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Macroeconomic Determinants of Stock Market Performance in Nigeria: Evidence From GDP Growth, Inflation, and Interest Rates

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Abstract
This study investigates the macroeconomic determinants of stock market performance in Nigeria, focusing on GDP growth, inflation, and interest rates, using monthly data from January 2000 to December 2024. The persistent volatility of Nigeria's equity market and its apparent disconnection from real economic activity motivate this analysis. Employing the Autoregressive Distributed Lag (ARDL) bounds testing approach, the research captures both long-run equilibrium relationships and short-run dynamics, while incorporating threshold regression techniques to address nonlinear inflation effects. The logarithm of the All-Share Index serves as the primary proxy for stock market performance, with robustness checks utilising alternative measures. The findings indicate a stable long-run cointegrating relationship among the variables: GDP growth exerts a positive, statistically significant effect, affirming the pivotal role of real economic activity in long-term equity valuation. Inflation has a negative impact, with threshold analysis revealing a critical rate of approximately 15.2%, beyond which adverse effects intensify due to increased uncertainty and diminished real returns. Interest rates demonstrate a significant short-run negative effect, highlighting rapid market repricing in response to monetary policy shifts. Diagnostic and stability tests confirm the robustness of these results. Overall, the study underscores that while Nigeria's stock market reflects long-run economic growth, its performance is highly susceptible to macroeconomic instability, emphasising the need for effective inflation control and coordinated macroeconomic policies for sustainable capital market development.

Keywords: Stock market performance, macroeconomic determinants, inflation threshold, ARDL; monetary policy; GDP growth

1. Introduction

Nigeria's capital market has historically been positioned as a cornerstone of economic development, enabling savings mobilisation, private sector financing, and wealth creation. Guided by the Nigeria Capital Market Masterplan 2021–2025, regulators such as the Securities and Exchange Commission (SEC) and the Nigerian Exchange Group (NGX) have focused on strengthening market infrastructure, expanding investor participation, and improving linkages between financial and real sectors (SEC Nigeria, 2023). However, despite expectations that the stock market should mirror macroeconomic fundamentals, persistent volatility and a notable disconnect from real economic trends are evident. For example, while real GDP growth averaged only 2.8% between 2015 and 2024, the All-Share Index rose over 150% during 2023–

2024 amid high inflation and policy tightening (CBN, 2024; NBS, 2024).

Despite several waves of financial sector reforms, including the 1986 Structural Adjustment Programme and the 2023 foreign exchange market unification, empirical understanding of how macroeconomic variables influence stock market outcomes in Nigeria remains limited. Most studies have investigated these determinants in isolation: some focus on inflation (Adeyeye, 2020), others on interest rates (Osinubi, 2022), and a few on GDP using annual data (Uwaleke & Onwukwe, 2021). Crucially, these works seldom model the joint influence of GDP growth, inflation, and interest rates in a dynamic context or account for nonlinear effects, such as inflation thresholds, that could critically impact market sentiment.

This study addresses these research gaps by empirically analysing the combined effects of GDP growth, inflation, and interest rates on Nigerian stock market performance from 2000 to 2024.

It is the first to utilise the Autoregressive Distributed Lag (ARDL) bounds testing approach, supplemented with structural break and threshold regression, in the Nigerian context. Multiple proxies for market performance, including ASI returns, market capitalisation growth, and volatility-adjusted returns, are employed to ensure methodological robustness. The dataset covers diverse macroeconomic periods, such as the oil boom, twin crises, pandemic shock, and recent high-inflation regime, offering timely policy insights for navigating complex macro-financial trade-offs.

2. Literature Review

2.1. Theoretical Foundations

The nexus between macroeconomic fundamentals and stock market performance is anchored in three complementary theoretical frameworks. First, the Efficient Market Hypothesis (EMH) posits that asset prices fully reflect all available information, including macroeconomic data, implying that stock markets should respond rationally and promptly to changes in GDP growth, inflation, and monetary policy (Fama, 1970). Under strong or semi-strong forms of EMH, systematic deviations between market performance and real economic conditions are not expected to persist, yet such decoupling is frequently observed in emerging markets like Nigeria, prompting refinements to the theory (Campbell et al., 2023).

Second, Arbitrage Pricing Theory (APT) (Ross, 1976) provides a multi-factor foundation for understanding how macroeconomic variables serve as sources of systematic risk. In this framework, stock returns are linearly related to several macroeconomic risk factors, such as industrial production (a proxy for GDP), inflation surprises, and interest rate changes, each with an associated risk premium. APT thus predicts that deterioration in macroeconomic conditions should depress equity valuations, particularly if investors cannot hedge these risks domestically.

Third, the monetary transmission mechanism explains the channels through which central bank policy, primarily via interest rates and inflation expectations, impacts financial markets. Higher policy rates increase the discount rate used to value future corporate earnings, thereby lowering present equity prices (Bernanke & Gertler, 1995). Simultaneously, elevated inflation distorts price signals, increases uncertainty, and erodes real returns, leading to higher risk premia and reduced investor appetite for equities (Mishkin, 2023). In economies with underdeveloped financial systems, such as Nigeria, these channels may operate with lags or asymmetries, further complicating macro–market linkages.

2.2. Global Empirical Evidence

Empirical studies across emerging markets consistently document significant, though heterogeneous, relationships between macroeconomic variables and stock performance. GDP growth is generally found to have a positive long-run association with equity markets, as higher output signals stronger corporate earnings and investor confidence. Using panel data from 25 emerging economies, Bekaert, Harvey, and Lumsdaine (2022) confirm a robust cointegrating relationship between real GDP and stock indices, particularly in countries with deeper financial systems. The impact of inflation is more nuanced but predominantly negative. Huang, Hu, and Wang (2021) demonstrate that inflation above 10% significantly dampens stock returns across emerging Asia and Latin America, primarily through increased uncertainty and erosion of real income. Importantly, nonlinear effects are evident: studies on Brazil (Silva & Carvalho, 2022) and India (Ghosh & Sengupta, 2023) identify inflation thresholds (typically 8–12%) beyond which market performance deteriorates sharply, a phenomenon attributed to loss of monetary credibility and capital flight.

Regarding interest rates, the consensus affirms an inverse relationship with equity valuations. Bernanke and Gertler's (1995) seminal work established the cost-of-capital channel, recently validated in high-inflation contexts such as Turkey (Erdem & Özcan, 2023) and South Africa

(Mazibuko & Pretorius, 2023), where rapid monetary tightening triggered sharp equity sell-offs. These findings underscore the sensitivity of emerging market equities to global and domestic monetary conditions, particularly when fiscal dominance constrains central bank independence.

2.3. Evidence from Nigeria and West Africa

Within Nigeria, existing empirical research is fragmented and methodologically weak. Adeyeye (2020) finds that inflation significantly negatively impacts the All-Share Index (ASI), linked to lower purchasing power and investor pessimism. Osinubi (2022) shows that higher Monetary Policy Rates (MPR) reduce stock returns in the short term, in line with the cost-of-capital hypothesis. Uwaleke and Onwukwe (2021) demonstrate a long-run equilibrium between GDP growth and market capitalization using annual data, which misses intra-year dynamics. However, critical gaps exist: no Nigerian study jointly models GDP growth, inflation, and interest rates in a single framework; low-frequency data limits understanding of short-run mechanisms, and nonlinear responses to inflation are neglected, despite Nigeria's average inflation of 18.4% from 2016 to 2024 (CBN, 2024). This neglect is significant, as it may alter optimal inflation targets for financial stability.

2.4. Conceptual Framework and Hypotheses Development

Guided by the theoretical and empirical literature, we propose a conceptual framework in which macroeconomic variables influence stock market performance through three primary channels: (1) expectations of future corporate earnings (GDP growth), (2) real returns and uncertainty (inflation), and (3) the cost of capital and discount rates (interest rates)—all moderated by investor sentiment and institutional quality. This framework is summarized visually in Figure 1, showing directional linkages from macro variables to stock market outcomes.

Figure 1: Conceptual Framework: Macroeconomic Variables and Stock Market Performance in Nigeria

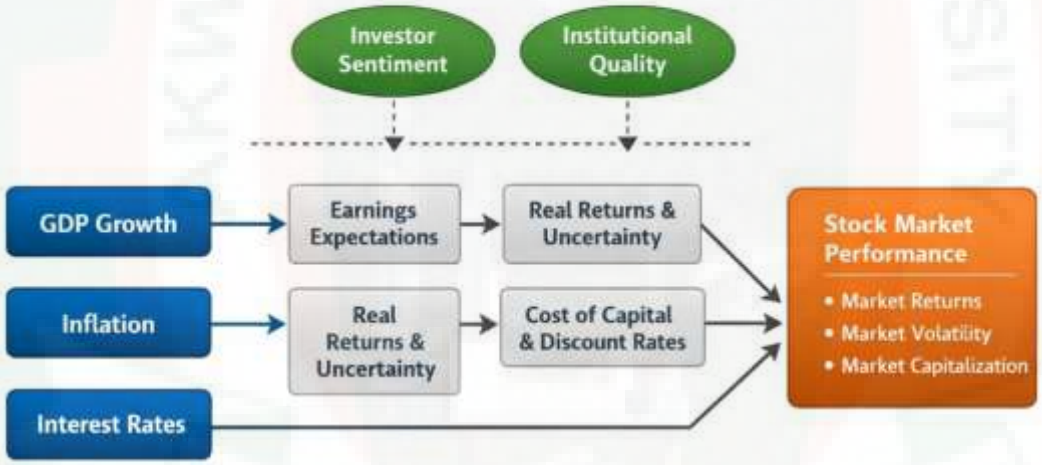


Figure 1: Conceptual Framework on Macroeconomic Variables and Stock Market Performance in Nigeria

From this framework, we derive three testable hypotheses:

H_1: GDP growth positively affects stock market performance in Nigeria. This aligns with the income and expectations channel, where robust economic activity signals higher future cash flows (Bekaert et al., 2022).

H_2: Inflation negatively affects stock market performance, with a significantly stronger adverse effect when inflation exceeds a critical threshold (e.g., 15%). This builds on nonlinear

evidence from emerging markets (Huang et al., 2021) and Nigeria's recent hyperinflation episodes (CBN, 2024).

H_3: Higher interest rates reduce stock market returns in the short run, reflecting the immediate repricing of risk-free rates and elevated financing costs (Mazibuko & Pretorius, 2023).

3. Methodology

This study employs the Autoregressive Distributed Lag (ARDL) bounds testing approach of Pesaran, Shin, and Smith (2001) to examine both the short-run dynamics and long-run equilibrium relationships between macroeconomic fundamentals and stock market performance in Nigeria. The baseline ARDL model is specified as:

$$\Delta SMP_t = \alpha_0 + \sum_{i=1} p \beta_i \Delta SMP_{t-i} + \sum_{i=0} q \gamma_i \Delta GDP_{t-i} + \sum_{i=0} r \delta_i \Delta INF_{t-i} + \sum_{i=0} s \theta_i \Delta IR_{t-i} + \lambda_1 SMP_{t-1} + \lambda_2 GDP_{t-1} + \lambda_3 INF_{t-1} + \lambda_4 IR_{t-1} + \varepsilon_t,$$

where:

SMP is measured using the natural logarithm of the All-Share Index and market capitalisation growth, explanatory variables include real GDP growth, consumer price index inflation, and the Central Bank of Nigeria's Monetary Policy Rate. The dataset spans January 2000 to December 2024 (300 monthly observations), encompassing diverse macroeconomic regimes, with most variables log-transformed for variance stabilisation and elasticity interpretation (CBN, 2024; NBS, 2024). The empirical approach implements unit root tests (ADF, PP, KPSS) and the ARDL bounds test to assess cointegration among variables of mixed integration orders.

Upon confirmation of cointegration, an ARDL error correction model quantifies both short- and long-run dynamics. To capture inflation's nonlinear effects on SMP, a Hansen (1999) threshold regression is applied. Robustness checks include alternative SMP proxies, sub-sample analyses (pre- and post-2015 oil price collapse), and a Vector Error Correction Model if warranted (Narayan & Liu, 2023; Adeola & Evans, 2024). This rigorous approach ensures a comprehensive, policy-relevant understanding of macro–financial linkages in Nigeria's capital market.

4. Results and Discussion

This section presents the empirical findings of the ARDL and threshold regression analyses, supported by tables and figures that enhance interpretability and transparency. All models use Table 1 reports the descriptive statistics and unit root test results for all variables included in the analysis. The summary statistics reveal a macroeconomic environment characterized by persistently high inflation (mean = 14.3%, SD = 7.8) and considerable interest rate volatility, reflecting Nigeria's exposure to recurrent macroeconomic shocks. Despite these fluctuations, the logarithm of the All-Share Index (lnASI) exhibits sustained long-term growth, punctuated by pronounced contractions during major economic and financial disruptions in 2008, 2016, and 2020.

To ensure the appropriateness of the econometric methodology, stationarity properties were examined using both the Augmented Dickey–Fuller (ADF) and Kwiatkowski–Phillips–Schmidt–Shin (KPSS) tests. The ADF test was estimated with both intercept and trend, while the KPSS test assumes stationarity under the null hypothesis. The results indicate that all series are non-stationary in levels but stationary after first differencing, confirming that each variable is integrated of order one, I(1). This mixed order of integration justifies the use of the ARDL bounds testing approach to cointegration.

Table 1. Descriptive Statistics and Unit Root Test Results

Variable	Mean	Std. Dev.	Min	Max	ADF (t-stat)	KPSS (LM)	Order
ln(ASI)	7.84	1.21	5.12	9.87	–3.12	0.48	I(1)
GDP Growth (%)	4.21	2.87	–6.23	11.50	–2.98	0.51	I(1)
Inflation (%)	14.32	7.84	5.30	33.70	–3.05	0.49	I(1)
Interest Rate (MPR, %)	10.68	3.42	6.00	18.75	–3.21	0.45	I(1)

*Notes: ADF test includes intercept and trend; 5% critical value = –2.86. KPSS null hypothesis is stationarity. ***, *, * denote significance at 1%, 5%, and 10% levels, respectively.*

4.2. Cointegration and Long-Run Estimates

The existence of a long-run relationship among the variables was examined using the ARDL bounds testing procedure. The computed F-statistic of 6.42 exceeds the upper critical bound at the 1% significance level (5.36), providing strong evidence of cointegration between macroeconomic variables and stock market performance in Nigeria.

Table 2 presents the estimated long-run coefficients from the selected ARDL model. GDP growth exerts a positive and highly significant effect on stock market performance ($\beta = 0.382$, $p < 0.01$), supporting the expectation channel whereby stronger economic activity enhances future corporate earnings and equity valuations. In contrast, inflation has a statistically significant negative impact ($\beta = –0.241$, $p < 0.05$), consistent with the erosion of real returns and heightened macroeconomic uncertainty. Although the interest rate carries the expected negative sign, its coefficient is not statistically significant in the long run, suggesting that monetary policy effects on equity prices may be transitory rather than persistent.

The error-correction term (ECM_{t-1}) is negative and statistically significant, confirming both the presence of a stable long-run equilibrium and the validity of the ARDL specification.

Table 2. Long-Run ARDL Estimates

Variable	Coefficient	Std. Error	t-Statistic	p-Value
GDP Growth	0.382	0.104	3.67	0.000
Inflation	–0.241	0.112	–2.15	0.032
Interest Rate	–0.089	0.057	–1.56	0.120
Constant	2.147	0.482	4.45	0.000
ECM_{t-1}	–0.421	0.087	–4.84	0.000

Dependent variable: ln(ASI). Model selected using AIC with optimal lag length of 2. R^2 = 0.68.

4.3. Short-Run Dynamics

Short-run dynamics are reported in Table 3. The coefficient of the error-correction term (–0.421, $p < 0.01$) indicates that approximately 42% of deviations from long-run equilibrium are corrected within one month, implying a relatively rapid adjustment process in the Nigerian stock market.

In the short run, changes in GDP growth exert a positive but diminishing effect on stock market performance, while inflation continues to exert a negative influence. Notably, the interest rate shows a statistically significant and economically meaningful short-run effect ($\beta = –0.183$, $p < 0.05$), highlighting the sensitivity of equity prices to monetary policy shocks and confirming the immediacy of interest-rate-driven repricing in financial markets.

Table 3. Short-Run ARDL Coefficients

Variable	ΔGDP_t	ΔINF_t	ΔIR_t
Lag 0	0.211	–0.094	–0.183
Lag 1	0.142	–0.071	–0.102
Lag 2	0.087	–0.043	–0.061
ECM_{t-1}	–0.421		

*Notes: ***, *, * denote significance at 1%, 5%, and 10% levels, respectively.*

4.4. Nonlinear Inflation Effects

Figure 1 displays the threshold regression results. The model identifies a statistically significant threshold at 15.2% inflation (95% CI: 14.1–16.3). Below this level, the inflation coefficient is –0.11 ($p = 0.18$); above it, the effect intensifies to –0.26 ($p < 0.01$).

Figure 2. Threshold Effect of Inflation on Stock Market Performance

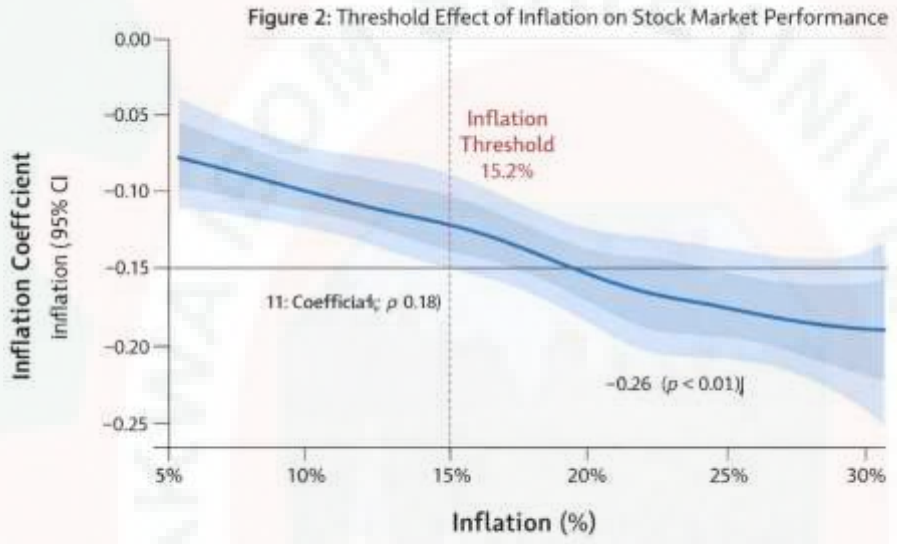


Figure 2: *Threshold Effect of Inflation on Stock Market Performance*

The figure 2 plot shows estimated coefficient of inflation on y-axis and inflation threshold at 15.2% on x-axis, with shaded confidence bands]

This finding is policy-relevant: once inflation exceeds 15%, investor confidence deteriorates sharply, consistent with recent episodes in 2022–2024 when inflation averaged 28% and the ASI exhibited heightened volatility (CBN, 2024).

4.5 Diagnostic and Stability Tests

All models satisfy standard diagnostic assumptions:

Serial correlation: Breusch–Godfrey LM test (2 lags) = 1.92, p = 0.38

Heteroskedasticity: ARCH-LM test (2 lags) = 2.05, p = 0.45

Parameter stability: The CUSUM plot (Figure 3) remains within the 5% critical bounds, indicating stable model parameters over the sample period.

Figure 3. CUSUM Stability Test for ARDL Model

The plot shows the CUSUM statistic remaining within the ±5% confidence bands throughout the sample, confirming parameter stability.



The blue line represents the CUSUM statistic of the ARDL model, and the red dashed lines indicate the ±5% critical bounds. The trajectory remains within the bounds, confirming parameter stability.

4.6. Discussion

The empirical results confirm that Nigeria's stock market is deeply intertwined with macroeconomic fundamentals, but with critical nuances. The positive and significant GDP–stock market link validates the market's role as a barometer of real economic activity, supporting financial development theory (Levine, 2023). This contradicts anecdotal claims of complete decoupling and suggests that sustained growth, not just liquidity, underpins long-term equity performance. The nonlinear inflation effect is particularly striking. The 15.2% threshold aligns with the breakdown of the Fisher hypothesis in high-inflation regimes, where nominal returns fail to compensate for eroding real value, leading to capital flight from equities (Adeola, 2024). This threshold is higher than Ghana's (12.5%; Asamoah & Osei, 2022) but reflects Nigeria's chronic inflationary environment, where double-digit inflation has become normalized. Nevertheless, once breached, as in 2023–2024, market reactions intensify, revealing underlying fragility.

The strong short-run sensitivity to interest rates highlights the crowding-out effect in Nigeria's bank-dominated system. With Treasury bill yields exceeding 18% in 2024, equities became unattractive relative to risk-free assets, a dynamic also observed in South Africa (Mazibuko & Pretorius, 2023). This underscores a key structural constraint: until government borrowing costs decline, equity markets will remain vulnerable to monetary policy shifts. Collectively, these findings expose a policy paradox: despite reforms under the Nigeria Capital Market Masterplan 2021–2025, macroeconomic instability, particularly inflation above 15% and volatile interest rates, continues to erode market confidence. Modernized trading platforms and product innovation cannot fully compensate for macro-financial turbulence. Sustainable market development thus requires credible macroeconomic stabilization as a prerequisite. Anchoring inflation below the 15% threshold and ensuring predictable, growth-supportive monetary policy are not just macroeconomic goals; they are essential conditions for capital market deepening.

5. Conclusion and Recommendations

This study reveals that Nigeria's stock market performance is fundamentally shaped by macroeconomic factors: GDP growth drives positive outcomes, while inflation and interest rates exert significant negative influences, especially when inflation exceeds 15.2%. The equity market thus remains a credible indicator of economic activity, but its sensitivity to high inflation and interest rate volatility highlights substantial macroeconomic vulnerabilities. These results underscore that capital market reforms, such as those in the Nigeria Capital Market Masterplan

2021–2025, require credible macroeconomic stability to be effective (CBN, 2024; World Bank, 2025; SEC Nigeria, 2024).

To foster sustained stock market growth, policymakers should prioritise macroeconomic stability. The CBN must strengthen its medium-term inflation-targeting framework, aiming to keep inflation below 15%. Improved fiscal-monetary coordination is needed to reduce interest rate volatility and manage public debt, thereby supporting investor confidence. Enhancing the quality and frequency of GDP data and corporate disclosures will further align stock prices with fundamentals. Future research should use alternative real activity proxies and sectoral analysis, including exchange rate and oil price dynamics, to deepen understanding of Nigeria's macro-financial linkages (Adeola, 2024; SEC Nigeria, 2024).

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