

FOREIGN EQUITY INVESTMENT, DEBT SECURITIES, AND ECONOMIC GROWTH IN NIGERIA: AN EMPIRICAL ANALYSIS

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ABSTRACT

This study examines the relationship between foreign equity investment, debt securities, and economic growth in Nigeria: an empirical analysis. An ex-post facto research design was adopted using data covering 1987–2024 (38 observations). Data on real gross domestic product, foreign portfolio investment, market capitalisation, interest rate, and exchange rate were obtained from official Nigerian sources. The analysis employed unit-root tests, Johansen cointegration analysis, and a vector error correction model (VECM) to examine long-run relationships and short-run dynamics. The unit-root results indicated that the series were integrated of order one, while the Johansen test identified three cointegrating relationships, suggesting a long-run association among the variables. Long-run VECM estimates showed that market capitalisation and exchange rate had statistically significant positive relationships with real GDP, whereas interest rate had a statistically significant negative relationship. Foreign portfolio investment had a positive but statistically insignificant long-run coefficient. In the short run, changes in foreign portfolio investment were positively and significantly associated with real GDP. The findings indicate that the relationship between foreign portfolio capital and economic performance may differ between the short and long run, while domestic capital-market development and macroeconomic conditions also matter. The study recommends strengthening capital-market institutions, maintaining macroeconomic stability, and encouraging sustainable foreign portfolio inflows.

Keywords: Foreign Equity Investment, Debt Securities, Economic Growth, Foreign Portfolio Investment, Market Capitalisation, Nigeria.

Introduction

Investment is a fundamental driver of economic growth because it facilitates capital accumulation, expands productive capacity, and stimulates economic activities. However, domestic savings in developing economies are often inadequate to finance the level of investment required to achieve sustainable economic growth. Factors such as low income, underdeveloped capital markets, and weaknesses in the financial system contribute to this financing gap. Consequently, foreign capital inflows have become an important

source of investment financing for developing countries seeking to accelerate economic growth and development (Oladejo, 2016; Obadan, 2006). From the Keynesian perspective, investment constitutes a major component of aggregate demand and influences equilibrium income and output in an economy (Keynes, 1936).

The increasing integration of international financial markets has created opportunities for developing economies to attract foreign portfolio investment. Unlike foreign direct investment, which generally involves a lasting interest and a degree of

management control in an enterprise, foreign portfolio investment involves investments in financial assets without direct participation in their management. Such investments include equity securities, bonds, notes, and other tradable financial instruments. Foreign portfolio investment can supplement domestic savings, improve liquidity in financial markets, facilitate capital mobilisation, and provide additional resources for economic expansion. According to Fosu and Magnus (2006) and Omisakin et al. (2008), foreign capital inflows constitute an important channel for mobilising funds for domestic investment. Similarly, Otapo et al. (2020) identify foreign portfolio investment as a potential mechanism for accelerating capital accumulation and supporting economic growth in developing economies.

Within foreign portfolio investment, equity securities and debt securities represent two important channels through which international investors provide capital to host economies. Foreign equity investment enables international investors to acquire shares in domestic companies, thereby supplying capital that businesses can use to expand operations, improve productivity, and undertake new investment projects. In contrast, foreign investment in debt securities involves the purchase of government or corporate bonds and other debt instruments through which issuers obtain funds in exchange for contractual repayment obligations. While equity investment can strengthen the capital base of firms, debt securities can provide financing for government expenditure, infrastructure, and private-sector activities. Examining these components separately is therefore important because their effects on economic growth may differ according to market conditions, investment allocation, and the stability of capital inflows.

For Nigeria, foreign portfolio investment offers an opportunity to address domestic financing constraints and strengthen the relationship between financial market development and economic performance. The Nigerian economy requires substantial investment to expand productive activities, improve infrastructure, and generate employment. Nevertheless, limitations in domestic capital formation and financial market development

have historically constrained the availability of resources for investment. Foreign capital inflows can help bridge the savings-investment gap and increase the funds available to productive sectors (Ngwu, 2001; Fosu & Magnus, 2006). The benefits of these inflows, however, depend on the capacity of the domestic economy to channel investment into productive activities and maintain an environment conducive to sustained investor participation.

Despite the potential benefits, foreign portfolio investment can also expose the domestic economy to external financial shocks. International portfolio investors generally respond to expected returns, exchange rate movements, interest rate differentials, and changes in market confidence. Consequently, sudden withdrawals of foreign capital may weaken financial market liquidity, intensify exchange rate pressures, and disrupt domestic investment activities. Olayiwola et al. (2007) and Cooper and Hardt (2000) associate uncontrolled capital outflows with constraints on the contribution of foreign portfolio investment to economic development. Similarly, Obiechina and Ukuji (2013) highlight concerns about the implications of portfolio investment movements for inflation and exchange rate stability. These concerns suggest that the contribution of foreign portfolio investment to economic growth cannot be assessed solely by considering the volume of capital inflows; the composition and stability of those inflows are also important.

Available evidence from Nigeria illustrates the significance of distinguishing between different portfolio investment instruments. The Central Bank of Nigeria (CBN, 2024) reported that the value of foreign portfolio investment increased substantially between 2022 and 2023, with equity investments, bonds, and notes accounting for a considerable proportion of the recorded inflows. This pattern highlights the relevance of equity and debt securities in Nigeria's foreign portfolio investment structure. However, an increase in portfolio investment does not necessarily translate into a corresponding improvement in economic growth. The actual contribution depends on whether the funds support productive activities, improve capital formation, and strengthen the capacity of the economy to generate

output. Furthermore, differences between equity and debt instruments may produce different implications for investment financing, financial market stability, and economic performance.

Although previous studies have examined the relationship between foreign portfolio investment and economic growth in Nigeria, including Ezeanyej and Ifeako (2019) and Ekene et al. (2019), analysing foreign portfolio investment as an aggregate may conceal the distinct effects of its constituent instruments. Equity investment and debt securities differ in their financing arrangements, risk characteristics, and potential transmission mechanisms to economic activity. Consequently, an increase in aggregate foreign portfolio investment may not adequately explain the individual contributions of these instruments to economic growth. This creates a need for an empirical assessment that distinguishes foreign equity investment from investment in debt securities within the Nigerian economy.

Against this background, this study examines foreign equity investment, debt securities, and economic growth in Nigeria. By distinguishing between these two components of foreign portfolio investment, the study seeks to discuss on their respective relationships with economic growth and have a clear understanding of the role of international portfolio capital in Nigeria's economic performance. The rest of this paper contains the literature review, research methodology, results and discussion and conclusion and recommendations.

Literature Review

Conceptual Clarification

Foreign equity investment, debt securities, and economic growth are central concepts in understanding the relationship between international portfolio capital and economic performance in Nigeria. These concepts explain how foreign investors make available financial resources to domestic markets and how such investments may influence capital formation, productivity, and aggregate output. Foreign equity investment refers to the acquisition of shares in domestic companies by foreign investors without necessarily obtaining significant management control over the businesses.

It represents a component of foreign portfolio investment through which international investors participate in the ownership of companies listed on the host country's stock market. Unlike foreign direct investment, foreign equity investment generally involves financial participation rather than direct involvement in business management. Eiteman, Stonehill, and Moffett (2016) explain that international investment involves cross-border transfers of capital, while Shapiro (2019) distinguishes foreign portfolio investment from foreign direct investment based on the nature of the investment and the degree of control exercised by investors.

Foreign equity investment can improve the availability of capital to domestic enterprises, enhance stock market liquidity, and facilitate business expansion. Henry (2000) argues that foreign portfolio flows can promote financial market development by improving liquidity and reducing the cost of capital. However, equity investments are also exposed to share-price fluctuations, exchange rate movements, and sudden capital withdrawals, which may undermine financial stability (Bekaert & Harvey, 2000; Calvo & Mendoza, 2000).

Debt securities are financial instruments through which governments, corporations, and other institutions obtain funds by borrowing from investors. They include government bonds, corporate bonds, treasury bills, and other marketable debt instruments. Investors who purchase these securities provide funds to the issuing institutions in exchange for interest payments and the repayment of principal according to agreed terms. Within foreign portfolio investment, foreign investment in debt securities enables international investors to finance government and corporate borrowing in the host economy. Such investments can expand access to financing, improve the liquidity of domestic debt markets, and support expenditure on productive activities. However, their contribution to economic growth depends on how the borrowed funds are utilised, the cost of borrowing, and the capacity of issuers to meet their repayment obligations. Debt securities may also expose investors and recipient economies to interest rate, credit, and exchange rate risks.

Economic growth refers to a sustained increase in the production of goods and services within an economy over time. It is commonly measured using gross domestic product (GDP), with real GDP preferred because it accounts for changes in the general price level. Samuelson and Nordhaus (2010) identify GDP as a widely used measure of economic activity, while Mankiw (2020) distinguishes real GDP from nominal GDP based on the adjustment for price changes. In Nigeria, real GDP provides an important measure of changes in aggregate output and economic performance. Economic growth can result from capital accumulation, technological advancement, increased labour productivity, and improvements in investment and financial intermediation.

The relationship between foreign equity investment, debt securities, and economic growth arises from their potential to mobilise external financial resources for domestic economic activities. Foreign equity investment may strengthen business financing and productive capacity, while debt securities may provide funding for public and private investment. Dauda (2007) and Nwosa and Ammassoma (2014) associate foreign portfolio investment with increased GDP and real income generation. Nevertheless, the growth effects of these investment channels may differ depending on macroeconomic stability, financial market development, and the productive allocation of capital. Therefore, examining foreign equity investment and debt securities separately provides a basis for understanding their respective contributions to economic growth in Nigeria.

Theoretical Framework

Portfolio Balance Theory

Solow treats all capital equally, so it can explain FPI to RGDP but not INTR and EXCR. In order to explain how interest rates and exchange rates affect economic growth, we incorporate Portfolio Balance Theory. According to Tobins' 1958 portfolio balancing theory, which Kouri expanded upon in 1976, foreign investors distribute their wealth among both local and overseas assets in order to optimize utility based on risk and expected return. Because of nation and exchange rate risk,

the theory assumes imperfect sustainability between local and foreign assets.

When the risk-adjusted return on Nigerian assets surpasses that of foreign assets, FPI inflow takes place. Exchange rate volatility and EPU raise the risk premium, but interest rate differentials raise expected return. Consequently, PBT forecasts that FPI will be positively impacted by interest rates, whereas FPI will be negatively impacted by EXCR volatility and EPU. This offers theoretical support for incorporating interest rates and currency rates into the model as factors influencing FPI.

Empirical Literatures

Series of empirical study were conducted on the relationship between Foreign Equity Investment, Debt Securities, and Economic Growth in Nigeria and the rest of the world. Some of these empirical literatures are:

Using annual data from 1990 to 2018, Ndugbu *et al.*, (2021) examined the impact of portfolio inflows on Nigeria's capital market development using impulse response analysis and Johansen cointegration. According to their findings, FPI greatly increases market capitalization and liquidity but has no direct effect on economic growth. They underlined the necessity for complementing policies to drive portfolio capital into profitable projects and came to the conclusion that FPI has an indirect growth effect, primarily through its influence on the development of the financial sector.

More recently, Ariayefa *et al.* (2024) evaluated the conditional impact of FPI on growth in Nigeria using data from 1995–2022 and a dynamic ARDL simulation model. According to their findings, FPI only has a positive and statistically significant impact on real GDP growth when exchange rates are stable, inflation is low, and borrowing rates are favorable. They came to the conclusion that FPI's ability to boost growth depends on macroeconomic fundamentals and suggested more robust institutional frameworks to draw in and keep profitable portfolio investments.

The relationship between democracy, foreign portfolio investment, and economic growth in Nigeria between 1986 and 2017 was studied by Ibrahim and Akinbobola (2017). The results

demonstrated that, in contrast to military administrations (1986–1998), foreign portfolio investment inflow was more consistent during democratic eras (1997–2013). The vector error correction model, the Johansen co-integration test, and the ordinary least square approach were among the methods they employed to investigate the relationship between foreign portfolio investment and economic growth. Furthermore, portfolio investment and economic growth were positively and significantly correlated. Furthermore, the results once again showed that foreign portfolio investments had a substantial and positive long-term influence on economic growth.

Baghebo and Apere (2014) studied "Foreign Portfolio Investment and Economic Growth in Nigeria." The study looked into how foreign portfolio investments affected Nigeria's economic expansion. Market capitalization, trade openness, and foreign portfolio investment were used as explanatory variables, while real gross domestic product was utilized as a stand-in for economic growth. The Central Bank of Nigeria Statistical Bulletin provided secondary data for the study, which used an ex post facto research design. The unit root test, co-integration analysis, and error correction mechanism (ECM) were all part of the three-stage econometric technique that the researchers used to analyze the data. The study's conclusions demonstrated a favorable long-term correlation between Nigeria's GDP and foreign portfolio investment, trade openness, and market capitalization. The study came to the conclusion that by boosting capital inflows and enhancing capital market activity, foreign portfolio investment considerably boosts economic growth. As a result, the report suggested that the government create policies that would promote long-term foreign portfolio investment inflows into Nigeria, preserve macroeconomic stability, and improve the capital market environment.

With a focus on the relationship between capital flows and trade openness, Saibu (2014) used secondary data and a sample of emerging economies to investigate the effect of capital movement on economic growth. The research design used in the study was ex post facto, and

secondary macroeconomic data was obtained from pertinent international databases. Trade openness and capital flows were employed as explanatory factors, with gross domestic product serving as the dependent variable. The study used the Autoregressive Distributed Lag (ARDL) bounds testing method in conjunction with Principal Component Analysis (PCA) to examine both short-term and long-term correlations between the variables.

Akintayo and Oyelade (2019) used annual time series data from 1986 to 2015 to examine the factors influencing foreign portfolio investment in Nigeria. The Central Bank of Nigeria Statistical Bulletin and other pertinent financial sources provided secondary data for the study, which used an ex post facto research design. Exchange rate, population, interest rate, GDP, money supply, and market capitalization were employed as explanatory factors, with foreign portfolio investment serving as the dependent variable. The short-term and long-term associations between the variables were investigated using the Autoregressive Distributed Lag (ARDL) method. The findings revealed that while population, currency rate, GDP, and market capitalization were important short-term predictors of foreign portfolio investment, six explanatory variables were statistically significant over the long term. In addition, interest rate and population were found to have a positive and significant link with foreign portfolio investment in the long run, showing their importance in attracting portfolio inflows. The study came to the conclusion that foreign portfolio investment in Nigeria is influenced by a number of macroeconomic factors, with different short- and long-term consequences. It advocated those authorities should pursue exchange rate depreciation methods, alongside maintaining favourable interest rates and strengthening general macroeconomic stability, in order to promote foreign portfolio investment inflows.

Ezeanyejí and Maureen (2019) used yearly data from 1985 to 2017 to examine the effect of foreign portfolio investment on Nigerian stock market performance. The Autoregressive Distributed Lag (ARDL) bounds testing method was used in the study to identify both short- and long-term associations. The findings showed that FPI significantly and favorably affects market capitalization and the All-Share Index (ASI) over time, indicating that portfolio inflows improve the depth and liquidity of the stock market.

The study came to the conclusion that Nigeria's capital market could be strengthened and more investors might be drawn in by promoting steady portfolio inflows.

Ndugbu and Otiwu (2020) evaluated the influence of foreign portfolio investment flows in boosting stock market liquidity in Nigeria over the period 1995 to 2018. The Central Bank of Nigeria Statistical Bulletin and other financial databases provided secondary data for the study, which used an ex post facto research design. The dependent variable was stock market liquidity, and the explanatory variable was inflows of foreign portfolio investments. Impulse response analysis and the Johansen cointegration technique were used in the study to assess both dynamic responses and long-term interactions between the variables. The findings demonstrated a substantial positive association between foreign portfolio investment inflows and stock market liquidity in the long run, whereas the short-run effects were shown to be erratic and unstable. The study came to the conclusion that while foreign portfolio investments improve market liquidity, they could cause short-term volatility in the financial system. It suggested putting supportive macroeconomic policies into place to lower volatility and stop abrupt capital flight.

Okere *et al.*, (2021) used monthly data from 2000 to 2019 to examine the impact of foreign portfolio investment on Nigerian stock market volatility. The Nigerian Exchange Group and other financial databases provided secondary data for the study, which used an ex post facto research design. Foreign portfolio investment inflows were the primary explanatory variable, and stock market volatility was the dependent variable. The Generalized Autoregressive Conditional Heteroskedasticity (GARCH 1,1) model was used in the study to account for time-varying variance and volatility clustering in the stock market. The results showed that inflows of foreign portfolio investments typically raise stock market volatility, especially during times of exchange rate volatility and worldwide financial shocks. The study showed that while foreign portfolio investment boosts market participation and depth, it also increases exposure to external shocks. To stabilize the financial market and lessen excessive volatility, it suggested implementing stronger regulatory frameworks and macroprudential measures.

Ariayefa *et al.*, (2024) investigated the conditional effects of foreign portfolio investments on Nigeria's stock market from 1999 to 2022 using a Dynamic Autoregressive Distributed Lag (ARDL) simulation model. The study utilized an ex post facto research design and relied on secondary time series data gathered from the Central Bank of Nigeria Statistical Bulletin, the Nigerian Exchange Group, and other pertinent financial sources. The variables employed included stock market capitalization and trading activity as dependent variables, while foreign portfolio investment served as the key explanatory variable, alongside macroeconomic factors such as exchange rate and inflation rate. The results showed that when macroeconomic fundamentals are solid, foreign portfolio investment inflows greatly increase stock market capitalization and trading activity, especially when exchange rates are stable and inflation is under control. The study came to the conclusion that the strength of macroeconomic fundamentals has a major role in the beneficial effects of foreign portfolio investment on the stock market. It suggested that in order to draw in and keep foreign portfolio investment inflows, government policies should concentrate on preserving macroeconomic stability and boosting investor confidence.

In its 2023 study on foreign portfolio investment trends in Nigeria, the World Bank highlighted changes in the bond and equity markets in 2022. The analysis drew on secondary macroeconomic and financial market data obtained from worldwide financial databases and national statistical sources. The investigation found that foreign portfolio investment accounted for a large proportion of transactions in Nigeria's capital market, contributing to higher liquidity and improved price discovery mechanisms. However, it also emphasized that the dominance of short-term portfolio flows exposes the market to unexpected capital reversals, especially during moments of global financial uncertainty and external shocks. The analysis stated that while foreign portfolio investment enhances market efficiency and liquidity, it also increases exposure to external financial instability. It suggested the diversification of investment sources and the strengthening of domestic institutional investors to reduce dependency on volatile foreign capital inflows and increase financial market stability.

Methodology

The ex-post facto research design was used in this study. The ex post facto research design is employed in the empirical investigation of events that had occurred, and enabled the researcher to obtain pertinent data on the event for future evaluation (Aham, 2000). The analysis used historical macroeconomic variable sequences from 1987 to 2024. A period of 38 years. The data on the variables of interest (real gross domestic product, foreign portfolio investment, market capitalisation, interest rate, and currency rate) were collected from secondary sources. The Central Bank of Nigeria (CBN) Annual Statistical Bulletin provided information on real gross domestic product, interest rates, and exchange rates. The Nigeria Securities and Exchange Commission's annual report provided information on foreign portfolio investment and market capitalization.

Model Specification

Multivariate linear regression models were employed for the study. Based on the specified assumptions, a model was built for the study as follows;

$$RGDP = f(FPI, MCAP, INTR, EXR) \quad (1)$$

The mathematical form of the model is given as:

$$RGDP_t = \beta_0 + \beta_1 FPI_t + \beta_2 MCAP_t + \beta_3 INT_t + \beta_4 EXR_t \quad (2)$$

The econometric form of the model is:

$$RGDP_t = \beta_0 + \beta_1 FPI_t + \beta_2 MCAP_t + \beta_3 INT_t + \beta_4 EXR_t + \mu_t \quad (3)$$

Where:

RGDP = Real Gross Domestic Product (Dependent variable)

FPI = Foreign Portfolio Investment (Explanatory Variable)

INT = Interest Rate (Explanatory Variable)

EXR = Exchange rate (Explanatory Variable)

Taking the natural logarithm of both sides of equation (3), and assuming linearity of the variable, thus equation (4) can be represented explicitly as;

$$\log(RGDP_t) = \beta_0 + \beta_1 \log(FPI_t) + \beta_2 \log(MCAP_t) + \beta_3 INT_t + \beta_4 EXR_t + \mu_t \quad (4)$$

Where:

β_0 = constant term or intercept of the regression time

$\beta_1 - \beta_4$ = slope coefficients,

μ_t = disturbance term assumed to be purely random.

The econometric analysis used the vector error correction model (VECM). Because it analyzes variables that are cointegrated and non-stationary at level but does so after first difference, I (1), the VECM is favoured. In contrast to earlier Nigerian research that employed static OLS and ARDL models, VECM jointly estimates the long-term equilibrium relationship, the short-term dynamic and Granger causation between variables, and the pace of adjustment through the error correction term.

Results and Discussions

Descriptive Statistics

Table 1: Descriptive Statistics of Annual Time Series Data for (1987-2024)

	RGDP	MCAP	INT	FPI	EXC
Mean	48994.56	9772.788	11.94316	5.31E+09	139.7371
Median	20411.64	2506.280	11.92000	4.14E+09	127.2400
Maximum	182057.8	41504.29	25.64000	1.86E+10	457.7000
Minimum	196.1700	6.800000	4.710000	2.00E+08	2.020000
Std. Dev.	57625.78	12591.33	4.480904	3.39E+09	128.1885
Skewness	0.987289	1.215181	0.842182	2.400484	0.936896
Kurtosis	2.622687	3.380198	4.054430	9.039719	3.011206
Jarque-Bera	6.398762	9.581080	6.252434	94.25188	5.559429
Probability	0.040787	0.008308	0.043883	0.000000	0.062056
Sum	1861793.	371366.0	453.8400	2.02E+11	5310.010
Sum Sq. Dev.	1.23E+11	5.87E+09	742.9046	4.26E+20	607994.9
Observations	38	38	38	38	38

Source: Author's computation, 2026

Table 1 presents the descriptive statistics for the variables used in this study over the period 1987–2024. Real GDP (RGDP), Foreign Portfolio Investment (FPI), and Market Capitalization (MCAP) are expressed in billions of Naira, while Interest Rate (INT) is measured as an annual percentage rate and Exchange Rate (EXC) is in Naira per US dollar. The descriptive statistics from Table 1 reveal that Nigeria's real output, capital market performance, and foreign portfolio flows have all increased over time but with significant volatility. The non-normal distribution of MCAP and FPI highlights the importance of using

robust econometric techniques that can accommodate potential heteroskedasticity and leptokurtosis when modelling their relationship with RGDP.

Unit Root Test

Table 2 presents the results of the Augmented Dickey-Fuller (ADF) unit root test conducted on all variables used in the study Real GDP (RGDP), Market Capitalization (MCAP), Foreign Portfolio Investment (FPI), Interest Rate (INT), and Exchange Rate (EXC)—over the period 1987–2024.

Table 2: The Result of Unit Root Test Using Augmented Dickey Fuller Test

Variable	ADF Test Statistic Values		5% Critical Value	Order of Integration	Decision
	Level	First Difference			
Log(RGDP)	0.737821	-4.310301**	-3.548490	I(1)	Accept
EXC	2.662528	-4.017145**	-2.945842	I(1)	Accept
Log(FPI)	-1.622544	-7.610460**	-1.950394	I(1)	Accept
INT	-0.737112	-7.677938**	-1.950394	I(1)	Accept
Log(MCAP)	2.559958	-5.603149**	-1.950394	I(1)	Accept

Note: ** indicates significance at 5% critical value

Source: Author's Computation, 2025.

The unit root test was performed to determine the stationarity properties of the time series, as non-stationary data can produce spurious regression results. The ADF test statistic for each variable was compared against the 5% critical value, and where non-stationarity was detected at levels, the series was differenced once to achieve stationarity. The results indicate that all variables Log(RGDP), EXC, Log(FPI), INT, and Log(MCAP) are integrated of order one, I(1). This finding justifies the use of econometric techniques

suitable for non-stationary but co-integrated series, such as the Johansen Cointegration technique to ascertain the long-run properties of the variables in the model.

Cointegration Analysis

The results of the linear combination of variables are presented in the VAR model that underwent the cointegration test are shown in Table 3.

Table 3: Johansen Cointegration test result

Endogenous variables: D(LOG(RGDP)) D(LOG(FPI)) D(INT) D(EXC) D(LOG(MCAP))

Deterministic assumptions: Case 3 (Johansen-Hendry-Juselius): Cointegrating relationship includes a constant. Short-run dynamics include a constant.

Table 3a: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.** Critical Value
None *	0.729753	131.5088	69.81889	0.0000
At most 1 *	0.703869	85.71419	47.85613	0.0000
At most 2 *	0.608923	43.12081	29.79707	0.0009
At most 3	0.240279	10.26099	15.49471	0.2612
At most 4	0.018200	0.642867	3.841465	0.4227

Trace test indicates 3 cointegrating equation(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Tables 4 present the results of the Johansen cointegration tests, which were conducted to examine the existence of a long-run equilibrium relationship among the variables used in the study.

The results from the trace tests is consistent, thereby providing robust evidence of a long-run relationship among real output, market capitalization, foreign portfolio inflows, interest rates,

and exchange rates in Nigeria. The existence of three cointegrating equations implies that despite short-term fluctuations, these variables move together in the long run and tend to converge to a stable equilibrium path. This finding is critical as it justifies the estimation of a Vector Error Correction Model (VECM).

Vector Error Correction Model (VECM) Output

Table 4: Vector Error Correction Long-run Estimates

Dependent Variable: Log(RGDP)

Cointegrating Eq:	Coefficients	Standard errors	t-statistics
LOG(MCAP(-1))	1.069865	0.11913	8.98028
LOG(FPI(-1))	0.371443	0.27469	1.35221
INT(-1)	-0.305528	0.05169	-5.91130
EXC(-1)	0.007437	0.00257	2.89593
C	9.115926		

Source: Author's Computation, 2025

The results in table 4 show that market capitalization exerts a positive and highly significant effect on real GDP, with a coefficient of 1.0699 and a t-statistic of 8.9803, which is statistically significant at the 1% level. This implies that a 1% increase in market capitalization leads to approximately a 1.07% increase in real output in the long run. This result underscores the critical role of the Nigerian capital market in mobilizing savings, facilitating investment, and fostering economic growth. It aligns with earlier studies such as Levine and Zervos (1998) and Ariayefa et al. (2024), which affirm that deep and liquid financial markets support sustainable economic expansion by providing long-term financing.

The coefficient of foreign portfolio investment is positive (0.3714), indicating that an increase in FPI inflows has a growth-enhancing effect on Nigeria's economy. However, the t-statistic of 1.3522 suggests that this effect is not statistically significant at the conventional 5% level. This finding implies that while FPI contributes to capital formation and market liquidity, its long-run impact on

aggregate output may be limited due to volatility, short-term speculative flows, and the vulnerability of portfolio investors to global financial shocks. The result corroborates the findings of Okegbe et al. (2019) and Musa & Adegbite (2023), who argue that portfolio inflows must be complemented by strong macroeconomic fundamentals and effective market regulation to translate into sustained economic growth.

The interest rate coefficient is negative and statistically significant, with a value of -0.3055 and a t-statistic of -5.9113 . This result suggests that higher interest rates reduce real output in the long run, consistent with the Keynesian and neoclassical investment models that link high borrowing costs with reduced private investment and slower growth. This outcome implies that tight monetary policy regimes, when excessively restrictive, could dampen investment activities and hinder economic expansion. Hence, Nigeria's policymakers must strike a balance between controlling inflation and maintaining interest rates at growth-friendly levels.

The coefficient of the exchange rate (EXC(-1)) is positive (0.0074) and statistically significant ($t = 2.8959$), indicating that an increase in the exchange rate (i.e., depreciation of the Naira) is associated with higher real GDP in the long run. This finding suggests that moderate exchange rate depreciation may improve export competitiveness, stimulate domestic production, and attract foreign capital inflows, which in turn supports economic growth. However, policymakers must manage depreciation carefully to avoid excessive volatility

that could erode investor confidence and trigger inflationary pressures.

The VECM long-run estimates from Table 4 confirm that market capitalization and exchange rate significantly and positively influence real GDP, while interest rates exert a significant negative effect on economic growth. Foreign portfolio investment, though positive, has an insignificant long-run effect, pointing to the need for policies that enhance the stability, depth, and absorptive capacity of Nigeria's financial markets to ensure that FPI translates into meaningful growth outcomes.

Table 5: Vector Error Correction Short-Run Estimates

Dependent Variable: D(LOG(RGDP))

Error Correction:	Coefficients	Standard errors	t-statistics
COINTEQ1	-0.075639	(0.01693)	[-4.46846]
D(LOG(MCAP(-1)))	-0.048131	(0.05869)	[-0.82013]
D(LOG(FPI(-1)))	0.038592	(0.01749)	[2.20653]
D(INT(-1))	-0.018349	(0.00442)	[-4.14844]
D(EXC(-1))	0.001256	(0.00081)	[1.55804]
C	0.134527	(0.03455)	[3.89373]
R-squared	0.627480	Log likelihood	46.02573
Adj. R-squared	0.552976	Akaike AIC	-2.109499
Sum sq. resids	0.179993	Schwarz SC	-1.804731
S.E. equation	0.077458	Mean dependent	0.178975
F-statistic	8.422102	S.D. dependent	0.119733
Determinant resid covariance (dof adj.)		0.249373	
Determinant resid covariance		0.087387	
Log likelihood		-210.9503	
Akaike information criterion		13.56488	
Schwarz criterion		15.30642	
Number of coefficients		40	

Source: Author's Computation, 2025

The error correction term is negative (-0.0756) and statistically significant (t -statistic = -4.4685), which is a desirable outcome for a stable VECM. This coefficient indicates that approximately 7.56% of the deviation from the long-run equilibrium is corrected each year, meaning that when real GDP diverges from its long-run path, the system gradually adjusts back towards equilibrium. The statistical

significance of the error correction term confirms the existence of a long-run causal relationship running from market capitalization, FPI, interest rate, and exchange rate to real GDP.

The short-run VECM results show that interest rate changes exert an immediate and significant effect on economic growth, while market capitalization, foreign portfolio investment, and

exchange rate adjustments do not have significant short-term effects. The significant and negative error correction term confirms that the system is mean-reverting and gradually adjusts back to long-run equilibrium after short-run disturbances.

Conclusions and Recommendations

This study examined the relationship between Foreign Equity Investment, Debt Securities, and Economic Growth in Nigeria: An Empirical Analysis using annual time-series data and the Vector Error Correction Model (VECM). The findings established the existence of a long-run equilibrium relationship among real gross domestic product, foreign portfolio investment, market capitalisation, interest rate, and exchange rate.

The long-run results revealed that market capitalisation and exchange rate had positive and statistically significant relationships with economic growth, while interest rate had a negative and statistically significant relationship. Foreign portfolio investment had a positive but statistically insignificant long-run relationship with economic growth. This indicates that foreign investment inflows alone may not be sufficient to generate sustained economic growth without a well-developed capital market and a supportive macroeconomic environment.

In conclusion, attracting foreign investment remains relevant to Nigeria's economic development, but its contribution depends on the stability of the financial system, the cost of borrowing, and the effective mobilisation of investment funds. Nevertheless, since the estimated model examined aggregate foreign portfolio investment rather than foreign equity investment and debt securities separately, further estimation is required to establish the individual effects of these two investment components on Nigeria's economic growth.

Based on the results, the following recommendations were made for policy formulations and implementation

i. The Federal Government and relevant capital market regulators should strengthen the Nigerian capital market through transparent regulations, effective investor protection, and improved market confidence.

- ii. The Central Bank of Nigeria should pursue a balanced monetary policy that maintains price and exchange rate stability while avoiding unnecessarily high borrowing costs. A stable and predictable macroeconomic environment can also help strengthen foreign investors' confidence.
- iii. Policymakers should develop strategies to attract more stable, productive foreign investment and improve the capacity of the economy to channel investment funds into productive activities.

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