaches by monetary authorities to address emerging challenges in the financial system. We therefore recommend that the Nigerian government and the CBN should move beyond traditional monetary policy rates, adopting innovative and dynamic approaches to stabilize the financial sector effectively. Secondly, the CBN should implement policies that promote the use of the local currency by supporting domestic production, trade, and commerce, reducing dependency on foreign currencies. Thirdly, the CBN should expand the accessibility of alternative payment methods, such as digital and electronic payment systems, to reduce reliance on cash and foster a more efficient financial ecosystem.

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