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Economic Globalisation and Treasury Bills Returns in Nigeria

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Abstract

This study examines the relationship between economic globalization and returns of treasury bills yield in Nigeria between 1986 and 2022. The study employed Autoregressive Distributed Lag Modelling with inferences at 5% significant level. The findings of the study show that Foreign Direct Investment (FDI) has a negative but statistically insignificant effect on the returns of treasury bills (coefficient = -3.333237, p-value = 0.1172. Foreign Portfolio Investment (FPI) positively affects treasury bills yield, but the effect is also statistically insignificant (Coefficient = 4.640911, p-value = 0.1809). Interestingly, Financial Liberalisation (FIL) has a positive impact on treasury bills yield (coefficient = 9.369694 and p-value = 0.0647), Net Capital Flow (NCF) also has a positive but insignificant effect (p-value = 0.2915). The Interest Rate (INTR) is negative and statistically insignificant in the long run (p-value = 0.4476). Credit to Private Sector (LCPS) shows a positive, though insignificant, impact on treasury bills yield (p-value = 0.2232). Lastly, Trade Openness (TOP) has a significant negative impact on treasury bills yield, (p-value = 0.0614, indicating that increased trade openness may lower returns in this market. Based on the findings of this study, the study recommended that since FDI showed insignificant effects in many areas, it is 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.

Keywords: Economic Globalisation, Treasury Bill, Foreign Direct Investment, Credit to Private Sector, Trade Openness

1.0 Introduction

Financial asset returns denote the reward to investors on their portfolio of assets. Financial investments consist of securities such as equities, bonds, hybrids, Treasury Bill and money market instruments such as certificates of deposits (CDs), commercial papers, foreign exchange as well as derivative instruments like exchange traded funds (ETF), options, forwards, warrants and swaps. The returns on these instruments take different forms depending on the environment, nature, tenor and risks. Besides, the return on one asset class can affect the returns on another

Vol. 9, No.04; 2025

ISSN: 2456-7760

assets class. Hence, the literature on co-movements in asset returns is now large as the issue of asset return has assumed an important dimension in a globalized world.

Many scholars have highlighted the importance of globalization in financial markets. Awonuga et al. (2023) investigated the impact of globalization on stock market performance in Nigeria by examining its effects on stock market capitalization, value of shares traded, stock turnover, and the stock market all-share index, using trade openness, financial liberalization, foreign direct investment (FDI), and foreign portfolio investment as proxies for globalization. However, their study did not address the impact of globalization on financial asset returns. Additionally, Ogbebor et al. (2017) explored financial liberalization and stock market development in Nigeria, focusing on total market capitalization and real GDP as proxies for stock market development, and foreign ownership of shares traded as a proxy for financial liberalization, but did not consider the impact on returns on financial assets. On a global scale, Bekaert et al. (2016) examined the impact of economic and financial globalization on asset returns, distinguishing between de jure openness (changes in regulatory environment) and de facto openness (realized openness), and analyzed the co-movement of asset returns and globalization at an aggregate level across countries rather than at the individual country level. Similarly, Oluwole (2014) analyzed the impact of globalization on stock market growth, using FDI as a proxy for globalization and changes in stock market capitalization to measure growth. Despite these studies, the pertinent question of whether the growth of the stock market due to economic globalization and financial development translates into higher rates of financial asset returns in Nigeria remains unanswered.

Nonetheless, it is noted that there is a dearth of empirical research on the topic in the literature utilising a combined indicator of asset return that includes exchange rate return, deposit rate, money market rate, and stock market returns. This is because the majority of prior studies concentrated on stock market returns. Furthermore, the short- and long-term impacts of financial development and economic globalisation on asset returns in African nations have not been specifically examined in prior empirical research. It has been noted that the majority of prior studies on the topic were conducted in industrialised and developing nations. Therefore, by analysing economic globalisation and financial asset returns in Nigeria, this study aims to close these noted gaps in the literature.

2.0 Literature Review

2.1.1 Treasury Bill Rate

Treasury bills are short-term debt instruments issued by the Federal Government of Nigeria through the Central Bank of Nigeria (CBN) to secure short-term funding for government operations (Cashcraft Asset Management Limited, 2013). Characterized as risk-free and negotiable, these instruments are sold at a discount and have a zero coupon rate, meaning no interest is paid during their tenure. They are available in fixed tenures, typically in multiples of 91 days, and are quoted for purchase and sale in the secondary market based on an annual percentage yield to maturity (Balogun, 2013; Ette, 2015). Treasury bill rates act as a substitute for interest rates, influencing investment practices as they represent a risk-free rate of return on

Vol. 9, No.04; 2025

ISSN: 2456-7760

assets with certain payoffs, leading investors to utilize them in stock valuation and investment decisions (Aleke et al., 2022).

Moreover, Treasury bills serve as crucial instruments for financing government budget deficits and managing liquidity through open market operations (Ofonime, 2022). They are issued through a competitive bidding process and are highly liquid and marketable due to their ease of access and government backing, having first been introduced in Nigeria following the Treasury Bill Act of 1959 (Central Bank of Nigeria, 2008; Akpansung, 2018). Private sector credit, which involves financial resources allocated to the private sector, including loans and non-equity securities, is also important as it establishes claims for repayment (Olowofeso et al., 2015).

2.1.2 Economic Globalisation

Globalization is a multifaceted concept that encompasses trade liberalization, economic integration, and various forms of dependency, including political, cultural, social, military, and technological dimensions (Kingsley & Eberechi, 2020). Its effects span a wide range of areas, including environmental, cultural, political, institutional, economic, and health factors worldwide. The definition of globalization can vary significantly depending on the context, with some scholars focusing on economic elements like foreign trade and direct investment, while others highlight political influences such as international organizations and agreements, or social and cultural aspects (Asongu, 2014). Ultimately, globalization promotes deeper integration of national economies, political systems, cultures, and social activities on a global scale.

Economic globalization specifically pertains to the movement of goods and services across borders, international capital flows, reductions in tariffs and trade barriers, immigration, and the dissemination of technology and knowledge (Samimi & Jenatabadi, 2014). It has facilitated the emergence of a borderless and integrated world economy, reshaping global business perspectives.

2.2 Arbitrage Pricing Theory (APT): Theoretical Review

Arbitrage Pricing Theory (APT), developed by Ross (1976), is a stock pricing model that connects expected returns to risk through three key propositions: security returns can be modeled by factors, sufficient diversification can eliminate idiosyncratic risk, and arbitrage opportunities do not persist in well-functioning markets. APT involves identifying macroeconomic variables that impact stock risks and returns, allowing investors to move beyond the restrictions of the Capital Asset Pricing Model (CAPM) and achieve greater freedom in explaining expected returns. It predicts asset returns based on the correlation between the asset and relevant risk factors, using a linear combination of exogenous macroeconomic variables (Zaheer & Rashid, 2014). Analysts must choose which macroeconomic factors to focus on, as these significantly influence asset returns.

The APT assumes that rational investors hold well-diversified portfolios and only systematic risk is accounted for, implying that investors should accurately price these risk factors. Thus, investors expect to be compensated with returns for the risks associated with their assets, measured through factor betas. Support for APT includes studies by Abdullahi (2011) and others,

Vol. 9, No.04; 2025

ISSN: 2456-7760

while Umut¸ Etin et al. (2014) noted its applicability to highly liquid stocks but highlighted limitations for large traders and transaction costs. Conversely, Munshi (2014) criticized APT for methodological issues, including data dredging and multicollinearity. Ultimately, APT aids investors in establishing a pricing structure for asset securities based on the relationship between expected returns and risk, indicating that market prices may often be mispriced due to inherent inefficiencies (Alnaif, 2017).

2.3 Empirical Review

Logubayom and Luguterah (2014) analyzed data on 91-day and 182-day Treasury bill (T-bill) rates, inflation, and exchange rates sourced from the Bank of Ghana, covering January 2000 to October 2012. Their findings indicated a unidirectional relationship among the 91-day T-bill and 182-day T-bill rates, inflation rates, and exchange rates. They performed both univariate and multivariate Ljung-Box and ARCH-LM diagnostics on the residuals from individual equations and the overall VAR (1) model, confirming that the residuals were white noise series. Additionally, a chi-square goodness-of-fit test on out-sample forecasted growth rates showed that the VAR (1) model was adequate for modeling the rates over time. Ette et al. (2015) conducted a seasonal ARIMA analysis of Nigeria's Treasury Bill Rates (TBR) from January 2006 to December 2014. Their analysis revealed an overall downward trend from 2006 to 2009, followed by an upward trend until 2013. Twelve-monthly differencing of TBR produced the series SDTBR, which showed an upward trend. Nonseasonal differencing yielded DSDTBR, characterized by a horizontal trend with no clear seasonality. The additive SARIMA model, with significant coefficients at lags 1 and 12, was determined to be the most adequate for forecasting Nigeria's Treasury Bill Rates.

Smita (2017) explored the relationships among Treasury Bill rates of various maturities in India during the post-interest rate deregulation period. The study employed the Augmented Dickey-Fuller (ADF) test to assess stationarity of the series and residuals, followed by the Engle-Granger (EG) cointegration technique to identify long-run co-integration, complemented by an Error Correction Mechanism (ECM). Results showed that the 6-month and 3-month Treasury Bills were co-integrated, with 32% of the discrepancy in rates from the previous month being corrected in the present month. This indicates a long-run relationship and short-run correction in Treasury Bill rates, crucial for the efficient functioning of the Treasury Bill market across different maturities. Jagadish (2018) investigated the long-term relationship between financial development and economic growth in 16 selected low-income countries over a 20-year period from 1995 to 2014, utilizing panel unit root and panel cointegration analyses. The long-run relationship was estimated using fully modified and dynamic OLS techniques, revealing cross-sectional dependence among the countries. Pedroni’s panel cointegration analysis supported the hypothesis of a long-run co-integrating relationship between financial development and economic growth. The long-run panel estimates indicated a positive and significant impact of financial development on economic growth. Further time-series analysis at the country level corroborated these findings, showing the positive effect of financial development on growth in most countries. Notably, the study highlighted that the flow of credit to the private sector remains low in this region, suggesting that policymakers should focus on creating a conducive environment for private sector growth.

Vol. 9, No.04; 2025

ISSN: 2456-7760

Kilicarslan and Dumrul (2018) investigated the impact of globalization on economic growth in Turkey from 1980 to 2015, utilizing the KOF globalization index and its components—economic, social, and political globalization indices. Their analysis, employing the Full Modified Ordinary Least Squares co-integration test, revealed that economic growth positively influences both economic and social globalization in Turkey. However, when distinguishing between KOF de facto and KOF de jure indices, they found that economic globalization's effect on economic growth was negative and statistically insignificant. Ogbebor (2019) examined the reactions of stock prices in Nigeria to fundamental factors such as earnings yield, dividend yield, debt/asset ratio, and pay-out ratio. This study utilized a robust econometric framework, including panel regression analysis, to evaluate the relationship between stock returns and these fundamental factors, focusing on ten of the most capitalized companies listed on the Nigerian Stock Exchange from 2008 to 2017. The findings presented a mixed picture, showing a negative and significant relationship between dividend yield and debt/asset ratio with adjusted stock returns, while a positive and significant relationship was identified between earnings yield and adjusted stock returns. In contrast, a negative and insignificant relationship was observed between the pay-out ratio and stock returns. Akinwale and Adekunle (2019) investigated the impact of globalization on Nigeria's capital market from 1986 to 2017. They Autoregressive Distributed Lag (ARDL) model, the study found a long-run equilibrium relationship among the variables. The ARDL analysis indicated that trade openness and foreign portfolio investment had a positive and significant impact on market capitalization in both the short and long run, whereas foreign direct investment exhibited a negative and insignificant effect on market capitalization across both time frames. The authors concluded that globalization significantly affects the economy through enhanced openness and foreign capital inflows. Mohammed et al. (2020) examined the relationship between stock market performance and economic growth in Nigeria from 1985 to 2018, grounded in the Harrod-Domar theoretical framework of savings and investment. The methodology included the Augmented Dickey-Fuller unit root test, Johansen co-integration analysis, and vector error correction mechanism to assess the direction and magnitude of the relationship between stock market performance and economic growth. The findings revealed a positive long-run relationship between stock market performance measured by market capitalization, equity, and value traded and economic growth during the study period. The study employed the Autoregressive Distributed Lag (ARDL) model to establish the co-integration between stock market development and investment growth, using gross capital formation as a proxy for investment growth, alongside stock market indicators such as market capitalization ratio, total value traded ratio, and turnover ratio.

Adofu and Adegoriola (2020) explored the relationship between foreign portfolio investment (FPI) and Nigeria's economic growth from 1986 to 2018. The study employed the Autoregressive Distributed Lag (ARDL) and their findings indicated that both the current value and one-period lag of FPI had negative and insignificant impacts on the Gross Domestic Product (GDP). Additionally, they found a unidirectional causality flowing from GDP to FPI, concluding that Nigeria's economic environment requires significant reforms to attract foreign investors' confidence. Ilugbemi and Ogunlokun (2020) analyzed the impact of foreign direct investment and foreign portfolio investment on capital market growth in Nigeria from 1990 to 2017.

Vol. 9, No.04; 2025

ISSN: 2456-7760

Utilizing data from the Central Bank of Nigeria, the researchers applied the ARDL model to estimate both short-run and long-run relationships. Their findings indicated that while FDI and FPI had positive but weak predictive effects on the capital market, interest rates maintained a negative relationship. The residual diagnostic tests confirmed serially uncorrelated and homoscedastic residuals, leading to the conclusion that FDI and FPI had insignificant positive effects on Nigeria's capital market growth. Ofonime et al. (2022) examined the impact of treasury bills on private sector credit in Nigeria from 1981 to 2018, focusing on the crowding out effect hypothesis. The autoregressive distributed lag (ARDL) model revealed that treasury bills negatively affected private sector credit, indicating a crowding out effect.

3.0 Methodology

The study determines the effect of economic globalisation on treasury bills in Nigeria. The study utilised ex-post factor research design. Economic globalisation was proxy by foreign direct investment, trade openness, net capital inflow, financial liberalisation. Recent developments in financial econometrics require the use of models and techniques that can model the response of investors, therefore, the model introduces interest rate and credit to the private sector as the control variable.

The model is economically specified below

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

To complete the specification of the econometric model, we consider the form of algebraic or linear relationship among the economic variables. In this model, economic globalisation will be depicted as a linear function of returns on government securities. The corresponding econometric model is

$$GS_t = \beta_0 + \beta_1 FDI_t + \beta_2 FPI_t + \beta_3 TOP_t + \beta_4 FL_t + \beta_5 NCF_t + \beta_6 INTR_t + \beta_7 CPS_t + \mu_t$$

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 heteroscedasticity problem, the variables in billion are in logged, the model will follow a semi log-linear functional form:

$$GS_t = \beta_0 + \beta_1 lnFDI_t + \beta_2 lnFPI_t + \beta_3 TOP_t + \beta_4 lnFL_t + \beta_5 lnNCF_t + \beta_6 INTR_t + \beta_7 CPS_t + \mu_t$$

Where: GS represents Returns of government securities, Foreign Direct Investment is FDI, Foreign Portfolio Investment is FPI, Trade Openness is TOP, Net Capital Flow is NCF Financial Liberalisation is FL, Interest rate is INTR, Credit to private Sector is CPS

β_0 = constant, constant, represents the constant term in a regression equation, indicating the expected value of the dependent variable when all independent variables are zero., $\beta_{1,2,3,4,5}$ = 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.

Vol. 9, No.04; 2025

ISSN: 2456-7760

3.1 Measurement of Variables

Table 3.1: Variables, Description, Measurement and Sources

Variables	Description	Measurement
Return on Government Securities	Measures income on risk-free assets.	This is the Treasury Bill yield in Nigeria
Trade Openness	This is a measure of the extent to which a country is engaged in global trading system.	Sum of import and export to GDP
Financial Liberalisation	This refers to the extent of control and ownership of business organisations in a country by individuals who are not citizens or by companies whose headquarters are outside the country.	Proportion of foreign transaction to total value of stocks traded on the NGX
Foreign Direct Investment	Foreign Direct Investment (FDI) is a purchase of an interest in a company or an investor located outside its borders.	FDI net inflow divided GDP
Net capital Flow		The proportion of net capital inflow/outflows of the GDP
Interest rate	Interest rate is the rate at which banks charges for loan.	Monetary policy rate and minimum rediscounting rate
Credit to the Private Sector	It measures financial resources provided to the private sector which have claims for repayment	Ratio of credit to private sector

Source: Researcher's Compilation, 2024

3.2 Estimation Techniques

This study employs the Autoregressive Distributed Lag (ARDL) modeling approach, which is widely utilized for analyzing both short-term and long-term relationships between variables in time series data. 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).

Vol. 9, No.04; 2025

ISSN: 2456-7760

4.0 Results

Table 4.1: Descriptive Statistics

	Mean	Maximum	Minimum	Std. Dev.
GS	13.74405	26.90000	6.130000	4.417084
INTR	13.54054	26.00000	6.000000	3.757175
FDI	435378.0	1360308.	-79481	447854.8
FPI	451.3095	3209.710	-1284.07	905.5900
FIL	0.375765	1.919500	-0.015	0.450327
CPS	7279.919	32845.67	13.07000	9839.924
NCF	0.241259	0.353800	0.137900	0.087051
TOP	0.221828	0.717530	0.000870	0.193673

Source: Author's Computation (2024); GS represents Returns of government securities, 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

Table 4:1 shows the results of the descriptive statistics. The mean return on government securities (GS) is 13.74%, showing that government bonds or similar instruments yielded an average return of 13.74% during the period. The maximum return recorded was 26.9%, and the minimum was 6.13%. The standard deviation of 4.42 reflects moderate variability, indicating that government securities were relatively stable compared to other asset classes. 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 low pace of financial reforms.

Vol. 9, No.04; 2025

ISSN: 2456-7760

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 the credit availability to 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.

4.1 Correlation Matrix

Table 4.2: Correlation Matrix

	GS	INTR	FDI	FPI	FIL	CPS	NCF	TOP
GS	1.000							
INTR	0.313	1.000						
FDI	-0.276	-0.536	1.000					
FPI	0.071	-0.246	0.544	1.000				
FIL	0.416	0.339	-0.296	-0.264	1.000			
CPS	-0.015	-0.301	0.499	0.720	-0.329	1.000		
NCF	0.145	0.471	-0.794	-0.654	0.442	-0.789	1.000	
TOP	-0.179	-0.437	0.678	0.704	-0.421	0.685	-0.891	1.000

Source: Author's Computation (2024); Where: GS represents Returns of Government Securities, 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

Table 4.2 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 CPI 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.

4.2 Stationarity test

Table 4.3: Unit root Test

	Augmented Dickey-Fuller test			Phillips-Perron Test			ADF	PPT
	Level	First Diff.	Critical	level	First Diff.	Critical		
GS	-3.237	-	-2.948	-3.625	-	-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	-4.3596	-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	1.2645	-4.8776	-2.948	I(1)	I(1)

Source: Author's Computation (2024); Where: GS represents Returns of Government Securities, 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

Table 4:3 presents the results of the Unit root test. The results of the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests in the table assess the stationarity of various used within a critical value of -2.948). For Gross Savings (GS), Interest Rate (INTR), and Foreign Investment Loans (FIL), both the ADF and PP tests show stationarity at level I(0), as their test statistics surpass the critical threshold without differencing. Foreign Direct Investment (FDI) exhibits mixed results: the ADF test indicates it becomes stationary after first differencing (I(1)), while the PP test shows it is stationary at level (I(0)). Foreign Portfolio Investment (FPI), Liquidity of Corporate Private Sector (LCPS), Net Capital Flows (NCF), and Total Output (TOP) all achieve stationarity at the first difference (I(1)) according to both tests. This analysis indicates that while some variables are inherently stationary, others require differencing to eliminate non-stationarity, with consistency between ADF and PP tests for most variables.

4.2.2 Hypothesis Test

H_o: Economic globalisation does not have a significant effect on returns of treasury bills yield in Nigeria

Vol. 9, No.04; 2025

ISSN: 2456-7760

Table 4.4: Full information on the effect of economic globalisation on returns of treasury bills yield in Nigeria

Panel A: Long Run Estimates				
Dependent Variable: GS				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob**
LFDI	-3.333237	2.035745	-1.637355	0.1172
LFPI	4.640911	3.347757	1.386275	0.1809
FIL	9.369694	4.793131	1.954817	0.0647
NCF	103.2874	95.33688	1.083394	0.2915
INTR	-0.708297	0.914262	-0.774720	0.4476
LCPS	3.272964	2.603656	1.257065	0.2232
TOP	-47.63327	24.03231	-1.982051	0.0614
C	8.883288	22.41995	0.396222	0.6961
Panel B: Short Run Estimates				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob**
D(LFPI)	0.805268	0.311471	2.585373	0.0177
D(LFPI(-1))	-1.099774	0.356515	-3.084792	0.0058
D(NCF)	20.81989	17.48568	1.190682	0.2477
D(NCF(-1))	-61.04501	17.75416	-3.438350	0.0026
D(LCPS)	-9.767275	1.871427	-5.219158	0.0000
D(TOP)	-1.241832	8.731899	-0.142218	0.8883
ECT(-1)*	-0.541842	0.077211	-7.017712	0.0000
Panel C: Diagnostic Tests		Statistics	Prob.	
Bound Test		3.908594	0.000	
R-squared		0.714579	-	
Adjusted R-squared		0.653417	-	
F-statistic		21.31693	0.0000	
Serial Correlation LM Test		0.535458	0.5944	
Heteroskedasticity Test:		1.292031	0.2930	
Normality Test		1.1573	0.5607	
		CUSUM	CUSUMSQ	
Stability Test		Stable	Stable	

Source: Author's Computation (2024); Where: Stock Market returns is SMR, GS represents Returns of government securities, 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

Vol. 9, No.04; 2025

ISSN: 2456-7760

Table 4.4 reveals the results of long-run estimates, short-run estimates, and diagnostic tests of the study.

Bound Test:
The Bound Test was conducted to assess whether there is a long-run equilibrium relationship between economic globalisation variables and treasury bills yield in Nigeria. The test result shows a bound Test statistic of 3.908594, which is statistically significant at the 5% level giving the upper bound value of 3.21, indicating a strong cointegration among the variables. This suggests that while short-run deviations may occur, the variables are bound by a long-term equilibrium relationship, meaning economic globalisation factors like Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), and Trade Openness (TOP) have a long-run influence on treasury bills yield.

Long-Run Dynamics:
In the long-run estimation, several key variables show varying effects on treasury bills yield in Nigeria. Foreign Direct Investment (FDI) has a negative but statistically insignificant effect on the returns of treasury bills, with a coefficient of -3.333237 and a p-value of 0.1172. Foreign Portfolio Investment (FPI) positively affects treasury bills yield, but the effect is also statistically insignificant (Coefficient = 4.640911, p-value = 0.1809). Interestingly, Financial Liberalisation (FIL) has a positive impact on treasury bills yield, with a coefficient of 9.369694 and a marginal significance (p-value = 0.0647), indicating that financial liberalisation may enhance returns in the long run. Net Capital Flow (NCF) also has a positive but insignificant effect (p-value = 0.2915). The Interest Rate (INTR) is negative and statistically insignificant in the long run (p-value = 0.4476). Credit to Private Sector (LCPS) shows a positive, though insignificant, impact on treasury bills yield (p-value = 0.2232). Lastly, Trade Openness (TOP) has a significant negative impact on treasury bills yield, with a coefficient of -47.63327 and a p-value of 0.0614, indicating that increased trade openness may lower returns in this market.

Short-Run Dynamics:
The short-run estimates provide insights into how economic globalisation factors influence treasury bills yield on a more immediate basis. Foreign Portfolio Investment (FPI) has a significant positive impact in the short run (Coefficient = 0.805268, p-value = 0.0177), suggesting that FPI boosts treasury bill yields in the short term. However, lagged FPI (D(LFPI(-1))) has a significant negative impact, with a coefficient of -1.099774 and a p-value of 0.0058, indicating a reversal effect after a period. Net Capital Flow (NCF) exhibits a positive but insignificant short-run effect (p-value = 0.2477), while its lagged version (D(NCF(-1))) shows a significant negative impact on treasury bills yield (Coefficient = -61.04501, p-value = 0.0026). Credit to Private Sector (LCPS) has a strong negative influence on treasury bills yield, with a coefficient of -9.767275 and a p-value of 0.0000, implying that increased credit to the private sector decreases treasury yields. Trade Openness (TOP) remains insignificant in the short run (p-value = 0.8883). The error correction term (ECT(-1)) is highly significant, with a coefficient of -0.541842 (p-value = 0.0000), indicating that around 54% of short-run deviations from the long-run equilibrium are corrected each period.

Vol. 9, No.04; 2025

ISSN: 2456-7760

The adjusted R-squared value of 0.6534 indicates that 65.3% of the variability in treasury bills yield in Nigeria is explained jointly by the independent variables in the model, signifying a strong explanatory strength between economic globalisation factors and treasury bills yield. The F-statistic of 21.31693 (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 globalisation on treasury bills yield is rejected, and the study concluded that economic globalisation has a significant effect on treasury bills yield in Nigeria

Diagnostic Tests:

The diagnostic tests confirm the reliability of the model. The Serial Correlation LM Test indicates no serial correlation, with a p-value of 0.5944, suggesting that the model's residuals are independent over time. The Heteroskedasticity Test shows that the model does not suffer from heteroskedasticity (p-value = 0.2930), confirming that the variance of the residuals is constant. The Normality Test suggests that the residuals are normally distributed, as the p-value is 0.5607. Additionally, the Stability Test, measured through the CUSUM and CUSUMSQ plots, confirms that the model is stable over time, further supporting the validity of the findings. The model's diagnostic tests confirm its robustness, indicating that the results are reliable.

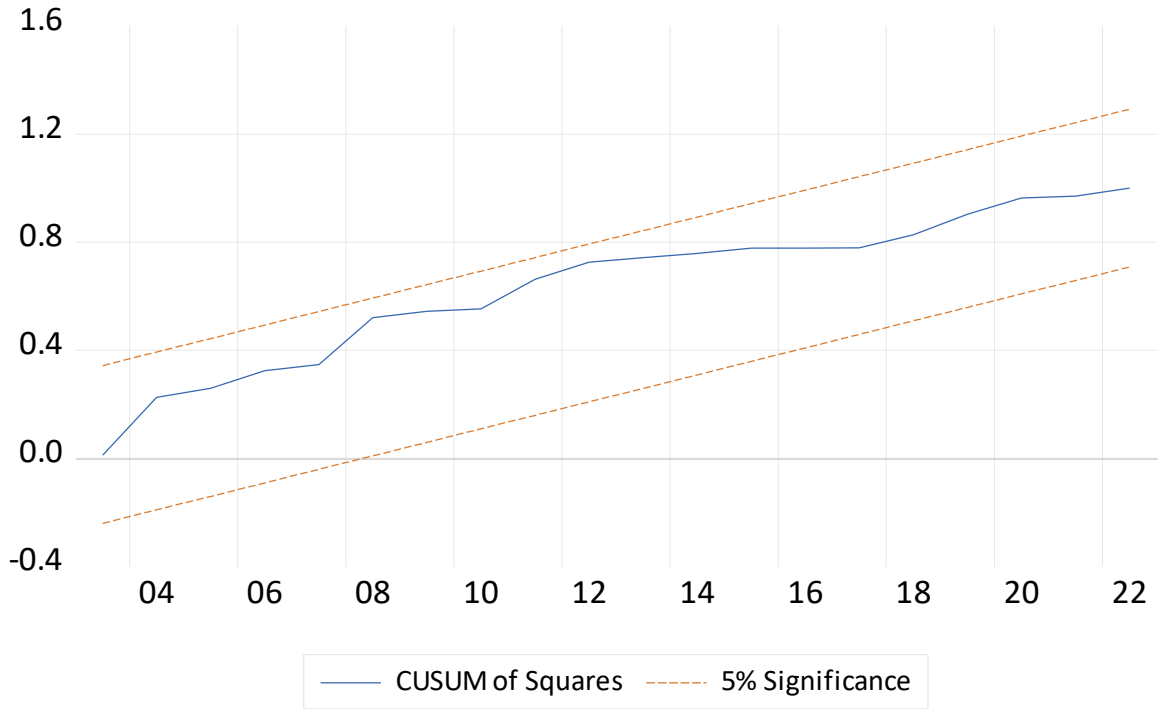

Figure 1. CUSUM of Squares for Economic Globalisation and Treasury Bills Returns

Vol. 9, No.04; 2025

ISSN: 2456-7760

Figure 1 illustrates 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.

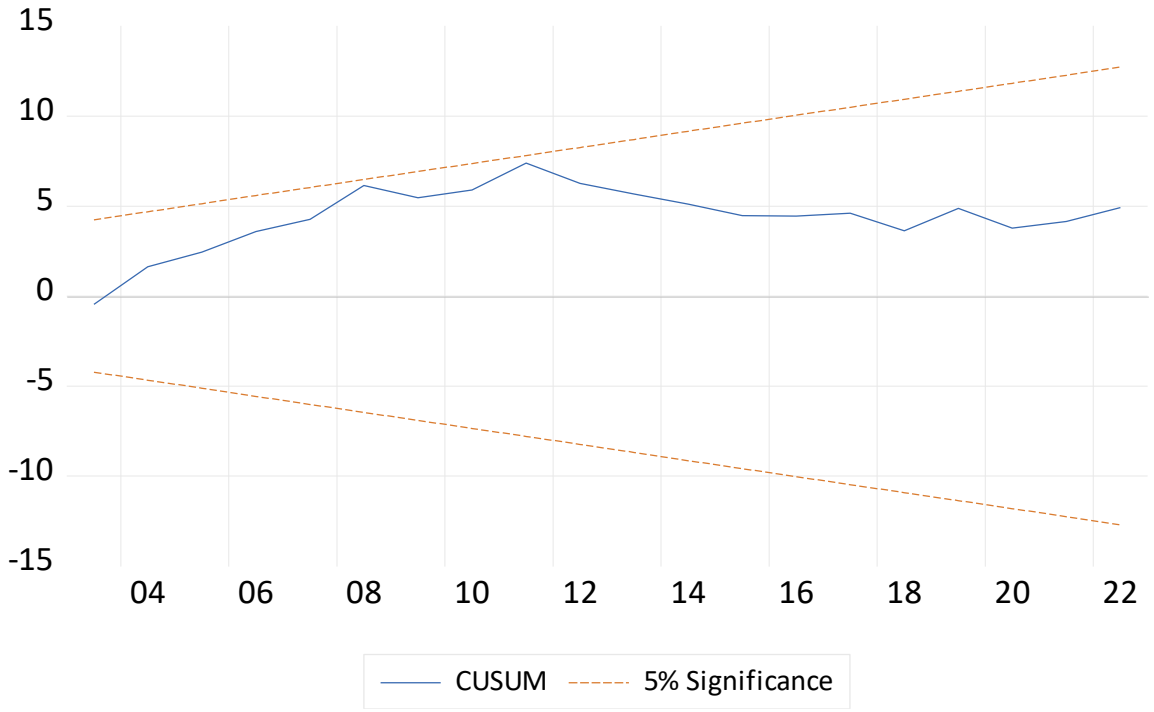

Figure 2. *CUSUM Test for Economic Globalisation and Treasury Bills Returns*

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.

5.0 Conclusion

This study examines the relationship between economic globalization on returns of treasury bills yield in Nigeria. Given the increasing importance of globalization in shaping financial markets, the research aims to provide a critical understanding of these dynamics in the Nigerian context. The findings of the study in the long-run estimation show that foreign Direct Investment (FDI) has a negative but statistically insignificant effect on the returns of treasury bills, with a coefficient of -3.333237 and a p-value of 0.1172. Foreign Portfolio Investment (FPI) positively affects treasury bills yield, but the effect is also statistically insignificant (Coefficient = 4.640911, p-value = 0.1809). Interestingly, Financial Liberalisation (FIL) has a positive impact on treasury bills yield, with a coefficient of 9.369694 and a marginal significance (p-value = 0.0647), indicating that financial liberalisation may enhance returns in the long run. Net Capital Flow (NCF) also has a positive but insignificant effect (p-value = 0.2915). The Interest Rate

Vol. 9, No.04; 2025

ISSN: 2456-7760

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The findings aligns with Akinwale and Adekunle (2019), who found that trade openness and foreign portfolio investment positively impacted market capitalization in Nigeria, indicating that increased global economic interactions can enhance domestic financial performance. However, contrasting studies like Adofu and Adegoriola (2020) reveal that while foreign portfolio investment shows significant correlations, its impact on GDP is not uniformly positive, highlighting the complexity of globalization's effects on economic indicators.
Moreover, the research findings resonate with the mixed results found in Ogbebor (2019), where earnings yield demonstrated a positive correlation with adjusted stock returns, while dividend yield and debt/asset ratio exhibited negative relationships. These variations suggest that while certain aspects of globalization may bolster treasury bill yields, others could introduce volatility or uncertainty in the financial markets. Similarly, Mohammed et al. (2020) provided evidence of a positive long-run relationship between stock market performance and economic growth in Nigeria, reinforcing the notion that globalization can create a conducive environment for financial growth, yet it may also be influenced by local market dynamics and the effectiveness of regulatory frameworks.

In contrast, studies such as Ilugbemi and Ogunlokun (2020) found that the relationship between foreign direct investment and capital market growth is weak, indicating that not all globalization-related factors yield positive financial outcomes. This inconsistency underlines the importance of examining the specific economic contexts and conditions under which these relationships operate. Therefore, the findings underscore the necessity for policymakers in Nigeria to consider both the beneficial and potentially adverse effects of globalization on treasury bill yields, ensuring that regulatory frameworks are adaptable to the changing dynamics of international economic relations.

Based on the findings of this study, several recommendations can be made to enhance the effects of economic globalization and financial development on Nigeria's financial indicators:

Vol. 9, No.04; 2025

ISSN: 2456-7760

1. Although FDI showed insignificant effects on treasury bills yield, 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.
2. Since FPI is associated with significant positive effects on treasury bills yield under short-run dynamics but statistically insignificant positive effects under long-run dynamics, the government must create an environment that mitigates the adverse impacts. This can be achieved by ensuring a stable macroeconomic environment to enhance investor confidence.
3. Improving financial literacy among the population can empower individuals and businesses to make informed decisions regarding investment opportunities. Additionally, enhancing access to financial services, especially for the underserved segments of society, can stimulate greater participation in the financial markets and drive economic development.

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Vol. 9, No.04; 2025

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