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Influence of Foreign Portfolio Investment in Equities on Inclusive Growth in Nigeria: An Autoregressive Distributed Lag Model Approach

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Abstract

The expansion of the capital market in Nigeria has faced significant challenges that impede its role in fostering inclusive growth. Despite various reforms and initiatives aimed at strengthening the capital market, the value of foreign portfolio investment in equities has not significantly translated into improving inclusive growth in Nigeria. This study examined the effect of foreign portfolio investment in equities on inclusive growth in Nigeria from 1986-2024. The variables employed were inclusive growth (dependent variable), value of foreign portfolio investment in equities (dependent variable), and interest rate and exchange rate (control variables). Data were obtained from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and World Development Indicators (WDI). The study utilized ex post facto quantitative research design. Augmented Dickey-Fuller (ADF) and Phillip Pearons (PP) unit root tests were conducted and the results established a mixed-order of integration (order (0) and (1) and hence the use of Autoregressive Distributed Lag (ARDL) model. The estimated ARDL results showed that the value of foreign portfolio investment in equities (VFPI) had a negative (-0.001638) and statistically significant impact on inclusive growth in the short-run and likewise a negative (-5.92E-06) and statistically significant impact on inclusive growth in Nigeria. Interest rate (INTR) impacted positively (0.005107) on inclusive growth in the short-run and statistically significant but in the long-run it had a positive (0.008744) but statistically insignificant impact on inclusive growth in Nigeria. Exchange rate (EXCR) in the short-run had a positive (0.001150) and statistically significant impact on inclusive growth in Nigeria but in the long-run, EXCR had a negative (-0.005927) and statistically significant impact on inclusive growth in Nigeria. The study recommended that the Nigerian government in order to ensure that the value of foreign portfolio investment in new equities impact positively and statistically significant on inclusive growth in Nigeria instead of the negative impact revealed in the study, should be a deliberate effort driven by institutional, regulatory, and market based actors. The federal government should provide the macroeconomic and policy environment, while the CBN ensures monetary and exchange rate stability. Regulatory oversights by the SEC and operational efficiency of the NGX enhance market integrity and liquidity. Additionally, listed firms, intermediaries, and foreign investors should be able to mobilize and sustain capital inflows.

Keywords: Foreign Portfolio Investment, Equities, Inclusive Growth, Nigeria

Introduction

The strength and stability of the financial sector, which includes the money market and capital market, are key factors in an economy's developmental potential to thrive. While the capital market provides long-term capital requirements that promote growth, the money market provides short-term funding for investments. The money market, particularly commercial banks, is expected to supply necessary cash for private investors; yet, they only offer short-term financing, necessitating the existence of institutions capable of providing long-term funding, which banks are ill-equipped to furnish. This implies that private investment, a crucial element of Gross Domestic Product (GDP), will be hindered, potentially leading to diminished growth and underscoring the necessity for capital market development. A key component of the financial system is essential to the expansion and advancement of the economy. The process by which the capital market improves its ability to distribute financial resources to the most productive users is known as capital market development. It facilitates the channeling of long-term savings into productive investments, which is crucial for sustained economic growth (Charles & Eric, 2014). On the other hand, inclusive growth refers to the pace and fair distribution of economic



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growth, which should engage a sizable percentage of the labour force in the country and span a variety of economic sectors. Inclusive growth has become an important goal for many developing economies because economic growth alone does not translate into improved welfare for the citizens. Inclusive growth is multidimensional which involves economic growth that benefits all segments of the society through employment creation, poverty reduction, income distribution and improved access to economic opportunities, and capital market development plays an important role in achieving these dimensions (United Nations Conference on Trade and Development (UNCTAD, 2022). In many developing countries, economic growth has increased overtime; however, a large proportion of the population still experiences poverty, unemployment, and limited access to economic opportunities. This situation raises concerns about whether growth in key sectors of the economy actually benefits the broader economy (Yaroe, 2011). According to UNCTAD (2022), the inclusive growth index focuses on four major pillars which are; economic performance, living conditions, equality and environmental sustainability. Economic performance evaluates growth metrics and analyses whether the growth is equitable and has the tendency to create decent jobs for the citizens in the economy, while the living condition measures improvement in the daily lives of the citizens, including access to services and infrastructures. For the equality pillar, it focuses on the reducing the income and gender inequality disparities and ensuring balance; while the last pillar which is environmental sustainability assesses the ecological impact on economic development of an economy.

The establishment of capital markets allowed modern economies like China, the United States of America (USA), and the United Kingdom (UK) to grow and expand. Capital markets development of these economies is the envy of the world; fueling the financial needs of business from the small enterprises to public companies (Charles & Eric, 2014). The US capital market's dominance, which includes the deepening of its stock, bond, and derivative markets, has enhanced risk and capital allocation across the US economy as a way to promote inclusive growth. Evidence includes the United States' greater returns on capital than other countries, the consistent significant inflows of foreign money into the country, the improved stability of the country's banking system, and the capacity of new businesses to raise capital. However, by raising the productivity growth rate, the development of the capital markets has enabled the economy to operate at a lower unemployment rate, and raised funds for infrastructure, productivity and social protection of citizens. In addition, higher productivity growth has led to faster gains in real wages and bridge the income inequality gap (Dudley & Hubbard, 2004). Known as the Asian Tigers, Hong Kong, Singapore, South Korea, and Taiwan are among the Asian nations that had fast industrialization and economic expansion starting in the 1960s, moving from low-income to high-income economies. The Hong Kong Stock Exchange (HKEX) dates back to 1891 but was renamed in 1914. The HKEX began with 14 listed companies during its establishment and the specific market capitalization at the inception was less than USD 500 thousand and less than 20 Number of equities. With 2600 listed companies and a market capitalization of around USD 4.5 trillion as of 2024, the market has experienced substantial growth, 13,635 numbers of listed securities with diverse (four) equity markets. The HKEX is characterized by its high liquidity, strong regulatory framework and international participation in the purchase of foreign portfolio. Their international listing and market innovation has embraced financial innovations, including the launch of stock connect programs with mainland China, enabling cross boarder trading. China's growth averaged 10% while the poverty rate declined from 66% to 0.7%. Very important to note therefore is the fact that China's capital market development (HKEX) played a strong role as an agent for mobilizing the country's capital for inclusive growth (International Finance Corporation, 2021).

Capital market development involves increasing efficiency and liquidity. This means ensuring that market transactions are executed smoothly and swiftly with minimal costs and with accurate reflection of all available information on securities and prices, diversification of instruments, regulatory framework, market accessibility, financial education and global integration, using the market instrument and components such value of new equities (measure the growth of the primary market) and Foreign Direct Investment in equities (to measure capital market integration to international financial markets). Government funding for infrastructure and private sector company growth depend on the development of capital markets, which also creates good corporate governance and accountability, transparency, wealth creation and distribution, inclusivity, democratization of access to prosperity, and meritocracy (IFC, 2021). Capital market development has the potential to accelerate inclusive growth because of its potential effects on capital accumulation, technological innovation, resource allocation, and productivity growth. It can also mobilize surplus funds into productive investments, create jobs,



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and provide financial services that benefit everyone, including the poor, with the aim of raising everyone's standard of living. One of the major economic issues facing most developing countries in Africa in recent times is how to make economic growth more inclusive. Several countries across the world (especially Africa countries) are growing faster than most of the high-income economies of Europe and North America, but poverty, unemployment, income inequality rates, government effectiveness, access to education, infrastructures and gender inequality have remained high in these regions in the last decade in spite of the continuous economic growth recorded (Adediran, Oduntan & Matthew, 2020). This might not be unconnected with the poor progressive nature of capital markets in these economies. Domestic capital markets are a vital source of stable, sustainable finance and underpin a private sector associated with employment and economic growth. Yet capital markets are underdeveloped across the emerging market, leading to illiquidity, elevated transaction costs, low level of market capitalization and share index. Conversely, inclusive growth refers to a complete decrease in poverty that is linked to the creation of productive jobs as opposed to direct income distribution programs. Achieving the intersection of economic growth and income distribution is necessary for growth to be inclusive. This suggests that a robust inclusive growth strategy will complement capital market policies to stimulate economic growth with those that foster equality of opportunity, alongside a social security net to protect the most vulnerable, therefore, in order to foster social inclusion and equal access to jobs, economic policies that encourage structural change and the creation of productive employment for people (Duisenberg, 1999).

The development of capital markets can be seen as a component of a national strategy to reform financial sectors in many African nations, including Malawi, Kenya, Botswana, Ghana, and Tunisia. This is a crucial component of broader economic restructuring initiatives aimed at promoting increased economic activity, which in turn generates greater levels of wealth and inclusive growth. Accordingly, it is anticipated that stock exchanges will improve the market system for raising and allocating limited financial resources and promoting inclusive growth. According to Akinkuoto (2005), the purpose of capital markets is to draw in foreign investment, mobilize local capital that has lain dormant, and more effectively distribute funds to initiatives that would strengthen and expand the economy. Due to a number of macroeconomic shocks, African nations' economic statistics throughout the late 1970s and early 1980s revealed significant distortions in their economic performance metrics. Unsuitable policy responses to observed economic trends in terms of timing, direction, and magnitude; disequilibrium between rural and urban sectors, which led to rural-urban drift and changes in economic structure; and foreign debt, which caused financial gaps in the implementation of socioeconomic developmental programs. All of these factors undoubtedly led to the adoption of several policy initiatives by the majority of African nations, most notably the Structural Adjustment Programme (SAP), which sought to restore macroeconomic stability and economic expansion. It's interesting to note that widespread economic reforms, including financial sector reform, which heavily relied on the capital market, were intended to support inclusive growth and the real sector (Oluwatosin & Lamin, 2016). Three stocks, six federal government bonds, and ten industrial loans were among the 19 listed assets when the Lagos Stock Exchange debuted on June 5, 1961 (Security and Exchange Commission, 1999). The Lagos Stock Exchange was renamed the Nigerian Stock Exchange (NSE) in 1977. The degree of development of the Nigerian capital market fluctuated between 1999 and 2018, and all of the major indexes had rapid expansion (from 1961 to 1977). There were 286 listed businesses, up from 196, and the market value grew from 300 billion to 13,181.7 trillion naira.

The All-Share Index also jumped from 63,170.3 billion to 585,288.7 billion naira. CBN (2018). Consequently, it is expected that the growing tendency in all major market indices will be reflected in the expansion and development of the Nigerian economy. As anticipated by the structural adjustment program (SAP) in the 1980s, the Nigerian capital market was deregulated in 1993 with the intention of fostering the economy's sustainable growth. In an effort to create a sophisticated market that can work well for inclusive growth and compete favorably with developed international markets, the market has been opened to both domestic and foreign involvement. Over time, the Nigerian capital market has undergone significant reforms. The regulatory framework, market diversification, technological developments, and financial literacy initiatives are some of these reforms. The most recent reform was developed by the Securities and Exchange Commission (SEC) and is known as the Revised Capital Market Master Plan 2015–2025 (RCMMP). The goal of the reform is to provide a strategy for taking advantage of opportunities in order to better position the capital market as the engine of Nigeria's economic growth and development and to drive and facilitate capital raising for sustainable national development and



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transformation of Nigeria's priority economic sectors, thereby effectively contributing to the national economy. The reforms resulted to increase in Gross Domestic Product (GDP) growth rates over a seven-year period (2007-2020) but without a corresponding reduction in unemployment rate which rose to 23.9% in 2012 relative to 13.9% in 2000, with an addition of 1.8 million to the labour pool (CBN, 2020). The inverse correlation between GDP growth rate and employment is dismal. The anomalous growth pattern is counter inclusive and has exacerbated the tragedies of the common man with a high misery index estimated at 48% (CBN, 2020). This is distressful to the economy, stunts inter-generational mobility and poses a threat to national security. Development of the capital market is crucial for inclusive growth in terms of job generation, wealth distribution and infrastructural development, long term investment opportunities, diversifying investment opportunities and encouraging corporate governance and accountability. The expansion of the capital market in Nigeria has faced significant challenges that impede their role in fostering inclusive growth. Despite various reforms and initiatives aimed at strengthening the capital market, several issues persist that limit their effectiveness in driving inclusive growth. The Nigerian capital market suffers from inadequate infrastructure and regulatory frameworks, which undermine investors' confidence and market efficiency. This inadequacy is compounded by political instability and corruption, which further decline trust in the market (Adeniyi, 2018). Without a robust regulatory framework and environment, market manipulations and frauds are prevalent, discouraging both local and foreign investors.

One significant problem is the limited participation of small and medium-sized businesses (SMEs) in the capital market. Nigeria's economy is based primarily on SMEs, contributing significantly to employment and GDP (Yahaya, 2014). However, these enterprises often face strict listing requirements and high costs of compliance which restrict them from accessing the capital market funding. The exclusion of a small group of significant corporations limits the advantages of the capital market and the overall expansion of the economy. The Nigerian capital market is inherently vulnerable due to its high susceptibility to exogenous shocks, such as fluctuations in the world oil price; investor sentiment and the market's ability to raise long-term capital are both negatively impacted by the market instability. In Nigeria, although GDP has recorded significant growth over the years, indicators of inclusive growth have not improved proportionately. For instance, GDP increased from \$270 billion dollars in 2000 to over \$477 billion dollars in 2022, yet poverty, unemployment and income inequality remain high (CBN, 2024). This suggests that the benefits of growth are not evenly distributed across the population, leading to decline or stagnation in key inclusive growth indicators. It is on this premise that the study investigated the effect of foreign portfolio investment on inclusive growth in Nigeria from 1986-2024. The paper has been structured into six sections with the introduction as section one. Section two is the literature review and section three covered the methodology of the study. Section four covered the results and discussion; section five dealt with the discussion of findings and section six covered the conclusion and policy recommendations.

Literature Review

Conceptual Review

Foreign Portfolio Investment

Foreign portfolio investment covers transactions and positions involving debt or equity securities, other than those included in direct investment or reserve assets. Central Bank Nigeria (2024) compiles FPI using 5 SEC forms that track foreign holdings, cross-border trades, and ownership of Nigerian bonds/companies. For equity, they use the IMF 10% threshold: "Foreign direct investment are the net inflows of investment to acquire a lasting management interest. Portfolio equity includes net inflows from equity securities other than those recorded as direct investment and including shares, stocks, depository receipts (American or global), and direct purchases of shares in local stock markets by foreign investors. Foreign portfolio investment (FPI) investors take ownership without control of firms in the host country, FDI investors obtain both ownership and control positions FPI implies no "hands-on management." FDI investors get refined info about firm productivity; FPI investors don't. This creates a lemon problem for FDI resale but makes FPI more liquid (Goldstein, Razin, 2006). Foreign portfolio investment contributions to market development, integration, and cost of capital focuses specifically on foreign portfolio equity investments and financial liberalization (Errunza, 2001) Foreign portfolio equity investment (PEI) in total foreign equity investment, which includes both PEI and foreign direct investment (FDI). Higher reserves reduce exchange rate risk raise FPI relative to FDI (Qian & Steiner, 2013).



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Inclusive Growth

Inclusive growth is a relatively recent idea in the literature, as a result of this; it has not been unanimously defined, given the evolutionary dimension of growth in the last few years. A commonly used definition, by the WBG (2020) however is that, as opposed to direct money distribution programs, inclusive growth is the complete elimination of poverty linked to the creation of productive jobs. It ought to take into account the growth's pattern and rate. Achieving the intersection of economic development and income distribution is necessary for growth to be inclusive. Inclusive growth is a distinct concept from economic growth. The current emphasis on inclusive growth stems from a recognition that prioritising economic growth alone cannot meet the development needs of poor people, as it fails to address issues such as inequality and unemployment. Rather than a focus on rapid growth alone, the term inclusive growth refers to both the rate and the pattern of growth, which are thought to be related and should be addressed together (World Bank, 2009). When the wealth gap narrows and the "growth dividend" is distributed more fairly, it leads to "improvements in living standards and outcomes that matter for people's quality of life (good health, jobs and skills, clean environment, community support) Organization for Economic Cooperation and Development (OECD, 2012). The World Bank (2009) defines inclusive growth as the absolute poverty reduction linked to the development of productive jobs as opposed to direct income transfer programs. Both the rate and the pattern of growth should be considered in inclusive growth since they are seen to be related and should be handled jointly. This means that, growth pattern and pace are adequate to help many people escape poverty and include the majority of the nation's workforce into the economy. The International Policy Centre for Inclusive Growth (IPC-IG, 2018) emphasizes engagement so that individuals actively participate in the wealth process and have a voice in how that process is directed, in addition to participating in the advantages of growth. A welfarist strategy or a straightforward emphasis on redistribution is opposed with inclusive growth. Growth that is inclusive is achieved by expanding opportunities and enhancing access to them. The Catholic Agency for Overseas Development (CAFOD, 2014) states that inclusive growth guarantees that all people can take part in the growth process, both in terms of making decisions about how to organize the growth progression and in the actual growth. Conversely, it ensures that the advantages of growth are distributed fairly to all. Participation and benefit sharing are prerequisites for inclusive growth. Growth will be unfair if some other segment of the economy is being marginalized.

Theoretical Review

Gurley and Shaw (1960) propounded the Financial Intermediation theory. The theory posited that, financial intermediaries such as banks, capital market, insurance companies and other formal financial institutions, act as conduits between surplus unit (those with excess funds) and deficit unit (those in need of funds for investment). By bridging this gap, intermediaries reduce the costs and risks associated with direct financial transactions thereby channelling savings into productive investments that benefit a broader segment of society. The theory assumes that financial markets are imperfect with high transaction costs, asymmetric information and risk aversion among savers. Secondly, intermediaries exist to improve efficiency, channelling more savings into productive investment than would occur without them. And lastly, effective intermediaries promote economic growth, which can subsequently lead to more equitable and inclusive growth (Romer, 1990). FIT operate through several mechanism, among which are: savings mobilization, transaction cost, risk diversification, credit allocation, interest rate spread, and financial depth. One of the major contributions of financial intermediation theory lies in its explanation of information asymmetry problem is solved. It suggests that, borrower shave better knowledge of their own investment projects and risk profile than lenders, creating uncertainty and increasing the likelihood of adverse selection or moral hazard in financial markets. Financial intermediaries mitigate this challenge by assessing credit worthiness, monitoring borrower's behaviour and providing credible information to savers. This ensures that funds are allocated efficiently to projects with the highest potentials returns, enhancing overall economic productivity. In addition to information asymmetry, financial intermediaries reduce transaction costs inherent in financial market. Financial intermediaries enable resources to flow to both large enterprises and smaller sectors, enhancing equitable access to capital, entrepreneurship and employment opportunities (Nwokwo & Okoye, 2013). Capital markets are critical financial intermediaries, they provide equity and debt financing, enabling innovation and entrepreneurship (Schumpeter, 1911). In Nigeria, well-functioning capital market have been shown to increase access to funds for productive investment, contributing to job creation, poverty reduction, and social inclusion (Ozegbe *et al.*, 2023)



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Empirical Review

Dang and Wu (2024) analyzed the distribution of inequality and the stock market, using data from the G7 and BRICS nations. By using the Gini coefficient and wealth inequality (wealth distribution by income groups) to examine how three stock market indicators market accessibility (market capitalization), market efficiency (turnover ratio), and stability (return volatility) affect income in the BRICS and G7 nations. The Autoregressive Distributed Lag-Mixes data sampling model was used in the study, and it was discovered that the only way to minimize income disparity is to improve market stability. Additionally, increasing market accessibility also helps to reduce wealth inequality. Wealth disparity increases with improved market stability, as is commonly seen in the G7 and BRICS nations. Accordingly, the study discovered that top incomes gain more from an improvement in stock market stability than does the lowest income group. Additionally, by enhancing the wealth distribution of the population in lower income groups and decreasing the wealth distribution of top earners, market accessibility increases help to lessen wealth gap in the BRICS nations. Lastly, the study discovered a small impact of stock market indices on the distribution of wealth in the G7 nations, suggesting that the stock market is not a major contributor to the wealth gap in the developed world. Serkan (2023) investigated the role of macroeconomic factors in explaining Turkish stock returns. He employed macroeconomic factor model from the period of July 1997 to June 2022. The macroeconomic variables considered were growth rate of industrial production index, change in consumer price index, growth rate of narrowly defined money supply, change in exchange rate, interest rate, growth rate of international crude oil prices and return on the MSCI World Equity Index. He found that exchange rate, interest rate and world market return seem to affect all of the portfolio returns, while inflation rate is significant for only three of the twelve portfolios. Also, industrial production, money supply and oil prices do not appear to have significant effect on stock returns in Turkey.

Abubakar (2024) examined the impact of FPI on inclusive growth in Nigeria from 1986 to 2023. FPI, exchange rate and inflation were used as the independent variables. OLS and granger causality techniques were used to analyze data that were obtained from CBN statistical bulletin. The result of the granger causality test showed that FPI has positive granger causes GDP but GDP does not granger cause FPI. The regression analysis showed that FPI has positive and significant impact on GDP. These results suggests that policy makers should aim to attract more FPI into the country, while also implementing policies to control inflation and maintain stable exchange rate. Nnajieze (2024) examined the impact of FPI on poverty reduction in Nigeria, with a focus on achieving sustainable development goals one (SDG 1), from 1985 to 2023. The study examined the long-term relationship between FPI and poverty head count ratio, taking into account other external financial inflows like Foreign Direct investment, remittances, and official development assistance. Using ARDL method of analysis, the study found that while FPI showed a non-significant positive impact on poverty headcount ratio, it may contribute to poverty reduction using employment creation. The study also suggested that government regulations have a way of attracting FPI. This can be achieved through creating a stable economic environment, developing infrastructures and building partnership with foreign investors. Ishioro and Taruhor (2023) examined the impact of capital market performance on inclusive growth in Nigeria. Time series data were obtained from CBN bulletin and were analysed using regression estimation technique, and the stock market performance indicators used were market capitalization, value of new issues, and value of shared traded, while poverty reduction was used as proxy for inclusive growth Nigeria. The result showed that both market capitalization and value of new issues have a positive relationship with inclusive growth while value and volume of shares traded has negative relationship with inclusive growth in Nigeria. It was therefore recommended that the stock market should be made more liquid in order for turnover rate to increase. This will boost investors' confidence and awareness and would make funds available for long-term development of the economy thereby reducing poverty and foster inclusive growth in the economy.

Research Methodology

The study adopted ex-post-facto research design using econometric model to determine the effect of value of foreign portfolio investment in equities on inclusive growth in Nigeria spanning from 1986-2024. The study adopted ex-post-facto research design where econometric models were employed in analyzing the data sourced. Ex-post facto research design relied on historical facts that already existed. The choice of ex-post-facto research design for the study was informed by the fact that historically, data on variables of interest for the study existed and the data could be sourced from official institutions or organizations (Sekaran & Bougie, 2013). Ex-post-facto research design identified the independent and the dependent variables because the presumed cause had already occurred Kothari (2004). This implied that the researcher



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could investigate or predict the impact of the ‘presumed cause’ of independent variable(s) on dependent variable based on *a priori* expectations. The sign of the *a priori* expectation could be positive or negative and may be statistically significant or insignificant. Thus, this study investigated the impact of market capital development on inclusive growth in Nigeria from 1986-2024. The data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins, National Bureau of Statistics (NBS) publications and World Development Indicators (WDI) publications. Augmented Dickey-Fuller (1987) and Phillips-Perron (1988) unit root tests were conducted to avoid spurious results. Phillips-Perron unit root test measures both the mean and variance of time series data. Econometric technique of data analysis used was Autoregressive Distributed Lag (ARDL) model. The techniques chosen agreed with Augmented Dickey-Fuller and Phillips-Perron unit root tests results obtained. The justification for the use of ARDL econometric technique was based on the choice of variables of interest for objectives of the study. The variables of the study are presented in table 1.

Table 1
Types and Sources of Data

	Variables Acronym	Meaning as used in this Study	Types of Variable	Unit of Measurement	Expected Sign	Data Source
1	INCG	Inclusive Growth	Dependent	Percent	(+)	WDI
2	VFPI	Value of FPI in Equities	Independent	₦ Billion	(+)	NBS
3	INTR	Interest Rate	Independent	Percent	(-)	CBN
4	EXCR	Exchange rate	Independent	Percent	(-)	CBN

Source: World Development Indicators, (2025)

Model Specification

The study adopted the Financial Intermediation Theory. This is justified on the basis that the theory explained the theoretical framework that supported the relationship between value of foreign portfolio investment in equities and inclusive growth. The model for the study is specified as:

$$INCG = f(VFPI, INTR, EXCR) \tag{1}$$

Equation 2 is the econometric function of the model 1.

$$INC = \phi_0 + \phi_1 \lg VFPI - \phi_2 \lg INTR - \phi_3 \lg EXCR + \mu t \tag{2}$$

The *a priori* expectation based on theoretical postulation was that increase in VFPI will lead to increase in inclusive growth (INCG in Nigeria while increase in INTR, and EXCR will lead to decrease in INCG. The *a priori* expectations are; ϕ_0 , and $\phi_1 > 0$ while ϕ_2 and $\phi_3 < 0$.

Where:

INCG = Inclusive Growth

VFPI = Value of Foreign Portfolio Investment in Equities

INTR = Interest Rate (control variable)

EXCR = Exchange Rate (control variable)

Model Estimation

The Autoregressive Distributed Lag (ARDL) model is appropriate for the estimation of the model because of the mix order of integration of the variables. The generic ARDL model proposed by Perasan and Shin (1999) is expressed as:

$$\Delta Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_t + \beta_3 X_{t-1} + \beta_4 Z_t + \beta_5 Z_{t-1} + \sum_{i=1}^p \delta \Delta X_{t-1} + \sum_{i=1}^p \lambda \Delta Y_{t-1} + \sum_{i=1}^p \psi \Delta Z_{t-1} + \epsilon_t \tag{1}$$

Where:

Y is the dependent variable (it is a function of its own lag value and other variables),

β_0 is the slope parameter,

X and Y are the dependent variables,

$\beta_1, \beta_2,$ and β_3 are the long-run parameter estimates,

$\delta, \lambda,$ and ψ are the short-run parameter estimates and ϵ_t is the error term.

The mathematical function of the Autoregressive Distributed Lag (ARDL) is expressed as:

$$\Delta \ln INCG_t = \alpha_0 + \alpha_1 \ln INCG_{t-1} + \alpha_2 \ln VFPI_t + \alpha_3 \ln VFPI_{t-1} + \alpha_4 \ln INTR_t + \alpha_5 \ln INTR_{t-1} + \alpha_6 \ln EXCR_t + \alpha_7 \ln EXCR_{t-1} + \sum \phi \Delta \ln INCG_{t-1} + \sum \beta \Delta \ln VFPI_{t-1} + \sum \lambda \Delta \ln INTR_{t-1} + \sum \partial \Delta \ln EXCR_{t-1} + \mu_t \tag{2}$$



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INCG = Inclusive Growth

VFPI = Value of Foreign Portfolio Investment in Equities

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EXCR = Exchange Rate (control variable)

Where:

α_0 is the intercept parameter and $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6,$ and α_7 are the long-run coefficients of parameter estimates. The *a priori* expectations are; α_1, α_2 and $\alpha_3 > 0$ while $\alpha_4, \alpha_5, \alpha_6,$ and $\alpha_7 < 0$. Note that $\phi, \beta, \lambda,$ and δ are the coefficients of the short-run parameter estimates of the ARDL model.

Presentation of Results

Pre-Estimation Test

Unit Root Results

The stationarity properties of the variables included in the model were tested using Augmented Dickey-Fuller (ADF) and Philips-Perron unit root tests as presented in Table 2.

Table 2

Augmented Dickey-Fuller (ADF) and Philips-Perron Unit Root Tests Results

Variables	ADF		PP		Order of Integration
	At Level P-value	1 st Difference P-value	At Level P-value	1 st Difference P-value	
INCG	0.3892	0.0000**	0.4201	0.0000**	I(1)
VFPI	0.0371**	0.0000**	0.0291**	0.0000**	I(0)
INTR	0.0025**	0.0000**	0.0023**	0.0000**	I(0)
EXCR	0.9994	0.0004**	0.9999	0.0004**	I(1)

**Denotes significant at 5% level

Source: Authors' Computation (2026) using E-views12

Table 2 presented Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) unit root tests results of the variables used in this study. The null hypothesis for ADF time series data is that it has no unit root or it is not stationary. On the other hand, the null hypothesis for PP is that the time series is trend stationary. The tests were conducted at level, order I(0) and at first difference, order I(1) and the asterisk symbol (**) indicated level of significance at 5%.

Autoregressive Distributed Lag (ARDL) Results

The results of the estimated short-run and long-run Autoregressive Distributed Lag Model are presented in Table 3.

Table 3

Dependent Variable: Inclusive (INCUG)

Autoregressive Distributive Lag (ARDL) Results of Model 3

Variable	Coefficient	SHORT-RUN		
		Std. Error	t-Statistic	P-value
Constant	-0.403183	0.279193	-1.444101	0.1584
D(INCG)(-1))	-0.365910	0.122012	-2.988965	0.0052**
D(VFPI)	-0.001638	0.002436	-0.672242	0.0004**
D(INTR)	0.005107	0.010130	0.5041461	0.7542
D(EXCR)	0.001150	0.000927	1.240448	0.0119**
D(VFPI)	-1.15E-06	6.29E-07	-1.823254	0.0776
ECT-1	-0.365910	Durb-Wat. Stat	2.413523	
R ²	0.954485	Adjusted R ²	0.947373	
LONG-RUN				
Constant	-1.101866	0.633846	-1.738380	0.0918
VFPI	-5.92E-06	1.91E-06	-3.105829	0.0040**
INTR	0.008744	0.027377	0.319375	0.7515
EXCR	0.005927	0.000872	6.795562	0.0000**

** indicated 5% significance level

Source: E Views 12



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The result of the ARDL short-run was presented in Table 3. The coefficient of the constant was negative (-0.403183), wrongly signed and statistically insignificant at 5% ($P = 0.1584$). This implied that if all the study's variables were held constant, inclusive growth (INCG) decreased by the same value. The coefficient of inclusive growth ($D(INCG) (-1)$) was positive (-0.365910), wrongly signed and statistically significant at 5% significance level ($P = 0.0052$). The negative and statistically significant coefficient of inclusive growth implied that in the short-run, the value of $D(INCG)(-1)$ in the previous year decreased INCG in the current year by 36.6%. The coefficient of value of foreign portfolio investment in equities was negative (-0.001638) and wrongly signed but statistically significant at 5% significance level ($P = 0.0004$). The negative and statistically significant coefficient of value of foreign portfolio investment in equities implied that in the short-run, a unit increase in VFPI led to decrease in INCG by 0.16% during the study period.

The coefficient (0.005107) of interest rate (INTR) related positively to INCG and statistically insignificant at 5% insignificance level ($P = 0.7542$). This did not meet the *a priori* expectation of a negative sign. It implied that in the short-run when INTR increased by a unit, INCG increased by 0.51% during the period under review. The coefficient of exchange rate (0.001150) was positive, wrongly signed and statistically insignificant at 5% significance level ($P = 0.0119$). The positive and statistically insignificant coefficient of exchange rate implied that in the short-run, a unit increase in EXCR led to increase in INCG by 0.12% within the period of study. This contradicted the *a priori* economic theory of a negative sign and the activities of the black marketers in the foreign exchange market was responsible for this result.

The coefficient of the ECT_{-1} was negative (-0.365910) and correctly signed. This indicated a slow but responsive economic system where short-run dynamics or variations were corrected slowly, leading to a stable long-run equilibrium relationship among the variables in the model. It suggested that the system slowly absorbed shocks and returned to its long-run equilibrium state. The speed of adjustment from short-run to long-run equilibrium would be corrected by 36.6%. The ARDL long-run results in Table 3 showed that the coefficient of the intercept was negative (-1.101866) and statistically insignificant at 5% significance level ($P = 0.0918$). The negative and statistically insignificant coefficient of the intercept implied that if all the variables were held constant, inclusive growth (INCG) decreased by 1.101866 during the period under review. The estimated ARDL long run results showed the coefficient (-5.92E-06) of value of foreign portfolio investment in equities (VFPI) related negatively to INCG and statistically significant at 5% significance level ($P = 0.0040$). This implied that in the long-run a unit increase in VFPI led to decrease in INCG by -5.92E-06% during the study period. The coefficient of INTR (0.008744) related positively to INCG and was wrongly signed but statistically significant at 5% significance level ($P = 0.7515$). The positive and statistically significant coefficient of interest rate implied that in the long-run a unit increase in INTR increased INCG by 0.87% within the study period. This did not align with the *a priori* expectation of a negative sign. The coefficient of exchange rate (-0.005927) was negative and statistically significant at 5% significance level ($P = 0.0000$). The negative and statistically significant coefficient of EXCR indicated that in the long-run, a unit increase in EXCR led to decrease in INCG by 0.59% during the study period. This negated the *a priori* expectation of a negative sign. The coefficient of determination ($R^2 = 0.954485$) implied that 95% variation in the dependent variable (INCG) was accounted for by the independent variables (VFPI, INTR, and EXCR). The adjusted R^2 was 0.947373 and this showed that the model was well fitted and can be relied upon for policy recommendations.

Diagnostic Test Results

The results of the diagnostic tests are presented in Table 5.

Table 5

Diagnostic Test Results for Model 3

Test	F(stat)	Prob.
Serial Correlation Test /Breush-Godfrey LM Test	3.168196	0.0849
Heteroskedasticity Test /Breush-Pagan Godfrey Test	0.795422	0.5610
Specification Error Test /Ramsey Reset Test	0.015058	0.9031

Source: Authors' Computation (2026) using E-views12

The p-value (0.0849) of the serial correlation test presented in Table 20 is greater than the typical significance level of 0.05. The null hypothesis was accepted that there was no serial correlation in the residuals. The p-value (0.5610) of heteroskedasticity test was greater than 0.05 and thus, the null hypothesis was accepted that the variance of the residuals



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was constant. The Ramsey Reset test was used to detect non-linear relationships between the dependent variable and the independent variables. The p-value (0.9031) was found to be greater than the significance level of 0.05, and therefore, the null hypothesis of misspecification was rejected. This showed that the model was not mis specified and the relationships between the variables were adequately captured by the linear specification. The CUSUM stability test is presented in figure 1.

Stability Test Result

The result of the CUSUM stability test is presented in figure 1.

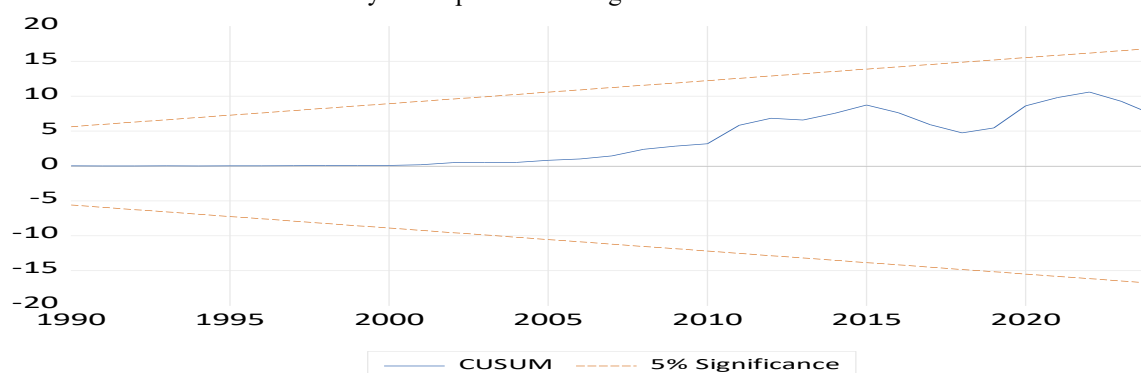


Figure 1: CUSUM Stability Test

Figure 1 presented the CUSUM stability of the impact of the value of foreign portfolio investment in equities on inclusive growth in Nigeria. The CUSUM was within the required region of 5% and this showed that the impact of the value of foreign portfolio investment in equities on inclusive growth in Nigeria was stable under the period of review.

Discussion of Findings

The ARDL short-run results revealed that inclusive growth (INCG) in the past year had a positive and statistically significant impact on INCG in the current year in Nigeria. This implied that the past values of INCG were used to interpret its current values. This was due to the relevance of value of foreign portfolio investment in equities (VFPI) as a component of capital market development. The finding of the study established that in the short-run, value of foreign portfolio investment in equities had a negative and significant impact on INCG in Nigeria. This indicated that increase VFPI led to decrease in INCG in Nigeria during the study period. The finding of a negative impact of VFPI on INCG was in consonance with the study of Dang and Wu (2024) but it contradicted the findings of the study conducted by Abubakar (2024). The finding of the study revealed that in the short-run interest rate (INTR) impacted positively on INCG in Nigeria and it was statistically insignificant. This showed that an increase in INTR led to decrease in INCG during the period of this study. This implied that the effort made by the monetary authority in ensuring that interest rates were regulated and reduced, made funds accessible to investors in the capital market and this had a direct effect of improving inclusive growth in Nigeria during the period of this study. The finding of a positive impact of INTR on INCG agreed with the study carried out by Ishioro and Taruhor (2023) and Dang and Wu (2024). The finding of the study revealed that in the short-run exchange rate (EXCR) impacted positively on INCG in Nigeria but it was statistically significant. This showed that an increase in EXCR led to decrease in INCG during the period of this study. The finding of a negative impact of EXCR on INCG agreed with the study carried out by Nnajeze (2024).

The finding from the estimated ARDL long-run results established that the value of foreign portfolio investment in equities (VFPI) related negatively to INCG and statistically significant. This finding was attributed to the effort made by the monetary authority in collaboration with financial institutions towards developing the capital market and strengthening its capital base. The finding of a positive impact of VFPI on INCG agreed with the study carried out by Abubakar (2024) but it contradicted the finding of the study conducted by Serkan (2023). The finding of the study revealed that in the long-run, interest rate (INTR) had a positive and statistically significant impact on inclusive growth in Nigeria. The policy implication of this finding was that increase in the interest rate charged on loanable funds in the capital market aided decrease in inclusive growth in Nigeria during the study period. Also, the finding of the study showed that in the long-run, exchange rate (EXCR) had a negative and statistically significant impact on inclusive growth in Nigeria. The finding's implication



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was that despite the volatility of the exchange rate in Nigeria, a decrease in exchange rate led to significant increase in inclusive growth. This finding corroborated with the study conducted by Nnajieze (2024).

Conclusion

The paper examined the effect of the value of foreign portfolio investment in equities in Nigeria. Time series data that covered the period from 1986-2024 were utilized. Autoregressive Distributed Lag (ARDL) econometric technique of data analysis was employed in the estimation of the specified model. The results of the study indicated that value of foreign portfolio investment in equities had a negative and statistically significant impact on inclusive growth in Nigeria during the period of this study. The study concluded that there was insufficient investment in foreign portfolio equities and hence its negative effect on inclusive growth in Nigeria.

Policy Recommendations

The study recommended that

1. The Nigerian government in order to ensure that the value of foreign portfolio investment in new equities impact positively and statistically significant on inclusive growth in Nigeria instead of the negative impact revealed in the study, Thus, there should be a deliberate effort driven by institutional, regulatory, and market-based actors.
2. The federal government should provide the macroeconomic and policy environment, while the CBN ensures monetary and exchange rate stability.
3. Regulatory oversights by the SEC and operational efficiency of the NGX enhance market integrity and liquidity.
4. Additionally, listed firms, intermediaries, and foreign investors should be able to mobilize and sustain capital inflows. Therefore, a conducive environment with macroeconomic stability, regulatory clarity, political stability and market liquidity, couple with good governance, open policies and investors' education are essential to robust business environment that is attractive to foreign portfolio investors.

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