

Original Research Article

EMPIRICAL ANALYSIS OF THE MACROECONOMIC DRIVERS OF BANKING INDUSTRY STABILITY IN NIGERIA

Abstract

This study examines the effect of macroeconomic variables on the stability of the banking industry in Nigeria. It analyses the impact of exchange rate, interest rate, inflation rate, economic growth rate, and unemployment rate on bank credit-asset ratio from 1991 to 2023. Based on preliminary estimations from the Phillips-Perron unit root and F-Bounds tests, the study employed the Autoregressive Distributed Lag (ARDL) technique to establish the following key findings. Macroeconomic variables collectively and significantly influence banking industry stability. Specifically, high economic growth rate, moderate inflation rate, and low unemployment rate are the core drivers of banking industry stability, while high interest rate and volatile exchange rate exert a significant negative influence on banking industry stability. Consequently, bankers and macroeconomic policymakers should collaborate to ensure that macroeconomic policy frameworks provide banks with the opportunities for capital mobilisation necessary to effectively perform their financial intermediation roles for the overall benefit of the economy. The study recommends balancing macroeconomic targets and bank stability through growth-inflation-employment targeting policies to improve households' loan repayment resilience and reduce the credit risk of Nigerian banks. Additionally, exchange rate stabilisation through government intervention is suggested to help banks hedge against asset and credit value loss due to exchange rate volatility.

Keywords:

Bank Stability; Exchange rate; Inflation rate; Economic growth; Unemployment; Interest rate.

1. Introduction

The Nigerian banking industry has faced several challenges over the years, triggered by domestic, global, and macroeconomic developments (Nwidobie, 2017; Uddin, 2020; Jibrin et al., 2021; Enebeli-Uzor, 2024). The Central Bank of Nigeria (CBN) has a core mandate for promoting a sound financial system by ensuring stability in the banking industry. This sector constitutes a

substantial portion of Nigeria’s financial services industry and is the primary target of the apex bank’s monetary and macroprudential policies aimed at achieving financial system and bank stability (Nwidobie, 2017; Uddin, 2020; Agha et al., 2023). Despite these policies, statistical data in Figure 1 shows that Nigerian banks are experiencing fluctuations in the degree and extent of financial stability measured by the ratio of credit to banks’ total assets.

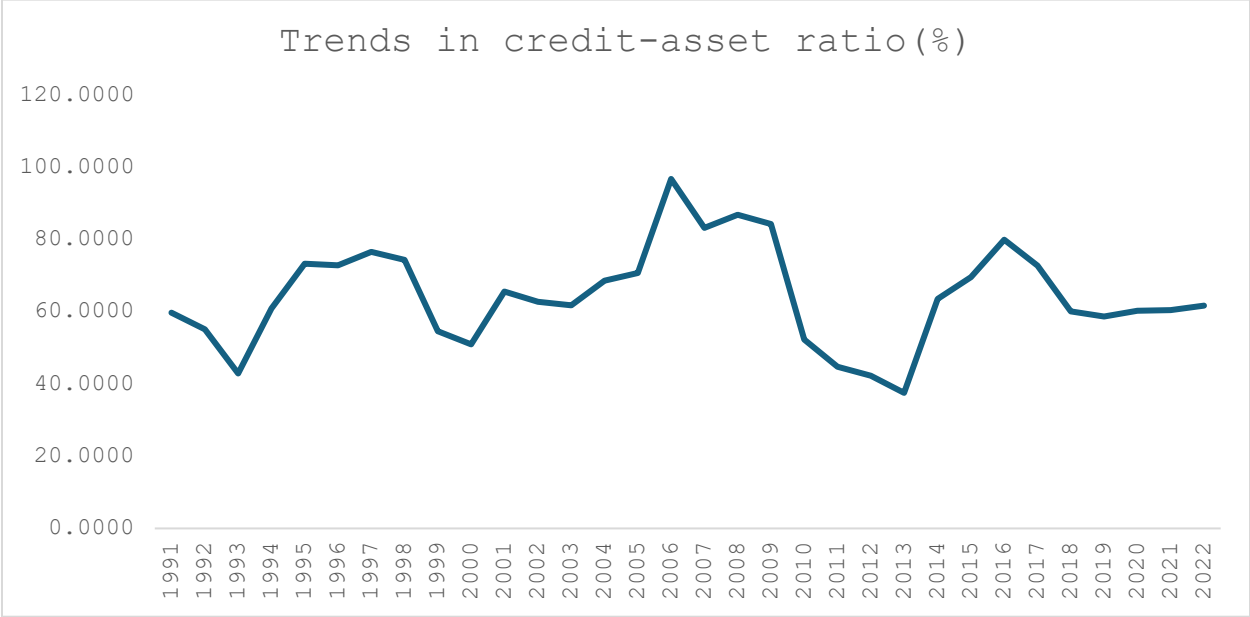


Figure 1: Credit-asset ratio of banks in Nigeria (1991-2023).
Source: CBN Statistical Bulletin

The banking industry in Nigeria operates within a dynamic macroeconomic environment, and the stability of banks is closely linked with various macroeconomic factors. For instance, economic growth rate influences bank stability by enhancing profitability, asset quality, household repayment resilience, and reducing credit risk (Agha et al., 2023). Conversely, economic downturns can strain banks by inhibiting loan repayment capacity and asset valuation (Agha et al., 2023). Statistical evidence on economic growth, as shown in Figure 2, indicates that Nigeria has experienced significant economic growth and downturns between 1991 and 2023. Therefore, the impact of these economic situations on bank stability merits more scrutiny for Nigeria, as has already been

established in other economies (Eweke, 2020; Bayar et al., 2021; Adem, 2023; Boachie et al., 2023; Jima & Makoni, 2023).

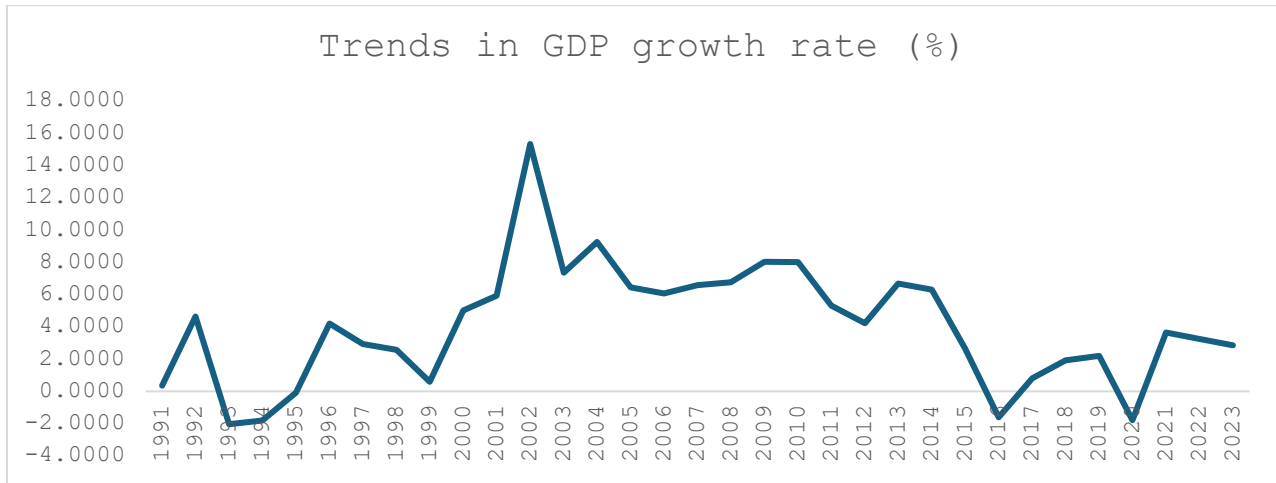


Figure 2: GDP growth rate in Nigeria (1991-2023).
Source: World Bank Data

Furthermore, interest rates are directly determined by the CBN's monetary policy rate. High interest rates can result in increased borrowing costs for banks and their customers.

Additionally, fluctuations in interest rates from 24% in 1991 to 14.5% in 2023 (as depicted in Figure 3) can affect the net interest margins and profitability of banks, which directly impacts their stability (Smith, 1984; Chukwudi & Henry, 2020; Bats et al., 2023).

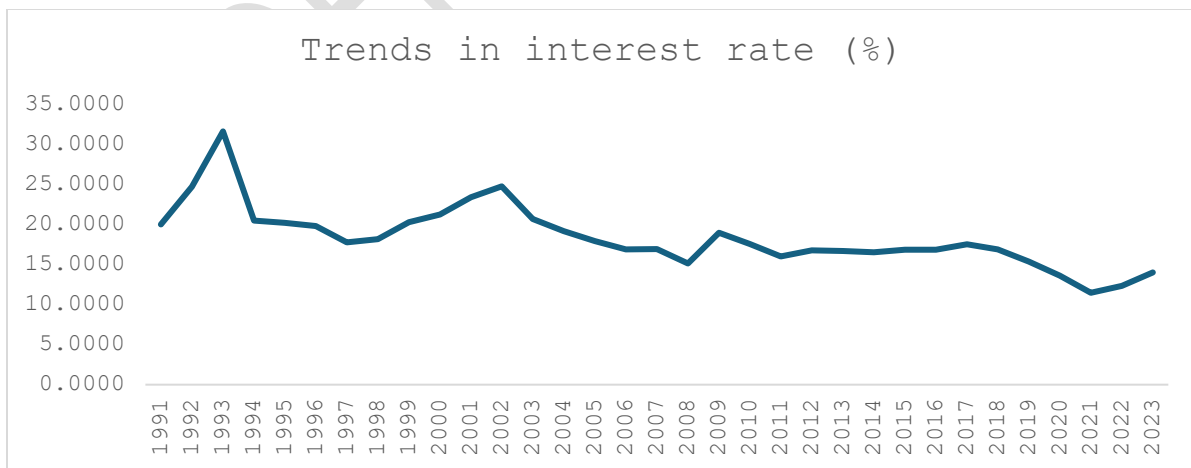


Figure 3: Interest rate in Nigeria (1991-2023).
Source: World Bank Data

In addition to the macroeconomic drivers of bank stability in Nigeria, exchange rate fluctuations, especially during the current period of unified exchange rate between the official and parallel markets, deserve empirical investigation regarding their impact on banks. The exchange rate crisis in Nigeria is closely linked to the country's reliance on oil exports, making it susceptible to external shocks. Fluctuations in the official exchange rate from ₦9.90/\$ in 1991 to ₦425/\$ in 2023 (as shown in Figure 4) could affect banks' foreign currency exposure and risk management. Sudden currency devaluations can also strain banks' balance sheets.

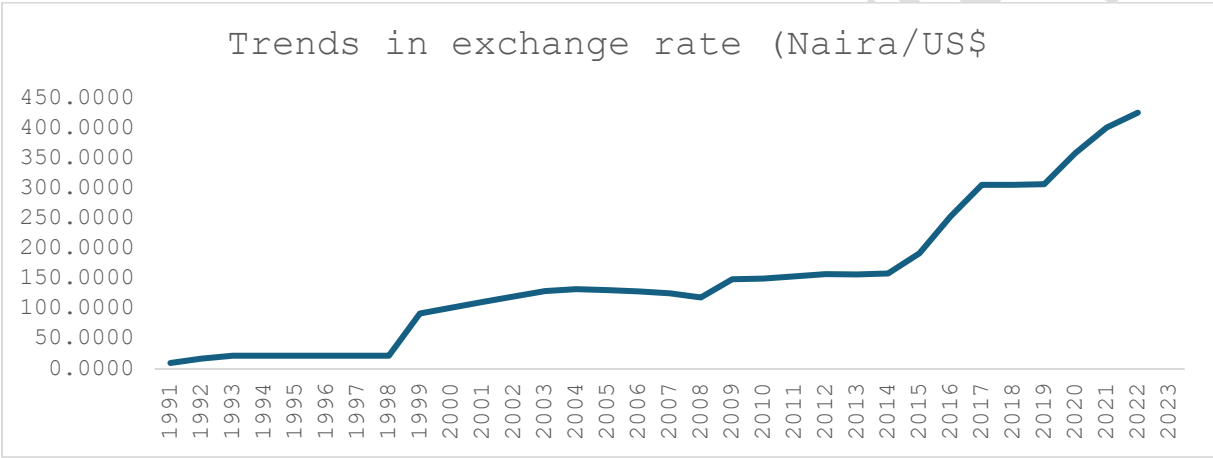


Figure 4: Exchange rate of Naira/US\$ (1991-2023).
Source: World Bank Data

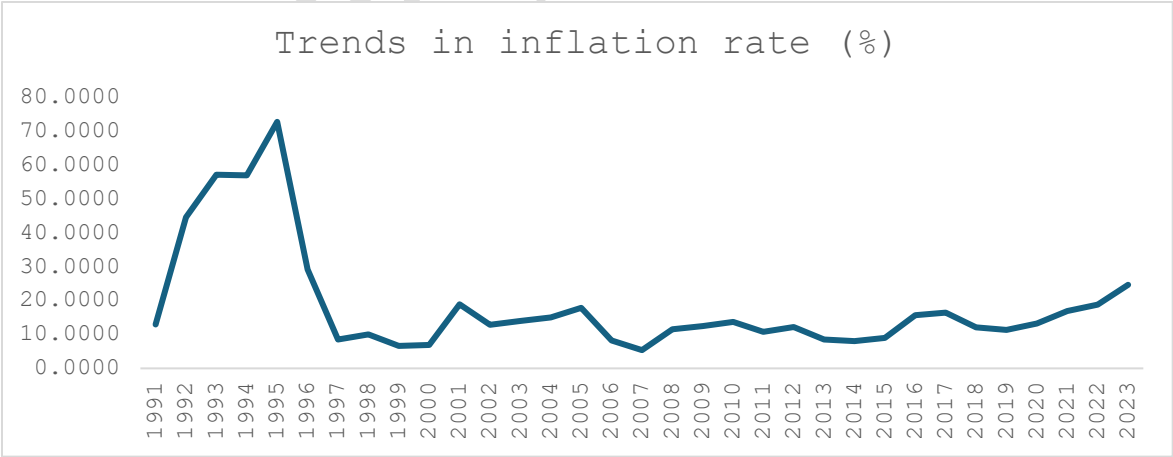


Figure 5: Inflation rate in Nigeria (1991-2023).
Source: World Bank Data

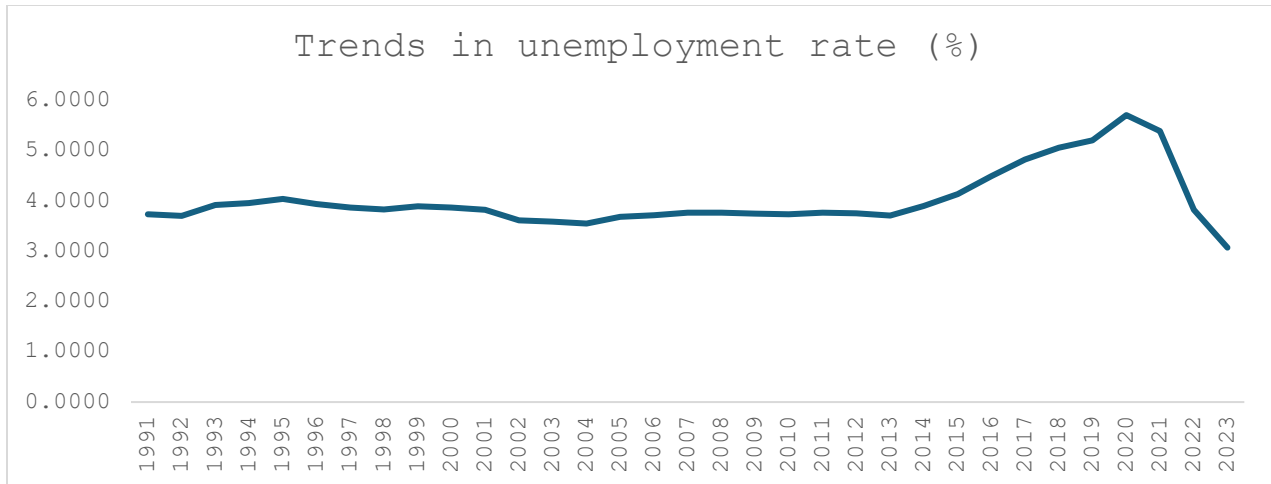


Figure 6: Unemployment rate in Nigeria (1991-2023).

Source: World Bank Data

Nevertheless, banks and policymakers cannot afford to underestimate the influence of the macroeconomic "twin evils" on the attainment of financial stability. Inflation and unemployment rates are major macroeconomic variables linked to bank stability. Persistent inflation erodes purchasing power and affects consumer behaviour. High inflation and unemployment rates can lead to non-performing loans and deteriorating credit quality, thus affecting the overall stability of banks. Consequently, these macroeconomic variables are critical in banks' lending and portfolio investment decisions.

Motivated by Nigeria's volatile and dynamic macroeconomic environment, this study aims to examine the determinants of banking industry stability from a macroeconomic policy perspective. This examination is crucial for policymakers, regulators, and banks in Nigeria. These factors shape the resilience and performance of the banking industry, influencing its ability to withstand economic shocks and support the sustainable and inclusive growth that Nigeria seeks.

Following this introduction are Part 2: theory and literature; Part 3: methodology; Part 4: results and discussions; and Part 5: conclusion and implications.

2. Theory and Literature

- **Financial Intermediation Theory**

The study utilises the Financial Intermediation Theory (FIT) to examine the nexus between macroeconomic variables such as economic growth, inflation, interest rates, unemployment, exchange rates, and bank stability in Nigeria. FIT posits that banks and related financial institutions play vital roles in the economy by efficiently channelling resources from surplus units, such as households and firms, to productive sectors and investments. It further suggests that the stability of banks is critical for economic growth because a stable banking industry facilitates credit creation and allocation for productive uses, improves risk management, provides liquidity, and ensures the overall financial health of the economy (Enebeli-Uzor, 2024). Additionally, the theory suggests that macroeconomic frameworks can influence the stability of banks. This theory was chosen to guide this study as it provides a robust framework for understanding how macroeconomic frameworks contribute to bank stability. Stable banks are essential for efficient resource allocation, risk management, and liquidity provision in the economy. Policymakers and economists often rely on this theory to design policies that strengthen the stability of financial institutions, thereby fostering a sustainable macroeconomic environment for the overall health of the economy.

- **Empirical Review**

The financial sector remains a critical driver of economic performance in every economy worldwide, with its financial intermediation role through the banking industry being essential for attaining macroeconomic objectives. However, macroeconomic variables can either propel or inhibit stability in the banking system. This study examines the macroeconomic drivers of the banking industry's stability from Nigeria's standpoint.

Empirical evidence from the literature presents the findings of earlier studies on the effect of macroeconomic variables on banking industry stability. In an earlier study, Caprio and Honohan (2003) examined macroeconomic stability and banking policy and concluded that macroeconomic instability could trigger instability in the banking industry and vice versa. Bohachova (2008) used

a panel data estimator and found that macroeconomic variables influence banking industry risks, which could affect its stability. In a study of the Indonesian financial sector, Viphindartin et al. (2021) used time series analysis to conclude that macroeconomic variables significantly impact the stability of Indonesia's financial system. In Singh's (2021) work on the determinants of bank stability, the study reported that macroeconomic variables are significant determinants of banking stability. Singh's results corroborate those of Bohachova (2008), Caprio and Honohan (2003), Viphindartin et al. (2021), and Athari et al. (2023).

Relating banking sector stability to specific macroeconomic variables, Stewart et al. (2021) examined whether trade-offs or opportunities exist between bank stability and economic growth. The study established that economic growth is required for the stability of banks globally. This implies that economic growth improves household income, leading to an improvement in borrowers' resilience to repay loans and reducing credit risk. This finding was reinforced when Wang and Luo (2024) established that income distribution matters for bank stability. Both studies lent credence to Danisman & Tarazi (2020), who established that financial inclusion promotes stability in the banking industry. Thus, economies with stronger growth rates and fair income redistribution enhance financial inclusion, improve banking credit recovery, and reduce the chances of instability in the financial system. Other studies affirming a relationship between income (economic growth) and banking industry stability include Bayar et al. (2021), Adem (2023), Boachie et al. (2023), and Jima & Makoni (2023).

Moreover, the banking industry's stability can be attributed to rising inflation rates and changes in commodity prices, which affect households' propensity to repay bank loans and advances. Empirical evidence has shown that high inflation rates can hinder the stability of the banking industry. For instance, Woodford (2012) found that inflation harms banking sector stability. Fazio et al. (2018) reported that inflation targeting in the presence of weak institutional quality could mar financial sector stability. Fazio's results agree with findings from other studies that inflation-

targeting policies significantly influence bank stability in developing countries and emerging markets (see Agénor & da Silva, 2013; Fouejieu, 2017; Abaidoo & Agyapong, 2023; Abaidoo et al., 2023; Andriana et al., 2023).

The study further reviews the literature on the effect of interest rates on banking industry stability and finds that interest rates matter for banking industry stability. High interest rates can lead to low patronage from borrowers and deplete investors' repayment resilience. One of the earliest studies in this regard is credited to Smith (1984), who established that private information and deposit interest rates are core determinants of banking industry stability. In a more recent study, Bats et al. (2023) specified that interest rates affect banking industry stability through the price of bank stocks, not just through private information, which has been regulated in present times.

From the African perspective, studies have focused on the determinants of banking industry stability in Ethiopia (Yitayaw et al., 2023). In another study, Adam et al. (2024) analysed the impact of economic freedom and corruption on bank stability in Sub-Saharan Africa. Other studies that have investigated the impact of macroeconomic variables on banking industry stability include Moyo et al. (2014), Dwumfour (2017), Ozili (2018), and Sarpong-Kumankoma et al. (2021), with attention on competition and economic freedom.

Regarding Nigeria, only the study by Ozili (2019) has specifically analysed the determinants of banking stability. Other studies have focused more on how macroeconomic variables drive bank performance and profitability (Aburime, 2008; Adalakun et al., 2020; Olokoyo et al., 2019; Agha et al., 2023; Osunkoya et al., 2023) instead of stability, which would guarantee profitability and overall performance. Considering these empirical gaps, this study uses modern econometric methods and methodology to examine the macroeconomic drivers of banking industry stability in Nigeria.

3. Methodology

- **Data**

To examine the macroeconomic drivers of banking industry stability in Nigeria, the study collected and analysed annual time series data from 1991 to 2023 from the World Bank's World Development Indicators. The data were collected based on availability and consistency to avoid spurious results. The variables for which data were collected are described in Table 1 below.

Table 1: Data source and variables description

Variable	Nature of variable	Description	Source
Banking Industry Stability (BSTAB)	Dependent	Measured as the ratio of bank credit to total asset	Central Bank of Nigeria www.cbn.gov.ng
Exchange rate (EXCR)	Independent	Official exchange rate of the Naira to a Dollar	The World Bank www.worldbank.org
Economic Growth (GDPGRT)	Independent	Annual GDP growth rate	The World Bank www.worldbank.org
Interest rate (INTRST)	Independent	Interest rate on credit	The World Bank www.worldbank.org
Inflation (INFLT)	Independent	Annual change in price index	The World Bank www.worldbank.org
Unemployment rate (UNEMPL)	Independent	Annual unemployed labour force as % of population	The World Bank www.worldbank.org

Source: Author's Compilation

- **Models**

In modelling the macroeconomic drivers of banking industry stability in Nigeria, this study used five critical macroeconomic indicators: exchange rate, inflation, unemployment, economic growth rate, and interest rate, against the ratio of credit to assets of the bank. The choice of these variables aligns with economic theories and is adapted from earlier studies that empirically analysed the determinants of bank stability (Adam et al., 2024; Bayar et al., 2021; Danisman & Tarazi, 2020; Djalilov & Hartwell, 2024; Khalatur et al., 2023; Singh, 2021; Wang & Luo, 2024).

$$BSTAB = \beta_0 + \beta_1 EXCR + \beta_2 GDPGRT + \beta_3 INFLT + \beta_4 INTRST + \beta_5 UNEMPL + e_t \quad [1]$$

Model 1 examines the impact of macroeconomic variables on banking industry stability. Where...

BSTAB depicts banking industry stability measured by the ratio of credit to assets.

EXCR represents the official exchange rate of the Naira to the US Dollar.

GDPGRT is the growth in GDP per annum.

INFLT represents inflation rate, annual change in price level.

INTRST depicts interest rate credit

UNEMPL is unemployment rate, unemployed labour force as a ratio of population.

β_1 to β_5 are the slope coefficients of the model and their values represent the size of impact of each macroeconomic indicator on banking industry stability.

Theoretically, the following results are expected, $\beta_1 < 0$; $\beta_2 > 0$; $\beta_3 < 0$; $\beta_4 < 0$; $\beta_5 < 0$.

4. Results and Discussions of Findings

This section presents the statistical analysis results, including Descriptive Statistics, Correlation, Unit Root, Co-integration, and the Autoregressive Distributed Lag (ARDL) estimates. These econometric tests have helped the researcher decipher the macroeconomic drivers of banking industry stability in Nigeria.

Table 2: Summary of Descriptive Statistics

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Jarque-Bera	Prob.
BSTAB	64.590	13.683	0.149	2.789	0.1778	0.9150
EXCR	150.880	115.780	0.831	2.924	3.691	0.1580
GDPGRT	4.054	3.783	0.485	3.786	2.078	0.3538
INFLT	18.420	16.248	2.159	6.623	42.364	0.0000
INTRST	18.539	3.881	1.161	5.598	16.183	0.0003
UNEMPL	4.051	0.561	1.756	4.836	20.942	0.0000

Source: Author's computation from World Bank Data

Table 2 shows the descriptive characteristics of the dependent variable and explanatory variables of the model. The mean values indicate the average scores of the variables over the period under

consideration, 1991 to 2023, based on data availability. The average bank credit-to-asset ratio (a measure of bank stability) stood at 64.590%, and the exchange rate of the Naira to USD averaged ₦150.880 with an average annual GDP growth rate of 4.054%. Additionally, the inflation rate averaged 18.420%, the interest rate 18.539%, and the unemployment rate 4.051%, based on the ILO estimates published by the World Bank.

To show the level of dispersion of the variables around their average values, the study reported the standard deviation of each variable. Notably, the exchange rate appears the most widely dispersed and unstable, with a standard deviation of ₦115.780/\$. The inflation rate and bank stability variables also exhibit high degrees of variation, at 16.248% and 13.683%, respectively. The high level of instability in the banking industry motivated this empirical investigation to inform bankers and policymakers of the extent to which each major macroeconomic indicator affects the stability of Nigerian banks.

Moreover, the skewness, kurtosis, and Jarque-Bera statistics reveal that bank stability, exchange rate, and economic growth follow a normal distribution, while inflation, interest rate, and unemployment rate do not conform to normality assumptions. These mixed findings on the normality of the variables necessitate further pre-test estimation, such as the Phillips-Perron unit root test, to determine the level and order of stationarity of the variables, which has implications for the choice of appropriate econometric techniques for inferential analysis.

Table 3: Stationarity Test for Variables

Variable	Phillips-Perron Test statistic for unit root		
	t-statistic	P-value	Result
D(BSTAB)	-5.0665	0.0003	I(1)
D(EXCR)	-3.7466	0.0083	I(1)
GDPGRT	-2.9335	0.0526	I(0)
D(INFLT)	-5.8521	0.0000	I(1)
D(INTRST)	-6.9205	0.0000	I(1)
UNEMPL	-2.5833	0.0116	I(1)

Source: Author's computation from World Bank Data

Table 3 presents the unit root results for the variables in the model. Evidently, the results indicate that the variables are integrated in a mixed order, that is, of order one (1) and zero (0). These combinations show that bank stability, exchange rate, inflation, interest rate, and unemployment are stationary after the first difference, while the economic growth variable is stationary at level. This result affirms the appropriateness of the Autoregressive Distributed Lag (ARDL) estimator for the model analysis.

Prior to estimating the ARDL model, the study presents the correlation between the predictors and the dependent variables and amongst the predictors, as shown in Table 4.

Table 4: Correlation Matrix

Variable	BSTAB	EXCR	GDPGRT	INFLT	INTRST	UNEMPL
BSTAB	1.000					
EXCR	-0.046	1.000				
GDPGRT	0.101	-0.081	1.000			
INFLT	-0.114	-0.360	-0.406	1.000		
INTRST	0.218	-0.674	0.035	-0.500	1.000	
UNEMPL	-0.035	0.693	-0.500	-0.041	-0.431	1.000

Source: Author's computation from World Bank Data

In Table 4, the study presents the results of the relationships among the variables. The correlation coefficients clearly indicate that bank stability is inversely related to the exchange rate, inflation rate, and unemployment, while it is directly related to economic growth rate and interest rate. Additionally, the exchange rate is negatively related to economic growth, inflation, and interest rate, while positively related to interest rate.

Furthermore, the economic growth rate has an inverse relationship with inflation and unemployment, corroborating the short-run Phillips Curve Hypothesis (Phillips, 1958), but it exhibits a direct relationship with interest rate.

Moreover, inflation, interest rate, and unemployment show weak negative relationships with each other. The preliminary results reveal that interest rate appears to be a significant macroeconomic indicator that could either drive or hinder banking industry stability in Nigeria.

It can also be deduced that the variables selected for the study are empirically related, and the relationships among the independent variables do not lead to multicollinearity. Therefore, the study proceeds with the F-Bounds test to determine whether a long-run relationship exists between banking industry stability and macroeconomic variables.

Table 5: F-Bounds Test for Co-integrating Relationship

F-Bounds Test		Null Hypothesis: No long-run relationship		
Test statistic	Value	Significance	I(0)	I(1)
F-statistic	1.8417	10%	2.08	3.00
k	5	5%	2.39	3.38
		2.5%	2.70	3.73
		1%	3.06	4.15

Source: Author's computation using World Bank Data

Table 5 presents the estimated F-statistic, degrees of freedom (k), significance levels, and the upper and lower bounds. The F-statistic value of 1.8417 is less than the lower bounds at the 10%, 5%, 2.5%, and 1% significance levels, indicating a short-run relationship between banking industry stability and macroeconomic variables. Consequently, the null hypothesis of no long-run relationship is accepted. Therefore, only the ARDL short-run model is estimated, as shown below.

- **Macroeconomic Drivers of Banking Industry Stability**

The short-run model below captures the impact of five leading macroeconomic variables—exchange rate, economic growth, inflation, interest rate, and unemployment—on banking industry stability in Nigeria, as shown in Table 6.

Table 6: ARDL Short-run Estimates

Independent variable	Coefficient	Standard error	t-statistic	P-value
BSTAB (-1)	0.7742	0.1901	4.0732	0.0005
EXCR	-0.0387	0.0328	1.1829	0.2494
GDPGRT	0.1924	0.7874	0.2444	0.8092
INFLT	0.0899	0.1835	0.4896	0.6292
INTRST	-1.4261	0.7744	-1.8414	0.0791
UNEMPL	1.0031	6.3749	0.1574	0.8764
Intercept	60.1135	31.1039	1.9327	0.0663
ECM (-1)	-0.5259	0.1298	-4.0506	0.0005
Adjusted R-squared	0.5179			
F-statistic	3.3768			0.0133
Durbin-Watson	2.0898			

Source: Author's computation using World Bank Data

In Table 6, the short-run ARDL estimate reveals several significant outcomes. Firstly, the error correction mechanism (ECM) of the model meets the a priori expectation of being negative, less than 1, and statistically significant. With $ECM (-1) = -0.5259$ and a p-value of 0.0005, it indicates that at a 1% significance level, the model's speed of adjustment is 52.59% per annum. This suggests that it would take about two years for macroeconomic policy adjustments to restore stability in the banking industry following a disruption. This underscores the importance of macroeconomic variables in maintaining Nigeria's banking industry stability.

To assess the impact of each major macroeconomic variable on banking industry stability in the short run, the results show that the previous level of banking stability has a significant positive impact on the current stability level of banks. This implies that banks aim to consolidate their current credit-to-asset ratio by leveraging their previous year's performance to mitigate credit risks. This is evidenced by the coefficient $BSTAB (-1) = 0.7742$ with a p-value of 0.0005.

Moreover, interest rate emerges as a significant macroeconomic obstacle to banking industry stability in Nigeria. With a coefficient of -1.4261 and a p-value of 0.0791, interest rate has a substantial adverse impact on banking industry stability. This can be attributed to Nigeria's higher-than-global-average interest rate, which increases credit risks and promotes instability through

higher chances of loan repayment default. This finding aligns with earlier studies in other economies (Adem, 2023; Bats et al., 2023; Saadaoui and Ben Salah, 2023).

Additionally, the rising exchange rate is another macroeconomic variable that is negatively affecting bank stability in Nigeria. The estimated coefficient of -0.0387 and p-value of 0.2494 imply adverse effects on banking industry stability. This is primarily through the currency risk channel, as banks holding assets and liabilities in different currencies are affected by exchange rate fluctuations, impacting their balance sheets and overall stability. As Nigerian banks have internationalised, currency fluctuations have significant implications for both overseas performance and domestic stability. These findings are consistent with earlier studies (Abaidoo et al., 2023; Athari et al., 2023; Yitayaw et al., 2023).

Interestingly, economic growth rate, inflation rate, and unemployment are drivers of banking industry stability in Nigeria. High economic growth promotes wealth creation and distribution, enhancing borrowers' ability to repay and reducing credit risk, thus stabilising banks. Economic growth also aids capital mobilisation, a critical role of banks in financial intermediation, further promoting banking stability. Additionally, regulatory capital is another channel through which economic growth influences the stability of the banking industry. These findings are in concordance with Stewart et al. (2021).

The positive effect of inflation on banking industry stability in Nigeria can be attributed to asset pricing and arbitrage, liquidity expansion, and regulatory measures. Regarding unemployment, the recent decline in Nigeria's unemployment rate to 4.05% enhances bank stability through stable household income and debt repayment capacity. Low unemployment also boosts bank stability through increased aggregate demand and business solvency (Abaidoo & Agyapong, 2023; Andriana et al., 2023).

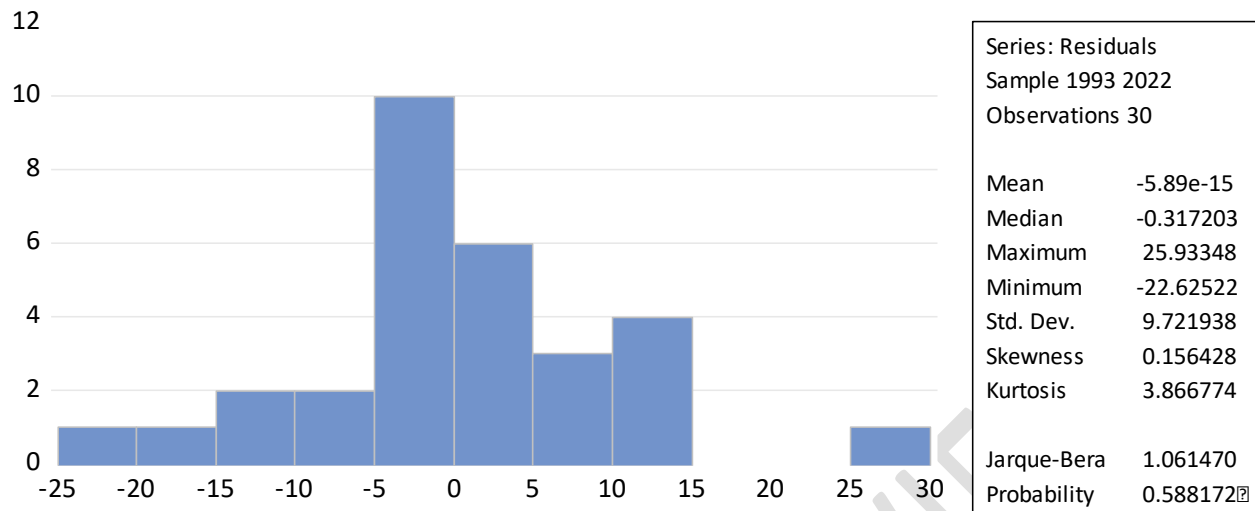


Figure 7: Test for Normality

Source: Author's computation using World Bank Data

Table 7: Post Estimation Tests

Breusch-Pagan-Godfrey Test for Heteroscedasticity			
Hypothesis: The model is homoscedastic			
F-statistic	0.4793	Prob. F (7,22)	0.8392
Obs*R-Squared	3.9699	Prob. Chi-Square (7)	0.7832
Scaled explained SS	3.0602	Prob. Chi-Square (7)	0.8794
Breusch-Godfrey Test for Serial Correlation			
Null Hypothesis: No serial correlation up to 2 lags			
F-statistic	0.2793	Prob. F (2,20)	0.7592
Obs*R-Squared	0.8151	Prob. Chi-Square (2)	0.6653

Source: Author's computation using World Bank Data

The post-estimation tests for model normality, homoscedasticity, and serial correlation, as presented in Figure 7 and Table 7, respectively, indicate that the model passed the overall normality test with a Jarque-Bera statistic of 1.0615 and a p-value of 0.5882. Additionally, since the p-values of the Breusch-Pagan-Godfrey tests for heteroscedasticity and serial correlation are above 0.1000, it shows that the model is homoscedastic and free from autocorrelation. This finding is supported by the Durbin-Watson (DW) statistic of 2.0898 in Table 6. Based on this discussion of findings, the study draws its conclusion and policy recommendations.

5. Conclusions and Implications

The study examined the macroeconomic drivers of Nigeria's banking industry stability. The first conclusion established by this study is that macroeconomic variables have a significant collective impact on banking industry stability, as shown by the adjusted R-squared of the estimated model. Additionally, the study found that macroeconomic variables influence banking industry stability in the short run but not in the long run.

Furthermore, the study identified rising interest rates and exchange rates as key macroeconomic variables that hinder banking industry stability through credit and currency risks. Conversely, economic growth promotes banking industry stability by enhancing capital mobilisation, promoting repayment resilience, and strengthening regulatory capital.

Based on these conclusions, the study suggests that macroeconomic policymakers should balance the quest to attain macroeconomic objectives with the stability of the banking industry. One way to establish this balance is to ensure that interest rates are kept at levels that do not trigger credit risks. Additionally, exchange rates should be managed to ensure that bank finances and assets are not subjected to the value risks associated with currency fluctuations, as is the case in Nigeria. Monetary and fiscal authorities should also regulate inflation and formulate policies that would propel economic growth, as these are the macroeconomic solutions to instability in the Nigerian banking industry.

References

Abaidoo, R., & Agyapong, E. K. (2023). Inflation uncertainty, macroeconomic instability and the efficiency of financial institutions. *Journal of Economics and Development*, 25(2), 134-152.

- Abaidoo, R., Agyapong, E. K., & Boateng, K. F. (2023). Stability in the banking industry and commodity price volatility: perspective from developing economies. *Journal of Economic and Administrative Sciences*, 39(4), 988-1012.
- Aburime, T. (2008). Determinants of bank profitability: Macroeconomic evidence from Nigeria. Available at SSRN 1231064.
- Adam, B. M., Sarpong-Kumankoma, E., & Fiador, V. (2024). Economic freedom, corruption and bank stability: evidence from sub-Saharan Africa. *Journal of Financial Crime*, 31(4), 781-794.
- Adelakun, O. J., Afolabi, B., & Abuh, U. B. (2020). Macroeconomic variables and banking sector development: Evidence from Nigeria. *Technium Soc. Sci. J.*, 8, 288.
- Adem, M. (2023). Impact of income diversification on bank stability: a cross-country analysis. *Asian Journal of Accounting Research*, 8(2), 133-144.
- Agénor, P. R., & da Silva, L. A. P. (2013). *Inflation targeting and financial stability: a perspective from the developing world*. Washington, DC: Inter-American Development Bank.
- Agha, E., Oluyombo, O., & Aworinde, O. (2023). Bank Governance, Asset Quality, and Risk. Do Macro-Prudential Policy and Macroeconomic Factors Matter? Evidence from Nigeria's Banking Sector. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(8), 47.
- Andriana, I., Yulianita, A., Karimudin, Y., Thamrin, K. M. H., & Muizzuddin, M. (2023). The Impact of Inflation on Bank Risk: A Study of Islamic Banks. *Sriwijaya International Journal of Dynamic Economics and Business*, 201-210.
- Athari, S. A., Irani, F., & Haddood, A. A. (2023). Country risk factors and banking sector stability: Do countries' income and risk-level matter? Evidence from global study. *Heliyon*, 9(10).
- Bats, J. V., Giuliadori, M., & Houben, A. C. (2023). Monetary policy effects in times of negative interest rates: What do bank stock prices tell us? *Journal of financial intermediation*, 53, 101003.
- Bayar, Y., Borozan, D., & Gavriletea, M. D. (2021). Banking sector stability and economic growth in post-transition European Union countries. *International Journal of Finance & Economics*, 26(1), 949-961.
- Boachie, R., Aawaar, G., & Domeher, D. (2023). Relationship between financial inclusion, banking stability and economic growth: a dynamic panel approach. *Journal of Economic and Administrative Sciences*, 39(3), 655-670.
- Bohachova, O. (2008). *The impact of macroeconomic factors on risks in the banking sector: a cross-country empirical assessment* (No. 44). IAW Diskussionspapiere.
- Caprio, G., & Honohan, P. (2003). Banking policy and macroeconomic stability: An exploration.
- Chukwudi, O. F., & Henry, J. T. (2020). Monetary policy and financial stability in the Nigerian banking industry. *International Journal of Financial Research*, 11(1), 11.
- Danisman, G. O., & Tarazi, A. (2020). Financial inclusion and bank stability: Evidence from Europe. *The European Journal of Finance*, 26(18), 1842-1855.

- Djalilov, K., & Hartwell, C. (2024). Do social and environmental capabilities improve bank stability? Evidence from transition countries. In *Global Environmental Politics and International Organizations* (pp. 60-82). Routledge.
- Dwumfour, R. A. (2017). Explaining banking stability in sub-saharan Africa. *Research in International Business and Finance*, 41, 260-279.
- Enebeli-Uzor, S. (2024). Digitalisation, Banking Stability and Nigeria's Economic Growth Trajectory. *South Asian Journal of Social Studies and Economics*, 21(7), 176-185.
- Eweke, G. O. (2019). Banking system stability and economic growth in Nigeria: A Bounds test to cointegration. *Euro Economica*, 38(01), 174-187.
- Fazio, D. M., Silva, T. C., Tabak, B. M., & Cajueiro, D. O. (2018). Inflation targeting and financial stability: Does the quality of institutions matter? *Economic Modelling*, 71, 1-15.
- Fouejieu, A. (2017). Inflation targeting and financial stability in emerging markets. *Economic Modelling*, 60, 51-70.
- Jima, M. D., & Makoni, P. L. (2023). Causality between financial inclusion, financial stability and economic growth in sub-Saharan Africa. *Sustainability*, 15(2), 1152.
- Khalatur, S., Velychko, L., Pavlenko, O., Karamushka, O., & Huba, M. (2023). A model for analyzing the financial stability of banks in the VUCA-world conditions.
- Moyo, J., Nandwa, B., Council, D. E., Oduor, J., & Simpasa, A. (2014). Financial sector reforms, competition and banking system stability in Sub-Saharan Africa. *New perspectives*, 14(1), 1-47.
- Nwidobie, B. M. (2017). Basel macro-prudential tools and financial system stability in Nigeria. *African Journal of Economic and sustainable Development*, 6(2-3), 171-183.
- Olokoyo, F., Ibhagui, O., Babajide, A., & Yinka-Banjo, C. (2019). The impact of macroeconomic variables on bank performance in Nigeria. *Savings and Development*, 43, 1-13.
- Osunkoya, M., Ikpefan, O., & Olokoyo, F. (2023). Macroeconomic and Bank-Specific Determinants of Non-Performing Loans in Nigeria. *WSEAS Transactions on Business and Economics*, 20, 1153-1166.
- Ozili, P. K. (2018). Banking stability determinants in Africa. *International Journal of Managerial Finance*, 14(4), 462-483.
- Ozili, P. K. (2019). Determinants of banking stability in Nigeria. *CBN Bullion*, 43(2).
- Saadaoui, A., & Ben Salah, O. (2023). The moderating effect of financial stability on the CSR and bank performance. *EuroMed Journal of Business*, 18(4), 621-642.
- Sarpong-Kumankoma, E., Abor, J. Y., Aboagye, A. Q., & Amidu, M. (2021). Economic freedom, competition and bank stability in Sub-Saharan Africa. *International Journal of Productivity and Performance Management*, 70(7), 1510-1527.
- Singh, N. (2021). Bank Stability and its Determinants in the Nepalese Banking Industry. *NRB Economic Review*, 33(1-2), 14-44.

Smith, B. D. (1984). Private information, deposit interest rates, and the 'stability' of the banking system. *Journal of Monetary Economics*, 14(3), 293-317.

Stewart, R., Chowdhury, M., & Arjoon, V. (2021). Bank stability and economic growth: trade-offs or opportunities? *Empirical Economics*, 61(2), 827-853.

Uddin, G. (2020). Prudential guidelines and financial system stability in Nigeria.

Viphindrartin, S., Ardhanari, M., Wilantari, R. N., Somaji, R. P., & Arianti, S. (2021). Effects of bank macroeconomic indicators on the stability of the financial system in Indonesia. *Effects of Bank Macroeconomic Indicators on the Stability of the Financial System in Indonesia*, 8(1), 647-654.

Wang, S., & Luo, R. (2024). Income distribution, financial liberalisations and banking stability: Theory and international evidence. *International Journal of Finance & Economics*, 29(3), 2837-2864.

Woodford, M. (2012). *Inflation targeting and financial stability* (No. w17967). National Bureau of Economic Research.

Yitayaw, M. K., Mogess, Y. K., Feyisa, H. L., Mamo, W. B., & Abdulahi, S. M. (2023). Determinants of bank stability in Ethiopia: A two-step system GMM estimation. *Cogent Economics & Finance*, 11(1), 2161771.