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Economic Globalisation and Stock Market Returns in Nigeria

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Abstract

The purpose of this study is to investigate the effect of economic globalization on stock market returns in Nigeria from 1986 to 2022, employing autoregressive distributed lag modeling and bound testing cointegration. Preliminary tests were conducted, including multicollinearity checks and unit root tests for stationarity. The findings reveal that, in the long run, several key variables of economic globalization significantly influence stock market returns. Notably, Foreign Portfolio Investment (FPI) has a substantial positive effect (coefficient = 0.076497, p-value = 0.0020), whereas Foreign Direct Investment (FDI) demonstrates a weak but positive impact (coefficient = 0.073460, p-value = 0.0676). Financial Liberalization (FIL) significantly enhances stock market returns (coefficient = 0.194983, p-value = 0.0095), while Net Capital Flow (NCF) shows an insignificant negative effect (coefficient = -0.278998, p-value = 0.7447). Interest Rate (INTR) positively influences returns (coefficient = 0.050224, p-value = 0.0000), but Credit to the Private Sector (LCPS) exhibits a significant negative effect (coefficient = -0.184135, p-value = 0.0015). In the short run, FDI presents a negative impact (coefficient = -0.105272, p-value = 0.0923), while FPI remains positively influential (coefficient = 0.138874, p-value = 0.0000). The study concludes that FPI and FIL significantly influence stock market returns. This implies that governments should implement robust financial reforms that would encourage sustainable FPI for stock market development.

1. Introduction

There is a solid reason for the decades-long attention on the relationship between economic globalization and stock market returns in past studies. This is because, despite the fact that financial development and economic globalization can enhance the benefits of risk-sharing, reduce capital costs, and encourage investments and growth, financial instability and distortions in the domestic market are a constant source of worry, particularly in emerging and developing nations. According to the National Bureau of Statistics (2023), international investors' purchase of Nigerian equities has decreased for the sixth consecutive year. Data from the Nigerian Exchange Limited (NGX) showed that the total amount of stocks purchased by foreign portfolio investors decreased from N195.76 billion in 2022 to N174.80 billion in 2023, the lowest since 2008. In 2008, there was a sharp decline in foreign inflows by 21% from N194.249 billion in 2007 to N153.46 billion during the height of the 2007 - 2009 global financial crisis, which precipitated the destruction of equity investment culture in Nigeria. With a net foreign outflow of N61.02 billion in 2023, the market had a poor return of 45.90 percent

at the end of the year, lower than several other emerging and developing nations. According to Ekwe and Inyiama (2014), low asset return in the Nigerian capital market is the cause of the substantial outflow of foreign capital. Despite policy implementation and efforts geared towards making the financial sector in Nigeria attractive, the sector still remains unattractive, resulting in poor financial asset returns.

One issue that has given rise to the voluminous literature on financial asset returns is the issue of globalisation which has affected trade across boundaries, funds and capital flows, opportunities for international diversification of risks and the roles of the World Bank, International Monetary Fund (IMF) and other international, regional, national and sub-national bodies which ensure stability of investments through the provision of liquidity and reduction in the level of financial crisis. While there are abundant of research on globalization and stock market returns, the question of the association between globalization and stock market returns has been the focus of both theoretical and empirical research. The idea is that globalisation would have a favourable influence on Nigeria's stock market growth, have mixed results in the literature. While Ifeanyi, Romanus, and Tunji (2020) stressed the importance of internationalization of investments and economic growth of countries in a globalized market environment, Bekaert, Harvey, Kiguel, and Wang (2016) identified the impact of globalisation as an important channel through which financial globalisation affects the real sector. Alawi (2019) found that foreign direct investment (FDI) had an insignificantly positive impact on stock price volatility in the Saudi market, suggesting limited direct influence. Conversely, Onyeisi, Odo, and Anoke (2016) identified significant long-term effects of foreign portfolio investment inflows on stock market growth in Nigeria but found no evidence of a causal relationship, indicating difficulties in the interaction between globalization and stock market performance. Similarly, Ogbebor, Oguntodu, and Olayinka (2017) highlighted the positive influence of financial liberalization on Nigeria's stock market development, emphasizing the need for deeper financial reforms to enhance market growth and macroeconomic stability. These findings highlight the varied and context-dependent impacts of economic globalization on stock markets. Therefore, this study intends to examined the effect of economic globalization on stock market returns between 1986 to 2022.

2. Literature Review

The stock market is inherently volatile, with significant shifts signaling potential changes in stock returns. These returns may be calculated using a time series of random transaction values and volumes (Siegel, 2021). The statistical periods of trading values and volumes are intimately related to the statistical periods of stock returns, which depend on the randomness of market trades and economic uncertainties. As such, reliable forecasts of stock returns must account for market trades and the broader economic environment (Ngene & Mungai, 2022). Various factors, including foreign exchange rates, interest rates, oil prices, and macroeconomic policies, play crucial roles in influencing stock price fluctuations (Sukmayana, Purnamasari, & Ikhsan, 2022).

Josiah and Akpoveta (2019) define stock market return as the change in an asset's value over time, encompassing both profits and losses, while total returns include dividends and interest payments besides the change in asset's value over time. Onyele and Ikwuagwu (2020) stressed that one of the characteristics of globalisation is the deep innovations in investment options across national boundaries. As a result, every country has been more or less influenced by this trend, and have sailed on the route of globalization. Globalisation has further expanded investment options across borders, reshaping stock returns internationally (Onyele & Ikwuagwu, 2020).

The globalization of stock markets allows investors to explore markets beyond domestic boundaries, significantly affecting returns on quoted companies worldwide. For instance, lower returns on domestic stocks may drive investors towards foreign markets with higher returns, a trend seen in smaller markets but also benefiting larger firms in the U.S. and U.K. (Onyele, Opara, & Ikwuagwu, 2017). Thus, the global dynamics of stock market returns have gained considerable attention among policymakers, academics, and practitioners.

Economic globalisation refers to the increasing integration and interdependence of national economies through the expansion of international trade, financial flows, and broader economic connections. Narrowing the focus to the economic dimension of globalisation allows for a systematic analysis of key aspects of international market integration. Researchers typically classify these aspects into three main dimensions: trade globalisation, financial globalisation, and overall economic globalisation (Gygli, Haelg, Potrafke, & Sturm, 2019; Heimberger, 2020).

According to Onyele and Ikwuagwu (2020), globalisation is a multi-faceted concept that encompasses trade liberalisation, economic integration, and interdependence in political, cultural, social, military, and technological domains. This process affects various factors at the global level, including environmental, cultural, political, institutional, economic, and health fundamentals, and its definition often varies depending on the context of the discussion. Another definition of globalisation is the reduction or elimination of state-imposed restrictions on cross-border trade that has resulted in the increasingly integrated and complex global system of production and exchange (Palmer, 2002). The academic literature reflects these variations. While some authors focus on economic fundamentals such as foreign trade and investment, others focus on political factors such as international relations and legislation or social and cultural concepts (Asongu, 2014). In particular, economic globalization encompasses the cross-border flow of goods and services, international capital movements, tariff reductions, immigration, and the diffusion of technologies and knowledge (Samimi & Jenatabadi, 2014).

Moreover, globalization promotes a borderless and integrated global economy, which reshapes business practice worldwide and is a contested concept that implies a shrinking of time and space (Muhammad, Khan, & Ali, 2011).

2.1. Efficient Market Hypothesis

There is an extensive body of literary works on the operation of stock markets. Fama (1970) described an efficient market as one in which prices consistently and completely capture the data at their disposal. In an efficient market, information is defined as everything that has the potential to cause changes in share prices and stock returns but is unknown at the time, and hence arises at random in the future. As a result, the market is efficient when it responds to the introduction of fresh and relevant information by making rapid and accurate adjustments. Consequently, when such fresh information reaches the market, it causes some revisions in the worth and expense of securities based on the existing information. This indicates that the asking price of securities shall be determined effectively. Stock market efficiency has significant implications for shareholders. It impacts how judgments are made in terms of valuation. Some of the data sources are a collection of financial reports and data provided by businesses (Healy & Palepu, 1993). Fundamental analysis is based on such knowledge. If organizations provide statistics that are reliable and valuable, prompt, honest, trustworthy, and unqualified, it may be a valuable tool in investment decision-making.

Proponents of the Efficient Market Hypothesis (EMH), including Malkiel (2003) and Timmermann and Granger (2004), assert that profiting from stock price predictions is challenging because price changes primarily from new information reaching the market. If investors could accurately forecast stock return patterns, any resulting excess returns would be short-lived as others would quickly adopt the same strategies. This is because the fundamental driver of price fluctuations is the receipt of fresh information. If shareholders could create a framework that predicts stock return patterns, they would likely be able to earn excess profits throughout a particular period of time, but such opportunities are frequently fleeting since excessive returns evaporate out immediately as there are enough investors ready to invest in the stock market using the precise same model. However, critics like Pettinger (2009) and Malkiel (2003) argue that stock returns often reflect irrational behaviour, such as exuberance during market booms and asset bubbles, which the EMH overlooks.

Meanwhile, Fama (1970) defined an efficient market as one where prices fully reflect all available information, with this information encompassing any factors that could potentially influence share prices and stock returns in the future. An efficient market quickly adjusts to new and relevant information, thereby correcting the evaluated economic value of securities and ensuring that their prices are accurately defined. Thus, efficiency has significant implications for investors, shaping their investment attitudes and decision-making processes, particularly through the financial statements and information companies provide. If such information is trustworthy and timely, it serves as a vital tool for fundamental analysis.

This study is grounded in the EMH and Prospect Theory. The EMH suggests that it is impossible to outperform the market, as stock prices incorporate all relevant information, indicating that stocks are traded at fair values. Thus, investors can only achieve higher returns by taking on greater risks. Meanwhile, Prospect Theory posits that individuals value gains and losses differently, influencing their decision-making based on perceived gains rather than losses.

2.2. Hypothesis Development

Alenoghena and Odier (2013) evaluated the influence of globalisation on the outcome of the Nigerian stock market, using the stationarity test deduced by Im, Yoon, and Lee (2021) and weighted Ordinary Least Squares (OLS) to calculate the impacts. Their findings revealed a positive long-term equilibrium relationship between globalization indicators and stock market performance, particularly noting that net capital inflows and participation in international capital markets had a significant impact. Bekaert et al. (2016) provided a broader perspective on the influence of economic and financial globalisation on asset returns co-movements in the last 35 years, distinguishing between de jure and de facto openness and examining different asset classes. The authors' findings indicated that globalization trends have generally been positive, although global financial crises introduced new challenges, thereby establishing that while globalization influences asset returns, other economic factors also play significant roles. Similarly, Onyeisi et al. (2016) focused on the Nigerian context, analyzing the influence of foreign portfolio investment inflows on the rise in the stock market from 1986 to 2014 was examined using co-integration, vector error correction models, and Granger causality tests. The findings revealed significant long-term effects of foreign investment portfolio the investment on stock market growth, but no causal relationship was established across the two variables. Ogbebor et al. (2017) investigated the correlation between financial liberalisation and stock market development in Nigeria, finalising that financial liberalisation had positive effects on stock market development and advocating for further financial sector bringing it to broaden stock market development and boost growth in the macro economy. This study, together with the studies by Alenoghena and Odier (2013) and Onyeisi et al. (2016), underscores the positive influence of globalisation and financial liberalisation on stock market performance and development and the need for policies to promote greater integration of the domestic market with the global financial markets. Josiah and Akpoveta (2019) examined the effect of key macroeconomic variables on the stock market returns in Nigeria using co-integration tests, error correction models, and Granger causality tests. The findings of these studies suggest that a healthy macroeconomic environment, characterised by a stable exchange rate, sufficient liquidity,

increased output and financial openness, stimulates stock market returns in Nigeria. Alawi (2019) examined the effect of foreign direct investment (FDI) on the volatility of the stock market in Saudi Arabia between 2005 and 2018, taking FDI, interest rate, exchange rate, and inflation rate as independent variables and stock price volatility as the dependent variable. The study found that FDI had an insignificant positive effect on stock price volatility and that the FDI inflow rate was statistically significant and positive, while the interest rate and the exchange rate were negatively significant. These studies collectively underscore the nuanced impacts of foreign investment, market liberalization, and macroeconomic variables on stock market performance and volatility across different markets.

Onyele and Ikwuagwu (2020) examined the effect of globalization on the stock market returns of five (5) African countries (South Africa, Nigeria, Egypt, Morocco, and Namibia) from 2000 to the present day. The work employed the panel ARDL estimation technique. The results of the study show that the Globalization Index, foreign direct investment, and the exchange rate all have a significant and positive impact on stock market returns in both short and long-term estimations, while trade openness has a negative effect on stock market returns in the long term. Ogbebor, Adesola, Nathaniel, and Gregory (2021) investigated the relationship between stock returns, inflation, and interest rates in Nigeria to test the Fisherian theory, which posits that changes in the value of money should reflect proportionally in the nominal interest rates and stock returns over the long run. Using various econometric techniques, the study found a long-run relationship among the variables, showing a positive and significant correlation between price levels and stock prices. This finding supports the Fisherian hypothesis and suggests that common stocks serve as a hedge against inflation in Nigeria. Kabir (2023) studied the influence of exchange rate and stock market volatility on FDI with monthly data over 23 years, which ran from 2000 to 2022. Using non-linear autoregressive distributed lags, the study revealed long-run cointegration between the variables, with both direct and inverse shocks from exchange rate and stock market volatility having substantial inverse effects on FDI. Conversely, positive shocks from real GDP positively impacted FDI in the long run, suggesting that stabilizing exchange rates and stock markets could enhance FDI inflows and economic growth.

3. Methodology
3.1. Model

To explore the impact of economic globalisation on financial asset returns in Nigeria, the Efficient Market Hypothesis (EMH) and the work of Goyal (2013) were utilised. Goyal's research focused on the influence of globalisation on the efficiency of Indian stock markets, and its model was tailored to fit the specific objectives of this study. The specification of Goyal's model is outlined below:

$$MCR_t = (VTR_t, TR_t, FDI_t)$$
$$MCR_t = \beta_0 + \beta_1 VTR_t + \beta_2 TR_t + \beta_3 FDI_t + \mu_t$$

Where: MCR is market capitalization Ratio, VTR Value Traded Ratio, TR is Turnover Ratio, and FDI is Foreign Direct Investment.

Sequel to the objective of determining the effect of economic globalisation on Stock Market Returns in Nigeria, economic globalisation was proxied by foreign direct investment, trade openness, net capital inflow, and financial liberalisation. New improvements in finance econometrics necessitate the employment of models and approaches which can simulate shareholder responses; hence, the model incorporates interest rate and credit to the private sector as control variables. The model is economically described as follows:

$$SMR_t = f(FDI_t, FPI_t, TOP_t, FIL_t, NCF_t, INTR_t, CPS_t)$$

In order to conclude the formulation of the econometric model, we assess if the economic variables have an algebraic or linear connection. Under this framework, economic globalisation is represented as a linear function of asset returns. The relevant econometric model is.

$$SMR_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 FPI_t + \alpha_3 TOP_t + \alpha_4 FL_t + \alpha_5 NCF_t + \alpha_6 INTR_t + \alpha_7 CPS_t + \mu_t$$

The model shall be restructured into a semi-log linear model since the variables are not of the same measurement, that is, while some variables are in billions, some are in rate; therefore, to avoid the heteroscedasticity problem, the variables in billions are logged, and the model will follow a semi-log-linear functional form:

$$lnSMR_t = \alpha_0 + \alpha_1 lnFDI_t + \alpha_2 lnFPI_t + \alpha_3 TOP_t + \alpha_4 lnFIL_t + \alpha_5 lnNCF_t + \alpha_6 INTR_t + \alpha_7 CPS_t + \mu_t$$

Where:

Stock Market returns are SMR, Foreign Direct Investment is FDI, Foreign Portfolio Investment is FPI, Trade Openness is TOP, Net Capital Flow is NCF, Financial Liberalization is FIL, Interest rate is INTR, Credit to Private Sector is CPS, α_0 = constant, represents the constant term in a regression equation, indicating the expected value of the dependent variable when all independent variables are zero., $\alpha_{1, 2,3,4,5}$ = Parameters to be estimated. In a regression equation, α_1, α_2, α_3, α_4, and α_5 represent the coefficients of the corresponding independent variables in the model indicating the expected change in the dependent variable for a one-unit change in each independent variable, holding all other variables constant, μ = error term, represents the error term, accounting for the variation in the dependent variable that is not explained by the independent variables.

t is the time-variant.

3.2. Estimation Techniques

This study employed the Autoregressive Distributed Lag modeling approach, which is widely utilized for analyzing both short-run and long-run relationship effects of the variables in question. The ARDL model is advantageous for its flexibility, as it can be applied regardless of whether the variables in the dataset are integrated at different levels, provided they are either I (0) or I (1).

4. Results and Analysis

The results of statistical and inferential analyses are presented as follows:

Table 1. Descriptive statistics.

Variable	Mean	Maximum	Minimum	Std. dev.
SMR	22.483	130.939	-45.765	34.799
FDI	435378.000	1360308.000	-79481.000	447854.800
FPI	451.310	3209.710	-1284.070	905.590
FIL	0.376	1.920	-0.015	0.450
CPS	7279.919	32845.670	13.070	9839.924
NCF	0.241	0.354	0.138	0.087
TOP	0.222	0.718	0.001	0.194

Note: Where: Stock market returns is SMR, Foreign direct investment is FDI, Foreign portfolio investment is FPI. Trade openness is TOP, Net capital flow is NCF, Financial liberalisation is FIL, Interest rate is INTR, Credit to private sector is CPS.

Source: Author's computation (2024).

Table 1 presents the descriptive statistics of the variable used. The table shows that the mean value of stock market returns (SMR) is 22.48, indicating that, on average, the stock market provided a return of 22.48% during the period under study. The maximum value of 130.94 suggests that there were times when the market performed exceptionally well, while the minimum value of -45.77 indicates that the market also experienced significant downturns. The standard deviation of 34.80 reflects high volatility in the stock market returns, signifying considerable fluctuations around the average. The average interest rate (INTR) over the observed period was 13.54%, with a maximum value of 26% and a minimum of 6%. The standard deviation of 3.76 indicates moderate fluctuations in interest rates in Nigeria over the observed years, which reflect monetary policy changes and economic conditions during the period. The mean value of foreign direct investment (FDI) is 435,378 billion dollars, indicating the average inflow of foreign capital into the economy. The maximum value of 1,360,308 billion dollars represents the highest recorded inflow, while the minimum of -79,481 billion dollars shows instances of capital outflows in Nigeria. The standard deviation of 447,854.8 billion dollars suggests high variability, reflecting the fluctuating nature of FDI over time.

Foreign portfolio investment (FPI) has an average value of 451.31 billion dollars, with a maximum inflow of 3,209.71 billion dollars and a minimum value of -1,284.07 billion dollars, indicating periods of capital inflow and outflow in portfolio investments in Nigeria. The high standard deviation of 905.59 billion dollars shows significant variability in FPI as a result of market conditions. The average value of financial liberalization (FIL) is 0.3758, suggesting moderate progress in opening up the financial sector. The maximum value of 1.9195 indicates periods of high liberalization, while the minimum value of -0.015 suggests occasional slowdowns in liberalization efforts. The standard deviation of 0.4503 highlights low variability, reflecting the slow pace of financial reforms. The mean credit to the private sector (CPS) is 7,279.92 billion dollars, indicating the average amount of credit provided to the private sector during the study period. The maximum value of 32,845.67 billion dollars reflects periods of increased lending, while the minimum value of 13.07 billion dollars shows times of limited credit availability. The standard deviation of 9,839.92 billion dollars shows high variability in credit availability to the private sector, reflecting changes in lending practices and economic conditions. The mean net capital flow (NCF) is 0.2413, indicating a relatively modest average inflow of capital. The maximum value of 0.3538 and the minimum of 0.1379 reflect the range of capital movement in the economy. The standard deviation of 0.0871 suggests low variability, indicating relatively stable capital flows during the period. Trade openness (TOP) has an average value of 0.2218, reflecting moderate engagement in international trade. The maximum value of 0.7175 indicates periods of high trade integration, while the minimum of 0.0009 shows times of minimal trade activity. The standard deviation of 0.1937 indicates moderate variability in trade openness, suggesting fluctuations in trade policies or global market conditions.

Table 2. Correlation matrix.

Variable	SMR	INTR	FDI	FPI	FIL	CPS	NCF	TOP
SMR	1.000							
INTR	0.326	1.000						
FDI	-0.364	-0.536	1.000					
FPI	0.011	-0.246	0.544	1.000				
FIL	0.256	0.339	-0.296	-0.264	1.000			
CPS	-0.281	-0.301	0.499	0.720	-0.329	1.000		
NCF	0.372	0.471	-0.794	-0.654	0.442	-0.789	1.000	
TOP	-0.326	-0.437	0.678	0.704	-0.421	0.685	-0.891	1.000

Note: Where: Stock market returns is SMR, Foreign direct investment is FDI, Foreign portfolio investment is FPI. Trade openness is TOP, Net capital flow is NCF, Financial liberalisation is FIL, Interest rate is INTR, Credit to private sector is CPS.
Source: Author's Computation (2024).

Table 2 present the correlation matrix of economic globalisation and financial assets returns to ascertain the existence of multicollinearity among the independent variables, it was ascertained that the highest correlation coefficient of 0.720 exist between CPS and FPI, this indicates that the existence of multicollinearity among the variables is minimal since the correlation coefficient is less than 0.90. hence the study concluded that the multicollinearity issues among the independent variables does not exist.

Table 3. Unit root test.

Variable	Augmented Dickey-Fuller test			Phillips-Perron test			ADF	PPT
	Level	First diff.	Critical	level	First diff.	Critical		
SMR	-4.808	-	-2.948	-4.828	-	-2.948	I(0)	I(0)
INTR	-3.237	-	-2.948	-3.258	-	-2.948	I(0)	I(0)
FDI	-2.851	-7.115	-2.948	-3.040	-	-2.948	I(1)	I(0)
FPI	-0.232	-6.979	-2.948	-2.089	-11.838	-2.948	I(1)	I(1)
FIL	-4.098	-	-2.948	-4.172	-	-2.948	I(0)	I(0)
LCPS	-1.749	-4.421	-2.948	-1.696	-4.360	-2.948	I(1)	I(1)
NCF	-0.232	-2.973	-2.948	-0.884	-7.754	-2.948	I(1)	I(1)
TOP	0.896	-4.953	-2.948	1.265	-4.878	-2.948	I(1)	I(1)

Note: Where: Stock market returns is SMR, Exchange rate returns is ERR, Foreign direct investment is FDI, Foreign portfolio investment is FPI. Trade openness is TOP, Net capital flow is NCF, Financial liberalisation is FIL, Interest rate is INTR, Credit to private sector is CPS.
Source: Author's computation (2024).

The results of the unit root tests presented in Table 3 indicate the stationarity characteristics of various economic variables, using both the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test. For the ADF test, Stock Market Returns (SMR), Interest Rate (INTR), and Financial Liberalization (FIL) are stationary at levels, as their test statistics of -4.808, -3.237, and -4.098, respectively, exceed the critical value of -2.948. This implies that these variables do not require differencing and can be treated as integrated of order I (0). Conversely, Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), and Trade Openness (TOP) show non-stationarity at levels, with FDI at -2.851, FPI at -0.232, and TOP at 0.896, necessitating differencing to achieve stationarity. After taking the first difference, the FDI and FPI variables become stationary with test statistics of -7.115 and -6.979, respectively, while TOP is also stationary with a statistic of -4.953.

In the Phillips-Perron (PP) test, similar conclusions can be drawn. The SMR, INTR, and FIL are confirmed as stationary at levels, with PP statistics of -4.828, -3.258, and -4.172, all of which surpass the critical value of -2.948. The other variables, FDI, FPI, Net Capital Flow (NCF), and Trade Openness, exhibit non-stationarity at levels. Notably, while FDI shows a PP statistic of -3.040, which is still below the critical threshold, it becomes stationary after first differencing, with a significant statistic of -11.838 for FPI. NCF is non-stationary at level (-0.884) but stationary after differencing (-7.754). Overall, these results indicate that while several variables are stationary, others require transformation, specifically differencing, to meet stationarity requirements, which is essential for subsequent econometric analysis.

Table 4. Full information on the effect of economic globalisation on stock market returns in Nigeria.

Panel A: Long run estimates				
Dependent variable: D(SMRR)				
Variable	**Coefficient**	**Std. error**	**t-statistic**	**Prob**
LFDI	0.073	0.038	1.918	0.068
LFPI	0.076	0.022	3.475	0.002
FIL	0.195	0.069	2.832	0.010
NCF	-0.279	0.847	-0.330	0.745
INTR	0.050	0.009	5.582	0.000
LCPS	-0.184	0.051	-3.600	0.002
TOP	0.389	0.364	1.067	0.297
C	-0.420	0.415	-1.013	0.321
Panel B: Short run estimates				
Variable	**Coefficient**	**Std. error**	**t-statistic**	**Prob**
D(LFDI)	-0.105	0.060	-1.768	0.092
D(LFPI)	0.139	0.025	5.482	0.000
D(FIL)	0.360	0.090	4.008	0.001
D(NCF)	-1.833	1.435	-1.277	0.216
D(INTR)	0.009	0.012	0.792	0.438
D(LCPS)	-0.568	0.159	-3.563	0.002
D(TOP)	0.208	0.744	0.280	0.782
ECT(-1)*	-1.305	0.141	-9.261	0.000
Panel C: Diagnostic tests		Statistics	Prob.	
Bound test		12.671	0.000	
R-squared		0.811	-	
Adjusted R-squared		0.763	-	
F-statistic		3.020	0.011	
Serial correlation LM test		0.268	0.875	
Heteroskedasticity test:		1.819	0.107	
Normality test		0.382	0.826	
		CUSUM	CUSUMSQ	
Stability test		Stable	Stable	

Note: *indicate significance of the error correction term.
Where: Stock market returns is SMR, Foreign direct investment is FDI, Foreign portfolio investment is FPI. Trade openness is TOP, Net capital flow is NCF, Financial liberalisation is FIL, Interest rate is INTR, Credit to private sector is CPS.
Source: Author's computation (2024).

Table 4 presents the results of the Bound test, Long-run estimates, Short-run estimates and Post-Estimation tests of the effect of globalisation on stock market returns. The analyses of each of the tests are presented as follows:

4.1. Bound Test

The Bound Test was performed to determine if there is a long-run relationship between economic globalization variables and stock market returns in Nigeria. The result shows a Bound Test statistic of 12.6708, which is significant at the 1% level with a p-value of 0.000. This result strongly suggests the existence of a long-run equilibrium relationship between economic globalization factors—such as Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), trade openness, and stock market returns. Therefore, the presence of cointegration among the variables implies that even if short-term fluctuations occur, they will eventually converge towards a stable long-run relationship.

4.2. Long-Run Dynamics

In the long-run analysis, several key variables of economic globalization influence stock market returns. Foreign Direct Investment (FDI) shows a positive relationship with stock market returns, with a coefficient of 0.073460; however, it is marginally insignificant at the 5% level, with a p-value of 0.0676, suggesting a weak long-term impact. Foreign Portfolio Investment (FPI), on the other hand, has a significant positive effect on stock market returns, with a coefficient of 0.076497 and a p-value of 0.0020, indicating that FPI plays a crucial role in driving returns. Financial Liberalization (FIL) also positively affects stock market returns, with a significant coefficient of 0.194983 and a p-value of 0.0095, highlighting the importance of financial market reforms. Interestingly, Net Capital Flow (NCF) exhibits a negative and insignificant effect (p-value = 0.7447),

while Interest Rate (INTR) has a strong positive influence with a coefficient of 0.050224 and a p-value of 0.0000, indicating that higher interest rates positively impact stock market returns. Conversely, Credit to the Private Sector (LCPS) shows a significant negative effect (Coefficient = -0.184135, p-value = 0.0015), suggesting that increased lending to the private sector might be detrimental to stock market performance. Finally, Trade Openness (TOP) has a positive but statistically insignificant effect on stock market returns (p-value = 0.2971).

4.3. Short-Run Dynamics

The short-run dynamics show both similarities and contrasts to the long-run findings. Foreign Direct Investment (FDI), while positive in the long run, exhibits a negative short-run effect on stock market returns (Coefficient = -0.105272), though this impact is only marginally insignificant with a p-value of 0.0923. In contrast, Foreign Portfolio Investment (FPI) continues to have a significant positive impact, with a coefficient of 0.138874 and a p-value of 0.0000, highlighting its immediate importance in influencing stock market performance. Financial Liberalization (FIL) remains significant and positively influences returns in the short run (Coefficient = 0.360361, p-value = 0.0007). Net Capital Flow (NCF), although negative, remains statistically insignificant (p-value = 0.2162). Interestingly, Interest Rate (INTR) becomes insignificant in the short run (p-value = 0.4375), suggesting its effect is more pronounced in the long run. Credit to the Private Sector (LCPS) continues its negative and significant impact, with a coefficient of -0.567834 and a p-value of 0.0019. Trade Openness (TOP) has an insignificant short-run effect (p-value = 0.7823). Importantly, the error correction term (ECT (-1)) is highly significant with a coefficient of -1.305187 (p-value = 0.0000), indicating a rapid adjustment speed, with about 130% of the deviation from the long-run equilibrium corrected each period.

The adjusted R-squared value of 0.7634 indicates that 76.3% of the variability in stock market returns in Nigeria is explained jointly by the independent variables in the model, signifying a strong explanatory strength between economic globalization factors and stock market returns. The F-statistic of 3.0195 (p-value 0.0000) confirms the overall significance of the model, suggesting that the independent variables collectively have a substantial impact on treasury bills yield. Therefore, the null hypothesis of no significant effect of economic globalization on stock market returns is rejected, and the study concluded that economic globalization has a significant effect on stock market returns in Nigeria.
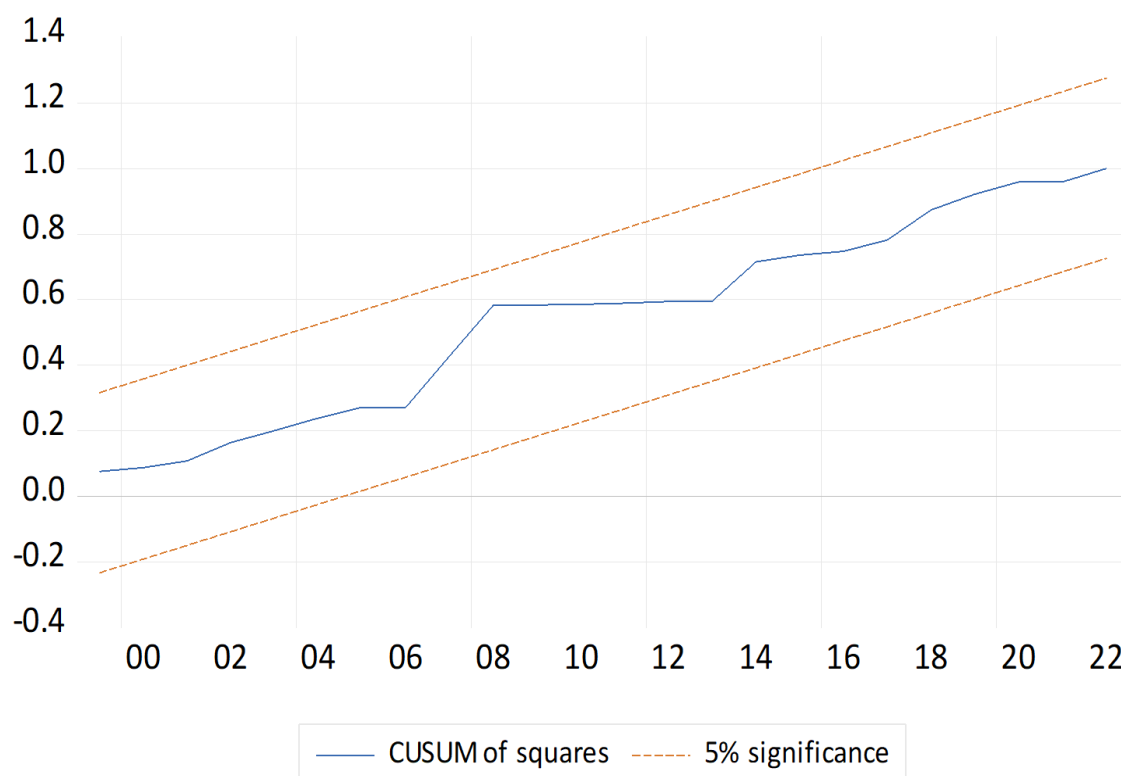

Figure 1. CUSUM of squares for economic globalisation and stock market returns.

Figure 1 illustrate the cumulative sum of square (CUSUMSQ) Plot of recursive residuals and the plot falls within the 5% level of significance indicated by the two red lines. This shows the stability of the model within the sample period.
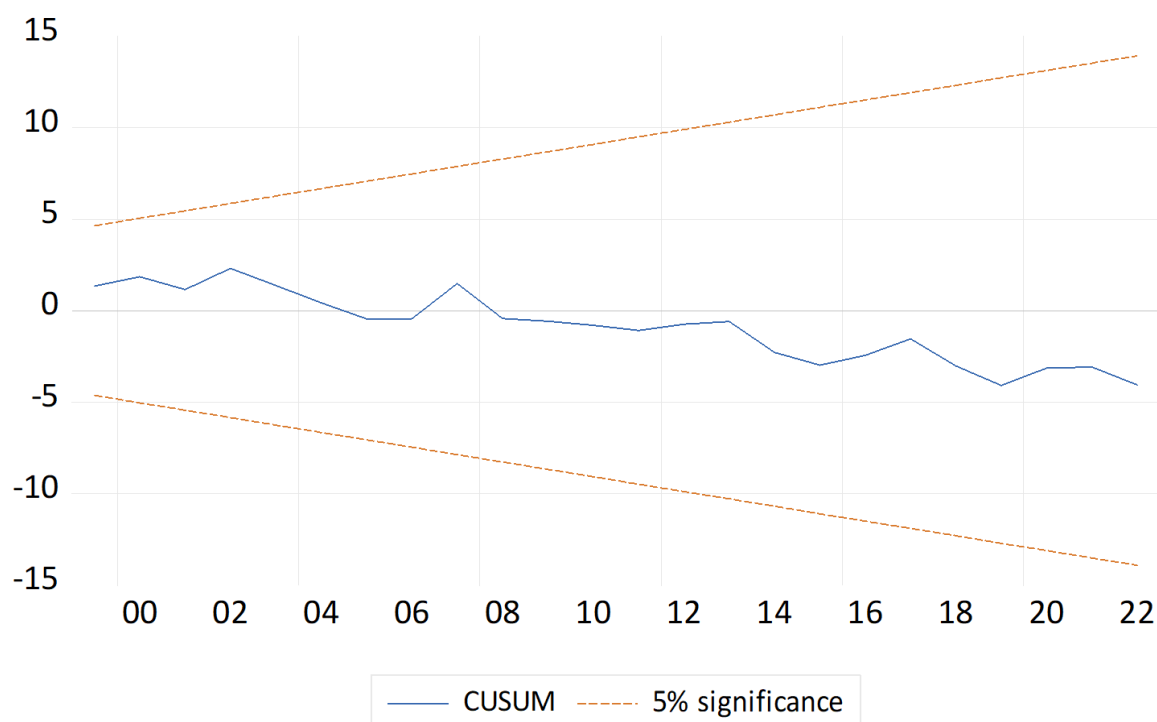
Figure 2. CUSUM test for economic globalisation and stock market returns.

Figure 2 illustrates the cumulative sum (CUSUM) plot of recursive residuals and the plot falls within the 5% level of significance indicated by the two red lines. This indicated that there is stability of the model within the period cover by this study.

4.4. Diagnostic Tests

The diagnostic tests confirm the robustness and reliability of the model. The Serial Correlation LM Test shows no presence of serial correlation, as the p-value is 0.8745, which is above the critical threshold. The Heteroskedasticity Test indicates the absence of heteroskedasticity with a p-value of 0.1068, ensuring that the error terms are homoscedastic. The Normality Test further verifies that the residuals are normally distributed (p-value = 0.8261). Lastly, the Stability Test, as indicated by the CUSUM and CUSUMSQ plots, confirms that the model is stable over the sample period, reinforcing the reliability of the estimated coefficients. The model's diagnostic tests confirm its validity, further supporting the findings that economic globalization has a profound impact on the performance of Nigeria's stock market.

5. Conclusion and Finding

This study examined the effect of economic globalization on stock market performance in Nigeria between the period of 1986 to 2022. The study applied the autoregressive distributed lag model with bound testing cointegration, along with some pre-tests such as the correlation matrix test for multicollinearity, unit root test for stationarity, lag length criteria, and co-integration test for joint long-run relationship. For the maximum.

Findings from the results displayed that in the long-run analysis, several key variables of economic globalization influence stock market returns. Foreign Direct Investment (FDI) shows a positive relationship with stock market returns, with a coefficient of 0.073460; however, it is marginally insignificant at the 5% level, with a p-value of 0.0676, suggesting a weak long-term impact. Foreign Portfolio Investment (FPI), on the other hand, has a significant positive effect on stock market returns, with a coefficient of 0.076497 and a p-value of 0.0020, indicating that FPI plays a crucial role in driving returns. Financial Liberalization (FIL) also positively affects stock market returns, with a significant coefficient of 0.194983 and a p-value of 0.0095, highlighting the importance of financial market reforms. Interestingly, Net Capital Flow (NCF) exhibits a negative and insignificant effect (p-value = 0.7447), while Interest Rate (INTR) has a strong positive influence with a coefficient of 0.050224 and a p-value of 0.0000, indicating that higher interest rates positively impact stock market returns. Conversely, Credit to the Private Sector (LCPS) shows a significant negative effect (Coefficient = -0.184135, p-value = 0.0015), suggesting that increased lending to the private sector might be detrimental to stock market performance. Finally, Trade Openness (TOP) has a positive but statistically insignificant effect on stock market returns (p-value = 0.2971).

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(Coefficient = -0.105272), though this impact is only marginally insignificant with a p-value of 0.0923. In contrast, Foreign Portfolio Investment (FPI) continues to have a significant positive impact, with a coefficient of 0.138874 and a p-value of 0.0000, highlighting its immediate importance in influencing stock market performance. Financial Liberalization (FIL) remains significant and positively influences returns in the short run (Coefficient = 0.360361, p-value = 0.0007). Net Capital Flow (NCF), although negative, remains statistically insignificant (p-value = 0.2162). Interestingly, Interest Rate (INTR) becomes insignificant in the short run (p-value = 0.4375), suggesting its effect is more pronounced in the long run. Credit to the Private Sector (LCPS) continues its negative and significant impact, with a coefficient of -0.567834 and a p-value of 0.0019. Trade Openness (TOP) has an insignificant short-run effect (p-value = 0.7823).

The findings of this study aligned with some previous research. For example, the study was similar to the results of Onyeisi et al. (2016). This study confirms the significant long-term impact of FPI on stock market growth, indicating that FPI plays a crucial role in enhancing market performance in the Nigerian context. However, unlike Onyeisi et al. (2016), who found no causality between FPI and stock market growth, this study suggests the presence of both short- and long-term relationships between these variables. These results underscore the importance of policies that attract FPI to promote stock market development, as highlighted by Ogbebor et al. (2017), who emphasized the positive effect of financial liberalization on stock market growth. Moreover, the findings support the arguments of Osamwonyi and Ikponmwosa (2018), who demonstrated that while FPI contributes to stock market volatility, Foreign Direct Investment (FDI) brings stability to the market. The findings of this study also support Alawi (2019), who stated that FDI had an insignificant positive impact on stock price volatility. However, the findings of this study indicate a significant positive relationship between interest rate and stock market returns, as against the findings of Alawi (2019). This study also finds that FPI, despite driving market growth, may introduce volatility, reflecting the complex dynamics of foreign investments in emerging markets like Nigeria. The dual effect of foreign investments—promoting growth but also inducing volatility—suggests that policymakers must carefully balance measures to attract foreign investments while managing potential market risks.

5.1. Recommendations

In line with the findings of the study, some recommendations were made to enhance the effects of economic globalization and financial development on Nigeria's financial indicators:

1. Given the positive impact of Financial Liberalization (FIL) on stock market activities, policymakers should continue to promote reforms that increase market access and reduce barriers to investment. This includes improving regulatory frameworks, enhancing transparency, and fostering competition in the financial sector to attract both domestic and foreign investments.
2. Since FPI is associated with significant positive effects on stock market returns, it is crucial for the government to create an enabling environment that would encourage foreign participation in our market and ensure a stable macroeconomic environment to enhance investor confidence.
3. Although FDI showed insignificant effects in many areas, it is still vital to develop policies that encourage sustainable and productive investments. The government should prioritize sectors that align with national development goals and ensure that foreign investments contribute to local economic growth, job creation, and technology transfer.

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