Evaluating the Nexus between Macroeconomic Indicators and Stock Market Performance in Nigeria

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ABSTRACT: *This study examines the effect of macroeconomic indicators on stock market performance in Nigeria from 1986 to 2022 using time series data analysis. The analysis includes unit root tests, co-integration tests, and error correction model analysis to understand the long-term and short-term dynamics between macroeconomic variables and stock market performance. Various diagnostic tests, such as tests for autocorrelation, multicollinearity, and heteroscedasticity, were conducted to enhance the accuracy of the model. The results indicate a strong positive relationship between stock market performance and lagged values of Gross Domestic Product (GDP) and Inflation Rate (INF) in the long run. Economic growth, as indicated by GDP, and inflation rates play significant roles in driving stock market movements in Nigeria. Conversely, there is a negative relationship between stock market performance and lagged values of equity (EQUI) and interest rate (INTR), suggesting that changes in equity and interest rates may not have a long-term influence on stock market performance. The short-run analysis reveals short-term momentum in stock market performance, with past stock market returns and inflation rates positively affecting current stock market performance. However, variables like GDP, equities, exchange rates, and interest rates do not show significant short-term effects on stock market performance, indicating their impact may be more pronounced in the long run. These findings provide valuable insights for policymakers and investors seeking to understand the relationship between macroeconomic conditions and stock market movements in Nigeria.*
KEYWORDS*: exchange rate, inflation, macroeconomic variables, stock market performance*

INTRODUCTION

Macroeconomic indicators are essential tools for assessing the health of an economy and guiding economic governance. These indicators, such as economic growth, inflation rate, returns on equity, exchange rate, and interest rate among others are used by policymakers to make informed decisions

and by citizens to evaluate the performance of their leaders (Mügge, 2015). The relationship between macroeconomic indicators and economic cycles has been studied extensively, with significant co-movements among various indicators identified. Additionally, the development tendencies of macroeconomic indicators are integral to national economic policies, as seen in the case of raw material policy in Slovakia (Pavolová, 2019; Adiga, Haruna, Yua, & Adigwe, 2020). Furthermore, there is a growing emphasis on adjusting macroeconomic indicators to account for ecosystem degradation, aiming to foster more sustainable paths of development and inform environmental policies (Notte, 2019). The impact of macroeconomic indicators on specific aspects of the economy, such as stock prices and CO_2 emissions, has also been studied, demonstrating the wide-ranging influence of these indicators (Adaramola, 2011, Demirel, 2017; Abdul-Maliq & Sule. 2017). The causality relationships between economic confidence and fundamental macroeconomic indicators have been analyzed, highlighting the predictive power of economic confidence in explaining changes in macroeconomic indicators (Demirel, 2017).

Stock market performance refers to the evaluation of the returns and risk associated with investing in the stock market. Several factors influence stock market performance, including macroeconomic variables, governance quality, and external influences such as foreign capital inflows and cryptocurrency market dynamics. Research has shown a significant positive association between the quality of government institutions and stock market performance, with countries having better-developed governance systems exhibiting higher returns on equity and lower levels of risk (Hooper, 2005 and Adoms, Yua, Okaro, & Ogbonna, 2020). Additionally, macroeconomic factors such as remittances, money supply, exchange rates, and interest rates have been found to impact stock market performance, with varying effects across different economies (Rakhal, 2018; Abdul-Maliq, Ali, & Yua 2021). Furthermore, the impact of subsequent stock market deregulations and the cryptocurrency market on stock market performance has been explored, highlighting the significance of these factors in shaping stock market dynamics (Auzairy, 2011, Sami, 2020). In addition, studies have also identified the causal relationships between stock market performance and select macroeconomic variables, emphasizing the interplay between the real economy and stock market indicators (Tripathi, 2014, Shrestha, 2014, Oskooe, 2010, Tite, 2022). Overall, stock market performance is a multifaceted concept influenced by a range of domestic and international factors, and understanding these dynamics is crucial for investors, policymakers, and researchers.

The impact of macroeconomic indicators on stock market performance in Nigeria has been the subject of several studies. These indicators include economic growth, inflation rate, returns on equity, exchange rate, and interest rate. Studies reveal that these macroeconomic variables have varying significant impacts on stock market performance in Nigeria. For instance, interest rate and inflation bear a negative relationship with stock market performance, while exchange rate, GDP growth rate, and foreign capital flows are positively related to stock market performance (Olokoyo, 2020). Also, the research findings show that interest rate has a negative relationship with stock market returns, while the inflation rate and exchange rate have a positive relationship with stock

market returns in Nigeria (Okoro, 2017). Furthermore, the studies emphasize the need for policies aimed at improving the country's macroeconomic environment, such as lowering interest rates, increasing foreign capital flows, and improving the country's terms of trade (Olokoyo, 2020). Consequently, regulatory authorities are advised to take proactive steps to minimize stock market return volatility in order to restore confidence in the market (Okechukwu, 2019). The findings also indicate that stock prices are not a leading indicator of macroeconomic variables in Nigeria and that movements in stock prices cannot actually be explained by macroeconomic factors (Okoro, 2017). The studies provide valuable insights into the complex relationship between macroeconomic indicators and stock market performance in Nigeria. They highlight the need for an intricate understanding of how these indicators interact with the stock market and the potential implications for policy and investment decisions. Understanding the relationship between macroeconomic indicators and the Nigerian stock market is crucial for investors and policymakers.

Several studies have attempted to determine this relationship between macroeconomic variables and stock market performance in Nigeria with varying or mixed findings. While some studies suggest that macroeconomic variables influence stock market performance in Nigeria (Osamwonyi, 2012), others have found that stock market performance is not a leading indicator of macroeconomic variables in the country (Olabanji, 2013). Likewise, the long-run growth of the Nigerian economy is reported to be highly sensitive to marginal variations in interest rate, indicating that macroeconomic variables are more useful in shaping the long-run direction of the Nigerian economy. Besides, it has been found by Ogunsakin (2020), that both endogenous and exogenous macroeconomic variables determine Nigeria's stock market performance, with inflation rate, real interest rate, real effective exchange rate, and world oil price identified as major determinants during the study period (Ogunsakin, 2020). These findings highlight the complexity of the relationship between macroeconomic indicators and stock market performance in Nigeria and the need for further empirical investigations to identify the best macroeconomic variables that positively impact stock market performance in the country (Okoro, 2017).

The main objective of this study is to examine the effect of macroeconomic indicators on stock market performance in Nigeria between 1986 and 2022. The specific objectives are to; determine the effect of economic growth on stock market performance in Nigeria, assess the effect of inflation rate on stock market performance in Nigeria, investigate the effect of returns on equity on stock market performance in Nigeria, examine the effect of exchange rate on stock market performance in Nigeria and ascertain the effect of interest rate on stock market performance in Nigeria. The following hypotheses are formulated in line with the specific objectives of the study.

LITERATURE REVIEW

Theoretical Review

The relationship between macroeconomic variables and stock market performance is often explained by the Efficient Market Hypothesis (EMH) and the Asset Pricing Models, particularly the Capital Asset Pricing Model (CAPM) and its extensions.

Efficient Market Hypothesis (EMH)

Efficient Market Hypothesis (EMH) posits that stock prices fully reflect all available information and that it is impossible to consistently outperform the market by using any information that the market already knows. In the context of macroeconomic variables, this theory suggests that stock prices adjust quickly and accurately to new information about the economy, such as changes in interest rates, inflation, GDP growth, and other macroeconomic indicators (Tripathi, 2014). Therefore, according to EMH, it is difficult to predict stock prices based on macroeconomic variables alone, as the market efficiently incorporates this information into prices.

Capital Asset Pricing Model (CAPM)

CAPM is an asset pricing model that relates the expected return on an asset to its systematic risk (beta) and the expected return on the market. In the context of macroeconomic variables, CAPM suggests that stock market performance is influenced by the overall market return, which in turn is influenced by macroeconomic factors (Auzairy, 2011). For example, changes in interest rates or GDP growth can affect the expected return on the market, which in turn affects stock prices and returns. Extensions of CAPM, such as the Arbitrage Pricing Theory (APT), also consider the impact of multiple macroeconomic variables on asset prices.

Conceptual Review

Concept of Macroeconomic Indicator

Macroeconomic indicators are key statistics that provide insights into the overall health and performance of an economy (Shpak, 2022). These indicators help policymakers, businesses, and investors understand the current economic situation, forecast future trends, and make informed decisions. Some common macroeconomic indicators include Gross Domestic Product (GDP), inflation rate, unemployment rate, and balance of trade. Macroeconomic indicators are essential tools for assessing the health of an economy and guiding policy decisions (Mügge, 2015). These indicators, such as inflation, gross domestic product growth, public deficits, and unemployment, are used by policymakers to evaluate economic performance and make informed decisions. They also serve as yardsticks for citizens to assess the performance of politicians. The relationship between macroeconomic indicators and economic cycles has been studied, revealing significant co-movements among these indicators and identifying noteworthy economic events (Iyetomi, 2020). Similarly, the impact of macroeconomic factors on CO_2 emissions has been analyzed,

confirming the dependence of carbon dioxide emissions on indicators such as gross domestic product, exports, imports, inflation, and unemployment (Shpak, 2022). Furthermore, macroeconomic indicators have been studied in the context of specific policies, such as raw material policy in Slovakia, where they form the basic platform of functioning for all national economic sectors (Pavolová, 2019). Macroeconomic indicators play a crucial role in understanding and managing economic dynamics, influencing policy decisions and shaping economic outcomes. Overall, macroeconomic indicators provide valuable insights into the health and performance of an economy, helping stakeholders make informed decisions. Understanding these indicators and their implications is essential for policymakers, businesses, and investors to navigate economic conditions effectively.

Concept of Stock Market Performance
Stock Market Performance is the indicator of the stock market as a whole or of a specific stock. It gives signal to the investors about their future moves. The movement in the price of a stock and the indexes gives the idea of the near future trend of the stock, sector or the economy as a whole. As financial domain is the most important one of an economy, so the stock market performance works as an indicator of the overall health of the economy (Economywatch, 2010).

Stock Market Indexes typically gives the overall performance of the market or of a specific sector. Indexes reflect the performance of the economy or a sector in entirety. Stock Prices are an indicator of the performance of the stock. If the price of a particular stock is rising then it is perceived that it has certain positive news or signals. But, if it decreases then there must be some negative news regarding its performance, which is generating negative signals to the market. Hence, the stock price movement and index movements show the general economic trend of a country (Economywatch, 2010).

Empirical Review
Yua, Epor, & Utor (2023). The aim of the study was: (i) to model the sway (volatility) of the stock market returns, and (ii) find out how this sway (volatility) affect economic growth in Nigeria. The study frame is 1985 to 2021. The study used the GARCH (1, 1) model to estimate the volatility of the Nigerian stock market returns, which showed that there was evidence of volatility. Upon deriving the volatility series, the study proceeded to apply it to the Autoregressive Distributed Lag (ARDL) estimation technique. The result of the ARDL bounds, having got the ARDL-ECM to satisfy the theoretical requirements (negative and significant coefficient), the long-run relationship revealed that stock market sway (volatility) exerts positive and significant effect on economic growth. ARDL estimation also showed that money supply growth drives stock market volatility to impact positively on economic growth, despite the negative influence from inflation rates. Finally, the combined influences of changes in stock market volatility, inflation and money supply growth granger cause economic growth at 5% significance level, meaning that there is unidirectional

causality from changes in stock market volatility, inflation and money supply growth to economic growth. The study recommends that policy-makers, and especially the CBN, sustain the money supply adopted over the period, 1985 to 2021, because these have helped to support the stock market to boost economic growth in Nigeria. As a follow-up, investors in the Nigerian stock market are advised to select and design portfolio plan to protect their investments.

Okoebor (2022). examined the effects of macroeconomic variables on stock market performance in Nigeria between 1986-2020. The study adopted expo facto research design using secondary data sourced from Nigeria bureau of statistics, World Bank data catalogue and Nigerian stock exchange as variables. The work uses Ordinary Least Square Regression (OLS) statistical technique method. Findings indicated that, private sector credit, exchange and interest rate has significant effects on all share indexes while Inflation on the other hand has a negative insignificant influence on all share indexes respectively. The regression results showed a strong relationship between macroeconomic variables and stock market performance in Nigeria. The implications are; policy makers benefits from the spill over information arising from market activities to give priority attention to reforms that activates a vibrant stock market performances. The study recommended that, Government should start the process of implementing special intervention policies that could enhance broad base stock market dominance through monetary instruments to be implemented by financial institutions.

Augustine, Saviour, & Ferdinand (2022). The study investigates the effects of selected macroeconomic variables on stock market performance in Nigeria. The study employed time-series data obtained from the Central Bank of Nigeria's statistical bulletin and World Development Indicators. Stock market performance was measured using the all-shares index while the identified macroeconomic variables included GDP growth, broad money supply, exchange rate, savings interest rate, and inflation rate. An Autoregressive Distributive Lag (ARDL) estimation technique was used to establish the long run relationship among the variables, and it was revealed that a long run relationship existed among the variables in the estimated model. The result shows that macroeconomic variables such as gross domestic product, broad money supply, exchange rate, and savings interest rate have a positive effect on stock market performance in Nigeria. On the other hand, the results showed that the inflation rate has a negative effect on stock market performance in Nigeria. Predicated on the result, the study recommended that policies to increase gross domestic product, exchange rate, interest rate, and money supply should be implemented because they can lead to an improvement in the performance of the stock market, while the inflation rate should be maintained at a single digit to prevent its negative effect on the performance of the stock market in Nigeria.

Emmanuel (2019). Examines the effect of macroeconomic variables on stock market performance in Nigeria using annual time series data spanning 1981 to 2016.The data were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin. Four macroeconomic variables, namely:

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money supply, interest rate, exchange rate and inflation rate were used as independent variables, while market capitalisation (proxy for stock market performance) was employed as the dependent variable. The cointegration test results disclosed that there exist a long-run relationship between the macroeconomic indicators and stock market performance. The Granger Causality test results revealed that a unidirectional causality runs from money supply and exchange rate to stock market performance. In conclusion, money supply and interest rate are the true factors influencing stock market performance in Nigeria because they exhibited a significant effect on stock market performance. Whereas, exchange rate and inflation rate indicated a weak (non-significant) effect on stock market performance. Consequently, the recommendations are: monetary policies that favour the supply of money in the economy should be pursued in order to ensure a better performance of the stock market; Interest rate should be relatively low to guarantee a higher performance of the stock market because high interest rate has a significant negative effect on the Nigerian stock market.

Afees and Kazeem (2010) examined the causal linkage between stock market and economic growth in Nigeria between 1970 and 2004. The indicator of the stock market development used are market capitalization ratio, total value traded ratio and turnover ratio while the growth rate of gross domestic product is used as proxy for economic growth, using the Granger causality (GC) test, the empirical evidence obtained from the estimation process suggests a bidirectional causality between turnover ratio and economic growth, an unidirectional relationship from market capitalization to economic growth and no causal linkage between total value traded. The result of the causality test is sensitive to the choice of variable used as proxy for stock (capital) market. Overall the result of the G.C test suggested that capital market drive economic growth.

Edame and Okoro (2010) carried out a research on The Impact of Capital Market and Economic Growth in Nigeria. Time series data obtained for the period 1970-2010 from Central Bank of Nigeria (CBN) and Nigeria Stock Exchange (NSE) were analyzed using regression. The data obtained were fitted to the equation by ordinary least-square (OLS) regression method. The growth rate of Gross Domestic Product (GDP) per capita was regressed on a variety of capital market variables such as market capitalization, all share index, number of deals, value of transactions and interest rate. From the result obtained, capital market has positive and significant impact on economic growth in Nigeria. The capital market variables captured in the model such as market capitalization, number of deals and value of transactions were all positive and significant in promoting economic growth in Nigeria. It is important that the government should implement policies that will make the market more efficient and re-position it for growth within the Nigerian economy.

Oluwatoyin and Ocheja (2009) examine the impact of stock market earnings on income of the average Nigerian using time series data covering the period 1980-2007. Applying co-integration

and error correction modelling to stock market performance and per capital income time series data, the findings indicated the separate roles played by the primary capital market and the secondary capital market in the growth of stock market earnings that has impacted positively on Nigerian per capita income. By and large, the evidence from this study revealed that while activities in the secondary capital market tend to grow the stock market earnings through its wealth effect that of the primary market ironically did not.

Adam and Tweneboah (2008) examined the impact of macroeconomic variables on stock prices in Ghana using quarterly data from 1991 to 2007. They examined both the long-run and short-run dynamic relationships between the stock market index and the economic variables-inward foreign direct investment, Treasury bill rate, consumer price index, average oil prices and exchange rates using co-integration test, Vector Error Correction Model (VECM). They found that there is co-integration between macroeconomic variable and stock prices in Ghana indicating long-run relationship. The VECM analysis shows that the lagged values of interest rate and inflation have a significant influence on the stock market. Also, the inward foreign direct investments, oil prices, and the exchange rate demonstrate weak influence on price changes.

Serkan (2008) investigates the role of macroeconomic factors in explaining Turkish stock returns. He employed macroeconomic factor model from the period of July 1997 to June 2005. The macroeconomic variables considered are growth rate of industrial production index, change in consumer price index, growth rate of narrowly defined money supply, change in exchange rate, interest rate, growth rate of international crude oil prices and return on the MSCI World Equity Index. He found that exchange rate, interest rate and world market return seem to affect all of the portfolio returns, while inflation rate is significant for only three of the twelve portfolios. Also, industrial production, money supply and oil prices do not appear to have significant effect on stock returns in Turkey.

Elumilade and Asaolu (2006) examined the relationships between stock market capitalization rate and interest rate. Time series data obtained for the period 1981-2000 from Central Bank of Nigeria (CBN) and Nigeria Stock Exchange (NSE) were analyzed using regression. The data obtained were fitted to the equation by ordinary least-square (OLS) regression method. Results showed that the prevailing interest rate exerts positive influence on stock market capitalization rate. Government development stock rate exerts negative influence on stock market capitalization rate and prevailing interest rate exerts negative influence on government development stock rate. The study further revealed information as very important to capital market development. It was therefore recommended that the operators of the Nigeria capital market should raise the level of awareness so that investors will be abreast with the happenings in the market.

Dritsaki and Dritsaki-Bargiota (2005) used a trivariate VAR model to examine the causal relationship between stock, credit market and economic growth for Greece. Through monthly data covering the period 1988:1-2002:12, their results reveal unidirectional causality from economic

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development to stock market and bidirectional causality between economic developments and the banking sector. The paper establishes no causal relationship between stock market function and banking sector.

Arestis, Demetriades and Luintel(2001) examined the relationship between stock market development and economic growth through quarterly time-series data for five developed economies while controlling for the effect of banking system and market volatility. These countries are: the USA, the UK, France, Germany, and Japan. The period covered 1968-1998 although the data span is different for different countries in the sample. The results reveal that in Germany, there is evidence of bidirectional causality between banking system development and economic growth. The stock market on the other hand is weakly exogenous to the level of output. In the USA, financial development does not cause real GDP in the long-run. Japan exhibits bidirectional causality between both banking and stock market variables and the real GDP, while in the UK the results indicate evidence of unidirectional causality from banking system to stock market development in the long-run, but the causality between financial development and economic growth in the long-run is very weak. The evidence in France suggests that in the long-run both the stock market and banking system contribute to real GDP but the contribution of the banking system is much stronger.

Osinubi (1998) examines whether stock market promotes economic growth in Nigeria between the period 1980 and 2000. The study employed the Ordinary Least Squares (OLS) regression technique as the method of data estimation. The regression results, confirms that there exist positive relationship between the economic growth and the measures of stock market development used. However, these relationships are statistically insignificant. This in essence means that the effect of stock market on economic growth is weak and insignificant.

RESEARCH METHODOLOGY

Model Specification
Given the functional relationship that exist between the variables of the study, the following implicit nexus can be established between the dependent and the independent variables of the study.

$SMP = f$ (GDP, INF, ROE, EXR, INT)   -   -   -   -   -   (i)

Where;

SMR = Stock Market performance
GDP = Gross Domestic Product
INF = Inflation Rate
EQUI = Equity
EXR = Exchange Rate
INT = Interest Rate

The stochastic form of the model is as stated below;

$$SMR = \beta_0 + \beta_1 GDP + \beta_2 INF + \beta_3 EQUI + \beta_4 EXR + \beta_5 INT + \mu \quad - \qquad - \qquad - \qquad \text{(ii)}$$

Where,
β_0 = intercept or constant term
$\beta_{1 - }\beta_5$ = the parameter estimates of the model and
μ = the error term

A priori **expectations:**

GDP >0 INF < 0, EQUI >0, EXR >0, INT >0

DATA PRESENTATION AND ANALYSIS

This section of the study focuses on the analysis of the results beginning with descriptive statistics and inferential statistics. The descriptive results of the dataset set used for the study is presented on Table 1 below.

Table 1: Descriptive Statistics

	SMR	GDP	INF	EQUI	EXR	INTR
Mean	21.33418	44.83814	19.28500	8000.451	96.55054	22.36189
Median	31.70710	42.92241	12.54000	1926.500	120.5800	21.39000
Maximum	83.69824	96.45642	57.42000	59963.93	253.4900	36.09000
Minimum	-61.18500	17.29460	5.420000	3.700000	1.750000	12.00000
Std. Dev.	29.49147	21.99225	15.41403	15481.98	66.85251	4.346909
Skewness	-0.747491	0.264971	1.482736	2.726967	-0.073987	0.857152
Kurtosis	3.499144	1.850370	3.949245	9.159945	2.040001	4.848980
Jarque-Bera	3.829675	2.470500	14.94659	104.3559	1.454555	9.801243
Probability	0.147366	0.290762	0.800568	0.515845	0.483223	0.721442
Observations	**37**	**37**	**37**	**37**	**37**	**37**

Source: Author's Computation using E-views 10.0

This table summarizes the descriptive statistics for various macroeconomic indicators and the stock market performance (SMP) in Nigeria between 1986 and 2022. Analyzing these statistics provides insights into the potential relationships between these factors. The standard deviation (Std. Dev.) is high for most indicators, particularly SMP, GDP growth, equity returns (EQUI), and exchange rate (EXR). This suggests significant fluctuations in these variables over the study period. The skewness values for inflation (INF), EQUI, and EXR are positive, indicating a tendency towards higher values compared to the normal distribution. This might suggest periods

of high inflation, strong equity returns, and a stronger Naira (Nigerian currency) at times. The kurtosis values are generally above 3 for most indicators, except for GDP growth and interest rates (INTR). This suggests a higher concentration of data points around the average compared to a normal distribution, with some potential outliers on either end. These findings set the stage for further analysis into the relationships between these variables. The high standard deviations highlight the need for more sophisticated statistical techniques to account for the volatility in the data. Moreover, the positive skewness in some indicators suggests that focusing solely on means might not capture the entire picture. Examining the distribution of the data and potential outliers can be crucial. This table provides a springboard for further investigation into the factors influencing the Nigerian stock market. By analyzing the relationships between these macroeconomic indicators and stock market performance, the study can offer valuable insights for investors and policymakers in Nigeria.
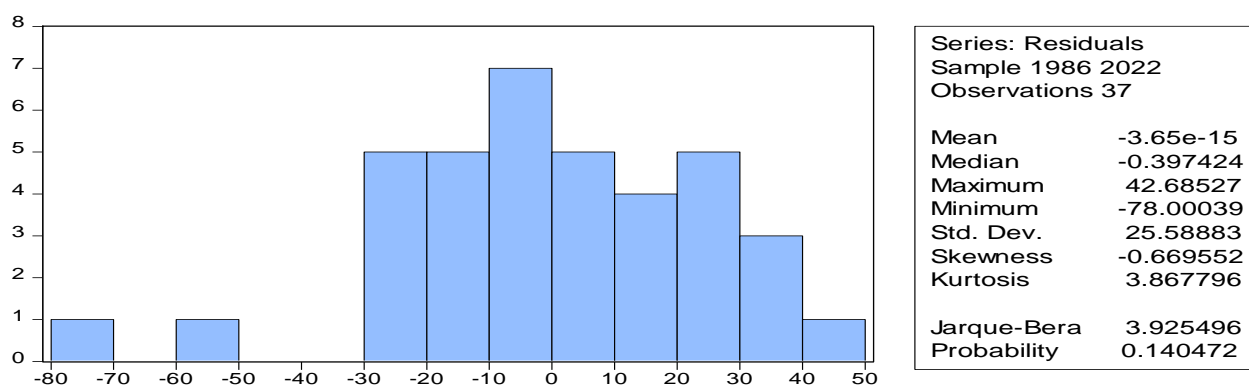

Figure 1: Bar chart showing Normality

The Jarque-Bera test is a test of normality. The null hypothesis of the test is that the data is normally distributed. The p-value of the test is the probability of obtaining a Jarque-Bera statistic as extreme or more extreme than the observed value, assuming that the null hypothesis is true. Also, the result of the Jarque-Bera test of normality showed that all the variables are normally distributed ($p>0.05$) as shown in Table 1. Figure 1 shows a Bar Chart showing normality of of the dataset used in the study. The aggregate value of the probability of the Jarque Bera Statistics is greater than the critical value given that the probability value is greater than 0.05 level of significance which implies that the variables are normally distributed, as opposed to a situation of not being normally distributed if their probability values were less than 0.05 level of significant. The p-value of the Jarque-Bera test is greater than 0.05 for all six variables, indicating that we accept the null hypothesis and conclude that the data in each variable is normally distributed.
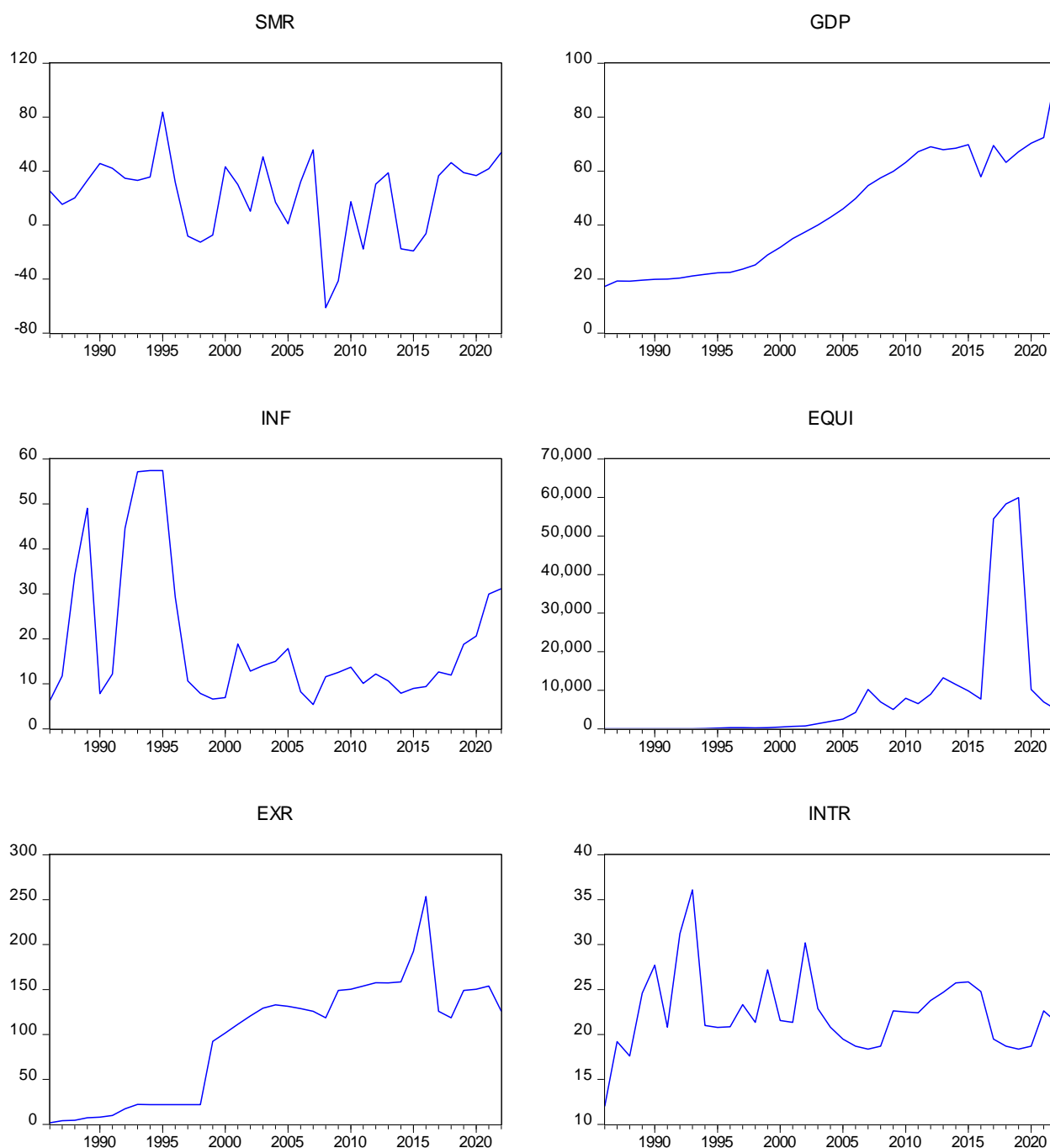
Figure 2: Trend Analysis

The graph depicts the evolution of different variables (SMR, GDP, INF, EQUI, EXR, INT) over the years from 1986 to 2022. GDP (Gross Domestic Product) shows a steady increase with fluctuations, only around 2014 while reaching its peak in 2022. This suggests a positive trend in economic growth, potentially influenced by other economic agents or other factors contributing to increased growth.

Stock market return (SMR), Inflation (INF), Equity (EQUI), Interest Rate (INT) BNK (Bank Credit to Agriculture) demonstrates high level of volatility over the years. This could be linked to several factors such as policy reversal of government, bad economic policy, market forces among others. The preceding sections provides statistical analysis which will aid by delving deeper into the intricate relationship between the variables of the study. The first inquiry into the characteristics of the data is to examine the unit root properties of the data used in the study. This is done using the Augmented Dickey Fuller Test (ADF) statistics which examines the stationarity or otherwise of the data used in the study.

Testing for Unit Root (ADF-Test)

Table 2: Augmented Dickey-Fuller Test (ADF)

Variables	ADF	5% Critical Value	Order of Integration
SMR	-4.050375	-2.945842	I (1)
GDP	1.646922	-2.976263	I (0)
INF	-3.221701	-2.948404	I (1)
EQUI	10.45360	-2.976263	I (0)
EXR	-1.661838	-2.945842	I (0)
INT	-4.565145	-2.945842	I (1)

Legend: SMR = Stock Market performance, GDP = Gross Domestic Product, INF =   Inflation Rate, EQUI = equity, EXR = Exchange rate, INT = Interest rate
 Source: Researcher's Computation, 2024.

The Augmented Dickey-Fuller Test (ADF) is a critical tool for assessing the stationarity of time series data. This is a fundamental assumption for many analyses. In this ADF result, each variable (SMR, GDP, INF, EQUI, EXT and INTR) is evaluated for stationarity using their respective ADF statistics. For GDP, EQUI and EXR, the ADF statistics are all greater than the 5% critical values, indicating that these series are not stationary (I(0)). On the other hand, the ADF statistic for SMR, INF & INT shows p-values which are less than the critical value, suggesting that they are stationary at first difference (I(1)). The next course of action would involve appropriate transformations to achieve stationarity for the non-stationary series (GDP, EQUI and EXR). Common transformations include differencing the series to make them stationary. After achieving

stationarity, these time series data can be used for further analysis, such as modelling or forecasting, ensuring the fundamental assumption of stationarity is met.

Table 3: Augmented Dickey-Fuller Test (ADF) at first difference

Variables	ADF	5% Critical Value	Order of Integration
SMR	-7.297693	-2.951125	I (1)
GDP	-3.358178	-2.963972	I (1)
INF	-5.019374	-2.948404	I (1)
EQUI	-2.981038	-1.380756	I (1)
EXR	-6.680937	-2.948404	I (1)
INT	-7.680205	-2.948404	I (1)

Legend: SMR = Stock Market performance, GDP = Gross Domestic Product, INF = Inflation Rate, EQUI = equity, EXR = Exchange rate, INT = Interest rate
Source: Researcher's Computation, 2024.

The Augmented Dickey-Fuller Test (ADF) at first difference is a crucial step in assessing stationarity in time series data. In this result, each variable (SMR, GDP, INF, EQUI, EXT and INTR) is evaluated for stationarity after differencing. The ADF statistics for all variables are highly negative, indicating a strong rejection of the null hypothesis of a unit root (non-stationarity). The p-values are effectively zero (0.0000) for all variables, further emphasizing the strong evidence of stationarity at the first difference (I(1)). The subsequent step would entail capitalising on the attained stationarity through the process of differencing in order to conduct further analysis. Once the variables have been transformed to their first differences, they become suitable for time series modelling, forecasting, and other analytical techniques that rely on stationary data. The confirmation of stationarity at the first difference provides a solid foundation for more accurate and reliable analyses and predictions in the context of the study.

Johansen co-integration test
The Johansen co-integration test is employed to determine the presence of a long-term co-integrating connection among the variables. The technique employed in this study is commonly referred to as the Johansen Full Information Maximum Likelihood (FIML) method. The tables below display the statistical findings of the Johansen Co-integration test, specifically the unrestricted co-integration Rank Test (Trace) and the unrestricted Co-integration Rank Test (Maximum Eigen value) statistics.

Co-integration Test (Trace and Maximum Eigen value)
Table 4a: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.823153	165.2118	95.75366	0.0000
At most 1 *	0.766735	104.5753	69.81889	0.0000
At most 2 *	0.631984	53.63002	47.85613	0.0130
At most 3	0.315275	18.64297	29.79707	0.5188
At most 4	0.109065	5.387155	15.49471	0.7664
At most 5	0.037706	1.345234	3.841466	0.2461

Table 4b: Unrestricted Cointegration Rank Test (Maximum Eigenvalue

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.823153	60.63650	40.07757	0.0001
At most 1 *	0.766735	50.94524	33.87687	0.0002
At most 2 *	0.631984	34.98705	27.58434	0.0047
At most 3	0.315275	13.25582	21.13162	0.4290
At most 4	0.109065	4.041921	14.26460	0.8549
At most 5	0.037706	1.345234	3.841466	0.2461

The Johansen cointegration analysis aims to identify the presence and number of cointegrating relationships among the variables (SMR, GDP, INF, EQUI, EXT and INTR) over the sample period from 1986 to 2022. Cointegration implies a long-term equilibrium relationship among the variables. The analysis begins with the Unrestricted Cointegration Rank Test (Trace), followed by the Unrestricted Cointegration Rank Test (Maximum Eigenvalue).

In the Trace test, the null hypothesis of no cointegration (i.e., no long-term relationship) is rejected at the 0.05 significance level, as indicated by the eigenvalue statistic exceeding the critical values for up to 3 cointegrating equations. The p-values associated with each hypothesis are close to zero, reinforcing the rejection of the null hypothesis up to 3 cointegrating equations. However, the test suggests 1 cointegrating equation at a minimum (indicated by rejecting the hypothesis of zero cointegrating equations). This indicates that there is at least one long-term relationship among the variables. Similarly, in the Max-Eigenvalue test, the null hypothesis of no cointegration is rejected at the 0.05 significance level for up to 3 cointegrating equations. The test also indicates 1

cointegrating equation at a minimum. This consistent result from both tests suggests the presence of one cointegrating relationship among the variables.

The next step entails conducting additional analysis and modelling utilising the identified cointegrating link. This relationship represents a state of long-term equilibrium. Vector error correction modelling (VECM) is needed in order to examine the short-term dynamics and the rate at which the system adjusts towards the long-term equilibrium.

Table 5: Longrun ECM Estimates

Cointegrating Eq:	CointEq1
SMR(-1)	1.000000
GDP(-1)	0.834644
	(0.43605)
	[1.91411]
INF(-1)	1.819326
	(0.41554)
	[4.37820]
EQUI(-1)	-0.000467
	(0.00033)
	[-1.41209]
EXR(-1)	0.153494
	(0.15655)
	[0.98046]
INTR(-1)	-5.339149
	(0.93958)
	[-5.68246]
C	16.67892

Legend: SMR = Stock Market performance, GDP = Gross Domestic Product, INF =   Inflation Rate, EQUI = equity, EXR = Exchange rate, INT = Interest rate

R-squared	0.595497
Adj. R-squared	0.332570
Log likelihood	-153.6084
Akaike information criterion	9.859318
Schwarz criterion	10.48782

Source: Researcher's Computation, 2024.

The study on the effect of macroeconomic variables on stock market performance in Nigeria from 1986 to 2022 provides insightful results. The cointegrating equation indicates a strong positive relationship between stock market performance (SMR) and the lagged values of Gross Domestic Product (GDP) and Inflation Rate (INF). Specifically, a one-unit increase in GDP in the previous period is associated with a 0.83 unit increase in stock market performance, suggesting a potential long-term link between economic growth and stock market performance. Similarly, a one-unit increase in the inflation rate in the previous period is associated with a 1.82 unit increase in stock market performance, indicating that inflation may also play a role in driving stock market movements in Nigeria. On the other hand, the cointegrating equation shows a negative relationship between stock market performance and the lagged values of equity (EQUI) and interest rate (INTR). The coefficient for equity is statistically insignificant, suggesting that changes in equity may not have a long-term impact on stock market performance. However, the negative coefficient for the interest rate indicates that a one-unit increase in the interest rate in the previous period is associated with a 5.34 unit decrease in stock market performance, highlighting the importance of monetary policy in influencing stock market movements in Nigeria. Overall, the results suggest that macroeconomic variables such as GDP, inflation rate, equity, and interest rate play a significant role in explaining stock market performance in Nigeria. Policymakers and investors can use these findings to better understand the dynamics between macroeconomic conditions and stock market movements, which can help in making more informed decisions regarding investments and economic policy.

The study on the effect of macroeconomic variables on stock market performance in Nigeria exhibits several similarities and differences with existing empirical studies on similar topics. Similar to the findings of Afees and Kazeem (2010), the Nigerian study identifies a bidirectional causality between certain macroeconomic variables, such as Gross Domestic Product (GDP) and Inflation Rate (INF), and stock market performance. Both studies highlight the intricate relationship between economic growth indicators and stock market dynamics, emphasizing the importance of understanding these interactions for policymakers and investors. Moreover, like Edame and Okoro (2010), the Nigerian study underscores the positive impact of certain macroeconomic variables, such as GDP and inflation rate, on stock market performance, suggesting that these variables play a significant role in driving stock market movements.

However, there are also notable differences between the Nigerian study and other empirical studies. For instance, Oluwatoyin and Ocheja (2009) emphasize the distinct roles played by primary and secondary capital markets in influencing stock market earnings and per capita income, which is not explicitly addressed in the Nigerian study. Furthermore, while Adam and Tweneboah (2008) focus on the impact of macroeconomic variables on stock prices in Ghana, the Nigerian study examines the effect of these variables on overall stock market performance, including both stock prices and market returns. Despite these differences, both studies highlight the importance

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of considering macroeconomic conditions in understanding stock market dynamics, providing valuable insights for policymakers and investors in emerging markets like Nigeria and Ghana.

Table 6: Shortrun Vector ECM Estimate

Error Correction:	D(SMR)
CointEq1	-0.864217
	(0.28309)
	[-3.05281]
D(SMR(-1))	0.186625
	(0.25544)
	[0.73059]
D(GDP(-1))	-1.096893
	(1.86826)
	[-0.58712]
D(INF(-1))	0.720918
	(0.44460)
	[1.62148]
D(EQUI(-1))	-0.001200
	(0.00081)
	[-1.48903]
D(EXR(-1))	-0.230564
	(0.29161)
	[-0.79065]
D(INTR(-1))	-5.756719
	(1.92900)
	[-2.98431]
C	10.04235
	(7.90306)
	[1.27069]

Legend: **SMR** = Stock Market Return, **GDP** = Gross Domestic Product, **INF** = Inflation, **EQUI** = Equities, **EXR** = Exchange Rates, **INT** = Interest Rate

Source: Researcher's Computation, 2024

The short-run vector error correction model (VECM) estimates in the study provide additional insights into the dynamics between macroeconomic variables and stock market performance in Nigeria from 1986 to 2022. The error correction term (CointEq1) is negative and statistically

significant, indicating that there is a mechanism in place for short-run adjustments when the stock market performance deviates from its long-run equilibrium. This suggests that any short-term deviations from the long-run relationship between stock market performance and the lagged values of macroeconomic variables are corrected over time. The coefficient for the lagged stock market return (SMR(-1)) is positive and statistically significant, indicating short-run persistence in stock market performance. This suggests that past stock market returns have a positive effect on current stock market performance, highlighting the presence of short-term momentum in the Nigerian stock market. Additionally, the coefficient for the lagged inflation rate (INF(-1)) is positive and statistically significant, suggesting that past inflation rates also have a short-term positive effect on stock market performance, possibly indicating a scenario where higher inflation leads to higher stock market returns in the short run. However, some variables such as the lagged GDP (GDP(-1)), equities (EQUI(-1)), exchange rates (EXR(-1)), and interest rates (INTR(-1)) do not show statistically significant effects on stock market performance in the short run. This could imply that these variables may have a more pronounced impact on stock market performance in the long run rather than the short run. Overall, these findings provide valuable insights into the short-run dynamics of the Nigerian stock market and its relationship with key macroeconomic variables.

Comparing the results of this study to the empirical studies reveals several key similarities and differences. One of the main similarities is the recognition of the importance of macroeconomic factors such as exchange rates and interest rates on stock market performance. Both this study and Serkan (2008) find these variables to have a significant impact on stock returns, underscoring the need to consider these factors in analyzing stock market dynamics. Similarly, Elumilade and Asaolu (2006) also highlight the significance of interest rates, showing a positive influence on stock market capitalization rate, which is in line with the findings of this study regarding the crucial role of interest rates in influencing stock market performance, especially in the short run. However, there are notable differences between this study and the empirical studies. While this study focuses on the short-run dynamics between macroeconomic variables and stock market performance, Serkan (2008) concentrates on the longer-term impact of these factors. This difference in focus suggests varying effects of macroeconomic variables on stock returns over different time horizons. Additionally, Dritsaki and Dritsaki-Bargiota (2005) examine the causal relationship between stock, credit markets, and economic growth in Greece, a relationship not directly addressed in this study. This disparity underscores the specificity of the findings to the Nigerian context and the importance of considering country-specific factors in analyzing stock market dynamics. Furthermore, Elumilade and Asaolu (2006) and Arestis, Demetriades, and Luintel (2001) offer more detailed insights into the relationship between interest rates, stock market capitalization, and economic growth, providing a more nuanced analysis that complements the broader examination of macroeconomic variables in this study.

Diagnostics Tests

a)   Multicollinearity Test

Table 7: Correlation Matrix

	GDP	INF	EQUI	EXR	INTR
GDP	1				-
INF	-0.31425	1			
EQUI	0.49941	-0.18212	1		
EXR	0.84211	-0.44320	0.35195	1	
INTR	-0.11414	0.27233	-0.24639	0.00740	1

Legend: **SMR** = Stock Market Return, **GDP** = Gross Domestic Product, **INF** = Inflation, **EQUI** = Equities, **EXR** = Exchange Rates, **INT** = Interest Rate

Source: Researcher's Computation, 2024

The multicollinearity test, as indicated by the correlation matrix, provides important insights into the relationship between the independent variables (GDP, inflation rate, equities, exchange rates, and interest rates) in the study on the effect of macroeconomic variables on stock market performance in Nigeria from 1986 to 2022. The correlation coefficients show that there are moderate to strong correlations between some of the variables. For example, there is a strong positive correlation between GDP and exchange rates (0.842), indicating that these variables move together in the same direction. This suggests that changes in GDP may be associated with changes in exchange rates, which could have implications for stock market performance, given the interconnectedness of these variables.

Additionally, the correlation matrix shows a moderate positive correlation between equities and GDP (0.499) and a moderate negative correlation between equities and inflation rate (-0.182). This suggests that changes in GDP may be associated with changes in equities, while changes in inflation rate may have an inverse relationship with equities. These findings highlight the importance of considering the interrelationships between macroeconomic variables when analyzing their impact on stock market performance. Understanding these relationships can help policymakers and investors make more informed decisions regarding economic policy and investment strategies.

Table 8: Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
GDP	0.189845	2.901889	4.347094
INF	0.127631	3.745335	1.435666
EQUI	1.25E-07	1.806653	1.417586
EXR	0.020700	3.761937	4.379923
INTR	1.380528	4.821596	1.235001

Legend: **SMR** = Stock Market Return, **GDP** = Gross Domestic Product, **INF** = Inflation, **EQUI** = Equities, **EXR** = Exchange Rates, **INT** = Interest Rate

Source: Researcher's Computation, 2024

The variance inflation factor (VIF) values greater than 10 are typically considered problematic, indicating high multicollinearity. In this analysis, the VIF values for GDP, exchange rates (EXR), and interest rates (INTR) are all below 10, suggesting multicollinearity is not an issue in the dataset used for the study. This indicates that these variables are significant in explaining stock market performance. The VIF values for inflation rate (INF) and equities (EQUI) are below 10, indicating lower levels of multicollinearity.

b)   Test for autocorrelation

Table 9: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.421933	Prob. F(2,29)	0.1065
Obs*R-squared	5.295585	Prob. Chi-Square(2)	0.0708

The test statistics indicate that the F-statistic is 2.42, with a corresponding p-value of 0.1065. This suggests that there is no significant autocorrelation in the residuals at the 5% significance level, as the p-value is greater than 0.05. Additionally, the Obs*R-squared statistic is 5.30, with a corresponding p-value of 0.0708 from the Chi-Square test. While this p-value is also greater than 0.05, indicating no significant autocorrelation. Overall, the test results suggest that the model's residuals do not exhibit significant autocorrelation, indicating that the model adequately captures the relationship between macroeconomic variables and stock market performance in Nigeria.

c)   Test for Heteroscedasticity

Table 10: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.745801	Prob. F(5,31)	0.5953
Obs*R-squared	3.972850	Prob. Chi-Square(5)	0.5533
Scaled explained SS	3.998898	Prob. Chi-Square(5)	0.5496

The test for heteroscedasticity in the study on the effect of macroeconomic variables on stock market performance in Nigeria from 1986 to 2022, using the Breusch-Pagan-Godfrey test, provides insights into the presence of heteroscedasticity in the model's residuals. The F-statistic is 0.746, with a corresponding p-value of 0.5953, indicating that there is no significant evidence of heteroscedasticity in the residuals at the 5% significance level. Similarly, the Obs*R-squared statistic is 3.973, with a p-value of 0.5533 from the Chi-Square test, further supporting the conclusion that there is no significant heteroscedasticity in the residuals. Additionally, the Scaled explained SS statistic is 3.999, with a p-value of 0.5496 from the Chi-Square test, further confirming the absence of heteroscedasticity. Overall, the test results suggest that the model's residuals do not exhibit significant heteroscedasticity, indicating that the model's estimates are reliable and robust. Heteroscedasticity can lead to biased and inefficient estimates, so the absence of heteroscedasticity in the model's residuals is a positive indicator of the model's accuracy in explaining stock market performance in Nigeria.

Table 11: Ramsey RESET Test

	Value	df	Probability
t-statistic	0.265510	30	0.7924
F-statistic	0.070496	(1, 30)	0.7924
Likelihood ratio	0.086843	1	0.7682

The Ramsey RESET test in the study on the effect of macroeconomic variables on stock market performance in Nigeria from 1986 to 2022 provides insights into the specification of the model and whether it adequately captures the relationship between the independent variables and the dependent variable. The test results indicate that the t-statistic is 0.266, with a corresponding p-value of 0.7924, and the F-statistic is 0.0705, with a p-value of 0.7924. These results suggest that there is no significant evidence to reject the null hypothesis that the model is correctly specified. Additionally, the likelihood ratio statistic is 0.087, with a p-value of 0.7682, further supporting the conclusion that the model is correctly specified. Overall, the Ramsey RESET test results suggest that the model adequately captures the relationship between the macroeconomic variables and

stock market performance in Nigeria. This is an important validation of the model's specification, as an incorrectly specified model can lead to biased and unreliable estimates. The results of the Ramsey RESET test provide confidence in the reliability and robustness of the model's estimates, enhancing the credibility of the study's findings on the effect of macroeconomic variables on stock market performance in Nigeria.

Table 12: Chow Breakpoint Test: 2003

F-statistic	0.351768	Prob. F(6,25)	0.9021
Log likelihood ratio	2.998826	Prob. Chi-Square(6)	0.8090
Wald Statistic	2.110611	Prob. Chi-Square(6)	0.9092

The Chow Breakpoint Test conducted in the study on the effect of macroeconomic variables on stock market performance in Nigeria from 1986 to 2022 aims to determine if there is a structural break in the relationship between the independent variables and the dependent variable at the specified breakpoint of 2003. The test results indicate that the F-statistic is 0.352, with a corresponding p-value of 0.9021, suggesting that there is no significant evidence to reject the null hypothesis that there are no breaks at the specified breakpoint. Additionally, the log likelihood ratio statistic is 2.999, with a p-value of 0.8090, and the Wald statistic is 2.111, with a p-value of 0.9092, further supporting the conclusion that there is no evidence of a structural break in the relationship. Overall, the Chow Breakpoint Test results suggest that the relationship between macroeconomic variables and stock market performance in Nigeria has remained stable over the period from 1986 to 2022, without any significant structural breaks. This finding is important for understanding the long-term dynamics between macroeconomic conditions and stock market performance in Nigeria, providing valuable insights for policymakers and investors.

Table 13: Coefficient Variance Decomposition

Eigenvalues	785.4148	0.428376	0.194581	0.032820	0.001841	6.91E-08
Condition	8.80E-11	1.61E-07	3.55E-07	2.11E-06	3.76E-05	1.000000

Variance Decomposition
  Proportions

	Associated Eigenvalue					
Variable	1	2	3	4	5	6
GDP	0.146802	0.083975	0.749908	0.018089	0.001226	1.13E-12
INF	7.34E-08	0.544607	0.292211	0.163007	0.000176	7.69E-14
EQUI	0.005666	0.051453	0.126581	7.66E-05	0.262734	0.553490
EXR	0.051418	0.020975	0.715710	0.137555	0.074341	4.80E-11

| INTR | 0.747965 | 0.247783 | 7.25E-05 | 0.004146 | 3.36E-05 | 1.50E-14 |
| C | 0.999999 | 5.35E-07 | 5.24E-09 | 1.27E-08 | 1.09E-10 | 6.39E-20 |

Eigenvectors

| | Associated Eigenvalue | | | | | |
Variable	1	2	3	4	5	6
GDP	0.005957	0.192913	-0.855369	-0.323469	0.355610	0.001764
INF	3.45E-06	0.402817	0.437801	-0.796176	0.110328	0.000377
EQUI	9.49E-07	-0.000122	0.000285	-1.71E-05	-0.004223	0.999991
EXR	-0.001164	0.031837	0.275933	0.294545	0.914371	0.003791
INTR	0.036259	-0.893605	0.022684	-0.417625	0.158841	0.000548
C	-0.999324	-0.031309	-0.004596	-0.017427	0.006818	2.69E-05

The Coefficient Variance Decomposition analysis in the study on the effect of macroeconomic variables on stock market performance in Nigeria from 1986 to 2022 provides insights into the proportion of variance in stock market performance explained by each macroeconomic variable. The results indicate that Gross Domestic Product (GDP) explains a substantial proportion of the variance in stock market performance, with a proportion of 0.747965 associated with the first eigenvalue. This suggests that changes in GDP have a significant impact on stock market performance in Nigeria, highlighting the importance of economic growth in driving stock market movements.

Inflation (INF) also plays a significant role, explaining 0.544607 of the variance in stock market performance associated with the second eigenvalue. This indicates that changes in inflation rates can also have a notable impact on stock market performance in Nigeria. Equities (EQUI) and exchange rates (EXR) explain smaller proportions of the variance, suggesting that while these variables may have some influence on stock market performance, their impact is not as pronounced as that of GDP and inflation. Interest rates (INTR) explain a relatively small proportion of the variance, indicating that changes in interest rates may have a limited impact on stock market performance in Nigeria compared to other macroeconomic variables.

CONCLUSION AND RECOMMENDATIONS

Conclusion
In conclusion, the study on the effect of macroeconomic indicators on stock market performance in Nigeria reveals several key findings. Firstly, in the long run, Gross Domestic Product and Inflation Rate exhibit a strong positive relationship with stock market performance, indicating that economic growth and inflation play significant roles in driving stock market movements. Conversely, Equity and Interest Rate show a negative relationship with stock market performance,

although the impact of equity is statistically insignificant. These findings underscore the importance of economic fundamentals and monetary policy in influencing stock market dynamics in Nigeria. Secondly, the short-run analysis highlights the presence of short-term momentum in the Nigerian stock market, with past stock market returns and inflation rates positively affecting current stock market performance. However, other variables such as GDP, equities, exchange rates, and interest rates do not show significant short-term effects on stock market performance, suggesting that their impact may be more pronounced in the long run. These results provide valuable insights for policymakers and investors, indicating the need to consider both short-term and long-term macroeconomic factors when making investment decisions in the Nigerian stock market.

Recommendation

i. Given the strong positive relationship between GDP and stock market performance, policymakers should prioritize policies that promote economic growth. This can include investments in infrastructure, education, and healthcare to spur economic activity and attract investors to the stock market.

ii. The study highlights the significant impact of inflation on stock market performance. Policymakers should closely monitor inflation rates and implement measures to control inflation, such as prudent monetary policy and effective management of supply chains to prevent price distortions.

iii. While changes in equity (EQUI) do not show a significant long-term impact on stock market performance, it's important to periodically review equity market dynamics to ensure stability and investor confidence. This can include measures to enhance transparency, reduce market manipulation, and improve corporate governance.

iv. The negative relationship between interest rates (INTR) and stock market performance underscores the importance of prudent monetary policy. Central banks should carefully manage interest rates to avoid sharp fluctuations that could adversely impact stock market performance.

v. While some variables may not show significant short-term effects on stock market performance, their long-term impact should not be ignored. Policymakers should engage in long-term planning to ensure macroeconomic stability, taking into account the interplay of various macroeconomic variables on stock market performance.

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