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Impact of capital market performance on foreign portfolio investment in Nigeria

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Abstract: This study investigates the impact of capital market performance on foreign portfolio investment (FPI) in Nigeria, analyzing key market indicators including the All Share Index (ASI), market capitalization (MCAP), volume of trade (VOT), value of shares traded (VST), and exchange rate (EXR) over the period 1987–2023. Employing an ex post facto research design and time-series data analyzed through econometric techniques such as stationarity testing and regression analysis in EViews, the study reveals significant positive relationships between ASI, MCAP, VOT, and FPI, while VST exhibits a negative association. Exchange rate fluctuations also significantly influence FPI inflows, albeit with lesser strength. The model demonstrates a strong explanatory power with an adjusted R-squared of 0.985, confirming the robustness of the findings. Results support theoretical perspectives including the Efficient Market Hypothesis and Portfolio Theory, highlighting that market size, liquidity, and performance are critical drivers of foreign investment inflows. Policy recommendations emphasize the need to enhance regulatory frameworks, improve market liquidity, strengthen investor education, and maintain exchange rate stability to attract and retain foreign portfolio capital. These measures are vital for deepening Nigeria's capital market operations and fostering sustainable economic growth.

Keywords: *All share index, Capital market, Foreign portfolio investment.*

1. Introduction

Capital markets are essential engines for economic development, particularly in emerging economies where financial intermediation often faces structural constraints. They facilitate the mobilization of savings, efficient allocation of resources, and diversification of investment opportunities. In the Nigerian context, the capital market's ability to attract foreign portfolio investment (FPI) has garnered significant attention due to the potential of these inflows to enhance market liquidity, improve corporate governance, and foster integration with global financial networks [1]. FPI is especially critical in Nigeria's financial ecosystem as it supplements limited domestic capital, contributes to the broadening of the investor base, and supports economic diversification efforts. Consequently, understanding how capital market development influences the volume and stability of FPI is vital for designing policies aimed at sustaining financial sector growth and overall economic advancement.

Over the last two decades, Nigeria's capital market has undergone a series of reforms intended to improve its structure, transparency, and regulatory environment. Initiatives such as the introduction of electronic trading platforms, enhanced disclosure requirements, and strengthened investor protection mechanisms have been central to these efforts [2]. These reforms have coincided with increased participation by foreign investors attracted by the promising returns and Nigeria's status as Africa's largest economy. However, the relationship between capital market development and FPI inflows remains complex and somewhat paradoxical. Improved market capitalization and liquidity theoretically signal a robust market environment conducive to foreign investment [3]. Yet, Nigeria's capital market

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continues to experience significant volatility, influenced by macroeconomic instability, exchange rate fluctuations, and political uncertainties that often undermine foreign investors' confidence [4].

Despite the growing body of research focusing on the effects of foreign capital on Nigeria's capital markets, there is relatively limited emphasis on how capital market characteristics themselves influence the scale and persistence of foreign portfolio investment. Some studies, such as those by Araoye [5] and Osuka, et al. [6] report positive correlations between market development indicators and foreign inflows, highlighting that enhancements in market size and liquidity can attract FPI. However, the sustainability of these inflows remains in question, as foreign portfolio investors often exhibit high sensitivity to global risk appetite and domestic economic conditions, responding swiftly to short-term incentives rather than long-term market fundamentals [7]. This points to a significant gap in understanding the bidirectional and dynamic relationship between capital market development and foreign investment flows, especially in economies with shallow financial markets like Nigeria.

Moreover, institutional quality and regulatory effectiveness emerge as critical moderating factors in this relationship. Research by Boboye, et al. [8] indicates that regulatory weaknesses, including enforcement inefficiencies and governance challenges, can deter sustained foreign investment by fostering market volatility and increasing investment risks. These institutional deficiencies may lead to speculative capital inflows that exacerbate market fluctuations, rather than fostering stable growth. Adding to this complexity, Mairafi, et al. [9] demonstrate that external factors—such as monetary policy shifts and risk sentiment in developed economies—significantly influence FPI volumes in Nigeria. This external vulnerability highlights that capital markets in frontier economies are often at the mercy of global financial cycles, necessitating a comprehensive approach that integrates both domestic and international determinants when analyzing FPI dynamics.

In response to these challenges and gaps, this study seeks to provide a thorough examination of the impact of capital market development on foreign portfolio investment in Nigeria. Employing advanced econometric techniques, including Vector Error Correction Models (VECM), the study investigates both the short-term fluctuations and long-term equilibrium relationships between key capital market indicators—market capitalization, liquidity, and turnover—and FPI inflows. The analysis controls for relevant macroeconomic variables such as exchange rate volatility, inflation, and political risk to account for their moderating effects [10, 11]. By adopting this approach, the study aims to clarify whether improvements in capital market infrastructure can sustainably attract foreign portfolio investors, thereby contributing to financial system resilience and economic growth.

This research advances the literature by shifting the analytical focus from how foreign investment affects capital markets to exploring how capital market performance influences foreign portfolio investment. Such a perspective is crucial for emerging economies like Nigeria, where financial markets remain relatively underdeveloped and vulnerable to external shocks. The findings are anticipated to provide actionable insights for policymakers, enabling them to tailor reforms that enhance market stability and investor confidence. Ultimately, this study contributes to the ongoing discourse on financial globalization, market liberalization, and sustainable economic development in frontier markets.

Understanding the mechanisms through which Nigeria's capital market can attract and retain stable foreign portfolio investment is critical in today's context of heightened global financial volatility and economic uncertainty. By clarifying these relationships, this study aims to support policy frameworks that promote robust capital markets, mitigate risks, and harness foreign investment for inclusive economic progress. In doing so, it reinforces Nigeria's strategic goal of establishing a competitive, resilient financial sector that can serve as a foundation for long-term development.

2. Literature Review

2.1. Theoretical Review

2.1.1. Efficient Market Hypothesis (EMH)

The Efficient Market Hypothesis (EMH), pioneered by Fama [12] posits that financial markets are informationally efficient, meaning that security prices at any time fully reflect all available information.

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EMH classifies market efficiency into three forms: weak, semi-strong, and strong, each representing the degree to which historical, public, and private information are incorporated into asset prices, respectively [12, 13]. In highly efficient markets, abnormal returns are unattainable as prices adjust instantaneously to new data [14]. This theory is fundamental in explaining investor behavior, particularly foreign portfolio investors who rely on timely and accurate market information to optimize portfolio allocation decisions [15].

In the context of emerging markets like Nigeria, EMH offers a valuable framework for understanding how capital market development affects foreign portfolio investment (FPI) flows. Efficient markets reduce information asymmetry and transaction costs, which are critical considerations for foreign investors evaluating risks associated with frontier economies [3, 16]. Empirical studies suggest that improved market efficiency, as reflected in liquidity and transparency, enhances foreign investor confidence and capital inflows [1, 2]. Nonetheless, evidence indicates that Nigerian capital markets display varying degrees of inefficiency, attributable to factors such as regulatory lapses, insider trading, and limited market depth, which may impede the full realization of EMH's principles [6, 8].

These inefficiencies increase investment risk perceptions among foreign investors, potentially deterring sustained FPI inflows. Therefore, EMH not only explains the theoretical linkage between market efficiency and FPI but also underscores the imperative for reforms aimed at enhancing informational transparency and market integrity to attract and retain foreign capital in Nigeria [11, 17].

2.2. Modern Portfolio Theory (MPT)

Modern Portfolio Theory (MPT), introduced by Markowitz [18] revolutionized investment management by formalizing the risk-return trade-off and advocating portfolio diversification to optimize expected returns for a given risk level. The theory posits that investors construct portfolios comprising assets with varying correlations to minimize risk while achieving target returns [19]. This diversification principle is particularly relevant for foreign portfolio investors who seek to manage exposure across different markets and asset classes [20].

Applying MPT to Nigeria's capital market, the theory suggests that foreign investors are attracted to markets offering diverse, liquid assets that improve their global portfolio efficiency [21]. However, the Nigerian capital market historically suffers from limited asset class variety, sectoral concentration, and low liquidity, which constrain its ability to meet the diversification needs of international investors [1, 6]. Moreover, macroeconomic risks such as currency volatility and political instability further complicate the risk-return profile, elevating the cost of investment [4, 7].

Consequently, MPT highlights the critical role of capital market development initiatives that expand market breadth, improve liquidity, and reduce systemic risk to enhance Nigeria's attractiveness to foreign portfolio investors [17, 22]. This theory underlines the importance of structural reforms that foster market depth and broaden investment opportunities, enabling Nigeria to integrate more effectively into global financial markets [11].

2.3. Information Asymmetry Theory

Information Asymmetry Theory, rooted in the seminal work of Akerlof [23] and later formalized in financial markets by Stiglitz and Weiss [24] examines how unequal access to information among market participants can lead to adverse selection and moral hazard, impairing market efficiency. In the context of capital markets, information asymmetry manifests when investors have incomplete or inaccurate knowledge about investment risks, company fundamentals, or regulatory environments [25, 26]. This phenomenon is particularly pronounced in emerging economies where disclosure standards and enforcement are often weak [27].

For Nigeria, information asymmetry remains a significant barrier to attracting and sustaining foreign portfolio investment. Foreign investors face challenges in accessing reliable and timely information, which increases perceived risk and requires higher risk premiums [3, 8]. Empirical studies

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indicate that inadequate corporate disclosure, weak enforcement of securities laws, and opaque regulatory practices contribute to market distrust and deter foreign participation [6, 11].

Reducing information asymmetry through improved transparency, enhanced regulatory frameworks, and investor education is essential to increase FPI inflows. The theory suggests that mitigating information gaps decreases transaction costs and risk premiums, thereby fostering a more conducive environment for foreign investors [28, 29]. Hence, Information Asymmetry Theory provides a critical lens for evaluating the Nigerian capital market's capacity to attract foreign portfolio investment by emphasizing the importance of credible information dissemination and regulatory oversight [9, 17].

2.4. Institutional Theory

Institutional Theory, as articulated by North [30] and Williamson [31] emphasizes the role of formal and informal institutions comprising laws, regulations, norms, and governance structures—in shaping economic interactions and outcomes. Strong institutions reduce uncertainty, protect property rights, enforce contracts, and lower transaction costs, which are prerequisites for efficient capital markets and investment inflows [27, 32].

In Nigeria, institutional quality significantly affects the ability of the capital market to attract foreign portfolio investment. Despite regulatory reforms, issues such as corruption, inconsistent enforcement of securities laws, and political instability persist, undermining investor confidence and market development [8, 11]. Empirical evidence suggests that improvements in institutional frameworks correlate positively with capital market performance and FPI, as better governance reduces risk and facilitates capital mobility [10, 16].

Institutional Theory thus supports the notion that capital market reforms must be embedded within broader institutional strengthening efforts to foster sustainable foreign investment. It also explains why capital market development alone may not suffice if accompanied by weak rule of law, poor transparency, and ineffective regulatory agencies [4, 9]. This theory underscores the need for comprehensive policy interventions aimed at enhancing institutional quality as a foundation for attracting and retaining foreign portfolio capital in Nigeria

2.5. Empirical Review

Extensive empirical research has sought to explore the relationship between capital market development and foreign portfolio investment (FPI) in Nigeria, yielding diverse and sometimes conflicting findings. Adumah, et al. [1] examined the nexus between FPI and capital market growth, demonstrating that improvements in market capitalization and liquidity have a significant positive effect on attracting foreign investors. Their panel regression analysis underscored the importance of financial reforms and market infrastructure in reducing information asymmetries and transaction costs. Similarly, Osuka, et al. [6] found that stock market capitalization and turnover ratios were critical determinants of FPI inflows, albeit with caveats regarding the sensitivity of such inflows to macroeconomic shocks and policy uncertainty.

Conversely, studies like Ozili [7] and Araoye [17] present a more nuanced picture, noting that while FPI responds positively to capital market expansion in the short term, these inflows tend to be volatile and prone to rapid reversals, particularly during periods marked by exchange rate fluctuations and heightened political risk. Ozili [7] specifically highlights the adverse effects of currency depreciation and repatriation risk on foreign investor confidence, which often undermines the stabilizing role that capital markets are expected to play. These findings align with Osuka, et al. [6] observation that exchange rate volatility significantly moderates the relationship between capital market performance and foreign portfolio inflows.

Institutional quality and regulatory environment emerge as fundamental moderating variables. Boboye, et al. [8] demonstrated that regulatory effectiveness, investor protection, and enforcement of market rules critically influence the volume and stability of FPI inflows. They found that despite

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improvements in market infrastructure, weaknesses in governance and regulatory enforcement deter long-term foreign investment. This perspective is supported by Dada and Abanikanda [11] who noted that institutional fragility undermines the efficacy of capital market reforms and hinders the retention of foreign capital.

Further, empirical evidence reveals that global financial cycles play a pivotal role in shaping FPI flows to Nigeria. Mairafi, et al. [9] showed that monetary policy changes and risk aversion shifts in advanced economies result in significant volatility in capital flows to Sub-Saharan Africa, including Nigeria. This exposure to global financial conditions complicates efforts to foster stable foreign portfolio inflows solely through domestic capital market development. Nwisienyi and Okaro [10] reinforced this view, emphasizing the need for macroeconomic stability and robust institutional frameworks to complement capital market reforms.

Several empirical methodologies have been employed in analyzing these dynamics. Okafor, et al. [2] applied Vector Error Correction Models (VECM) to explore the long-run and short-run causal interactions between market capitalization and FPI. Their study confirmed bidirectional causality but also identified vulnerability to external shocks and policy inconsistencies. Likewise, Araoye [17] used autoregressive distributed lag models to demonstrate the short-term sensitivity of FPI to macroeconomic fluctuations and institutional weaknesses in Nigeria.

Despite these contributions, the literature reveals divergent findings on the sustainability and determinants of FPI. Some authors emphasize the primacy of capital market development as a driver of FPI [1, 6] while others point to broader macroeconomic and institutional factors as more decisive [8, 9]. This divergence signals a critical research gap regarding the integrated influence of capital market indicators and macroeconomic variables on FPI inflows, particularly in frontier markets characterized by structural vulnerabilities.

Moreover, many studies focus narrowly on aggregate measures such as market capitalization, neglecting other market attributes like liquidity, asset turnover, and market breadth, which could influence foreign investor behavior differently. This omission leaves unanswered questions about which specific market characteristics most effectively attract and retain foreign portfolio capital. Additionally, the interaction effects between market performance, exchange rate volatility, and political risk are underexplored despite their documented importance [4, 7].

Institutional dimensions remain another area requiring deeper examination. Although regulatory quality is recognized as significant, the mechanisms through which governance reforms translate into enhanced foreign investment remain insufficiently clarified. Dada and Abanikanda [11] point to institutional weaknesses as a moderating factor but call for more granular analyses that assess how specific regulatory actions influence investor perceptions and capital flows.

Furthermore, the impact of global financial conditions on Nigeria's capital market and FPI is often treated as exogenous in empirical models, limiting understanding of the endogenous feedback loops between domestic market developments and international investor sentiment. Recent events, including the COVID-19 pandemic and shifting global monetary policies, underscore the urgency of incorporating these dynamics in empirical investigations [9]. While considerable empirical evidence exists on the determinants and effects of foreign portfolio investment in Nigeria, several gaps remain. These include insufficient attention to the multidimensional aspects of capital market development, inadequate integration of macroeconomic and institutional moderators, and limited incorporation of global financial cycle influences in empirical models. Addressing these gaps is essential to develop a comprehensive understanding of how capital markets can sustainably attract foreign portfolio investment in Nigeria.

3. Methodology

This study employed an ex post facto research design, which was well-suited for analyzing relationships between variables when the researcher had no control over the independent variables, as they had already occurred. This non-experimental approach was appropriate for investigating the impact of capital market indicators on foreign portfolio investment (FPI) because it relied on historical

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data and did not manipulate variables but observed their natural interactions over time. Such a design allowed inference about the nature and strength of relationships without asserting direct causality.

The study utilized secondary data sourced primarily from authoritative Nigerian institutions, including the Nigeria Stock Exchange Fact Book, Nigeria Stock Exchange Annual Reports, the Central Bank of Nigeria Statistical Bulletin, and the Federal Office of Statistics publications. These datasets encompassed key market variables such as market capitalization, value of transactions, and volume of transactions. The temporal scope covered the period from 1987 through 2023, enabling a comprehensive longitudinal analysis that captured market dynamics over several decades.

The dependent variable was Foreign Portfolio Investment (FPI), measured as the annual total inflows of foreign investment into the Nigerian stock market, denominated in U.S. dollars. This variable captured the level of foreign capital attracted by the Nigerian capital market and served as the key outcome indicator in the analysis. Data consistency and coverage over the multi-decade period enhanced the robustness of the study's empirical findings.

The independent variables included several key capital market indicators. Market Capitalization (MC) served as a proxy for the size of the stock market, representing the total market value of outstanding shares in Nigerian naira. The All Share Index (ASI) reflected overall market performance through the weighted average of traded stock prices. Stock Market Liquidity (SML) was proxied by the turnover ratio, calculated as the value of shares traded relative to market capitalization, indicating trading ease. The data analysis in this study involved descriptive statistics, correlation analysis, and regression analysis conducted using EViews 9.0 software. Descriptive statistics provided summary measures such as mean, range, standard deviation, skewness, and kurtosis to offer insights into the distribution and characteristics of the variables. Given the time-series nature of the data, stationarity tests were essential to avoid spurious regressions; thus, the Augmented Dickey-Fuller (ADF) test was employed to check for unit roots and ensure variables were stationary. Following this, cointegration analysis was performed using the Johansen cointegration to established long run equilibrium among the variables, serving as a precursor to the regression analysis and enabling a comprehensive examination of inter-variable dynamics.

3.1. Model Specification

The relationship between the independent and dependent variables will be analyzed using a multiple regression model. The regression model is specified as follows:

$FPI_c = \beta_0 + \beta_1 MCAP_t + \beta_2 ASI_t + \beta_3 VOT_t + \beta_4 VST_t + \beta_5 IFR_t + \beta_6 EXR_t + \varepsilon$

FPI= Foreign Portfolio Investment, MCAP = Market Capitalization, ASI = All Share Index, VOT = Volume of Transaction, VST = Value of Shares Traded, IFR = Inflation rate , EXR = Exchange rate

Where: $\beta 0$ = constant $\beta 1$-$\beta 6$ = coefficients of the independent variables ε = error term

3.2. Apriori Expectation

Based on the literature review, it is expected that there will be a positive relationship between market capitalization, all share index, stock market liquidity, value of shares traded, and foreign portfolio investment. It is expected that an increase in the independent variables will result in an increase in foreign portfolio investment.

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Table 1.
Summary of Descriptive Statistics for the Study Variables.

	FPI	ASI	MCAP	VOT	VST	IFR	EXR
Mean	8902.104	17945.20	8065.158	820150.3	472.0081	18.09784	119.8137
Median	2314.654	20128.94	1359.300	621717.0	120.4000	17.58562	120.9702
Maximum	40881.63	57990.20	42054.50	3535631.	2350.880	29.80000	399.9636
Minimum	31.90870	127.3000	6.600000	20525.00	0.230000	9.670000	1.905330
Std. Dev.	11343.32	15763.97	11089.97	929046.1	588.0347	4.126629	109.5171
Skewness	1.193150	0.486230	1.496767	1.343364	1.204474	0.560406	0.876763
Kurtosis	3.470397	2.271576	4.675979	4.269290	4.030259	4.111624	3.030838
Jarque-Bera	9.120037	2.275932	18.14565	13.61231	10.58272	3.841723	4.741870
Probability	0.010462	0.320470	0.000115	0.001107	0.005035	0.146481	0.093393

4. Result and Analysis

The mean value of the FPI is roughly 8,902.104. The median of FPI is 2,314.654. The maximum documented figure for FPI stands at 40,881.63. The minimum documented FPI value is 31.90870. The FPI values exhibit a dispersion or variability of 11,343.32 units.

The analysis of the FPI skewness reveals a positively skewed distribution, indicating a slight rightward skew. The kurtosis value of the FPI suggests that the distribution is moderately heavy-tailed. The statistical analysis reveals that the Jarque-Bera test statistic for FPI is 9.120037, with a corresponding probability of 0.010462. These results indicate that the distribution of FPI is not entirely normal.

The mean value of ASI is approximately 17,945.20. The median value of ASI is 20,128.94. The maximum documented value for ASI stands at 57,990.20. The minimum documented ASI measurement is 127.3000. The calculated value for the dispersion or variability in ASI values is 15,763.97. The analysis of the ASI skewness reveals a positively skewed distribution, indicating a slight rightward skew.

The kurtosis value of the ASI suggests that the distribution is moderately leptokurtic, indicating a heavier tail than a normal distribution. The ASI's Jarque-Bera test statistic is 2.275932, with a corresponding probability of 0.320470. This indicates that the distribution is in close proximity to normal.

The mean value of MCAP is approximately 8,065.158. The median value of MCAP is 1,359.300. The maximum documented MCAP value stands at 42,054.50. The minimum recorded value for MCAP is 6.600000. The MCAP values exhibit a dispersion or variability of 11,089.97.

The analysis of MCAP skewness reveals a positively skewed distribution, indicating a slight rightward skew. The kurtosis value of MCAP suggests that the distribution has a heavier tail than the normal distribution.

The statistical analysis reveals that the MCAP's Jarque-Bera test statistic is 18.14565, with a corresponding probability of 0.000115. This outcome indicates a significant deviation from the normal distribution.

The mean volume of trade (VOT) is estimated to be around 820,150.3. The median value of Voice Onset Time (VOT) is 621,717.0. The maximum documented VOT measurement is 3,535,631. The minimum recorded value for (VOT) is 20,525.00.

The calculated value for the dispersion or variability of (VOT) measurements is 929,046.1. The analysis of the (VOT) skewness reveals a positively skewed distribution, indicating a slight rightward skew. The statistical measure of kurtosis applied to (VOT) suggests the presence of a distribution with heavier tails than a normal distribution. The statistical analysis reveals that the Jarque-Bera test statistic for VOT is 13.61231, with a corresponding probability of 0.001107. These results indicate a significant deviation from normal distribution.

The mean value of VST is approximately 472.0081. The median of VST is 120.4000. The maximum documented VST measurement is 2,350.880. The minimum recorded value for VST is 0.230000. The

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VST values exhibit a dispersion or variability that is quantified by a measure of 588.0347. The VST's skewness value denotes a positive skewness, indicating that the distribution is marginally skewed towards the right. The kurtosis value of the VST suggests the presence of a distribution with heavy tails. The statistical analysis reveals that the Jarque-Bera test statistic for VST is 10.58272, with a corresponding probability of 0.005035. These findings indicate a significant deviation from normal distribution.

The mean value of the IFR is estimated to be approximately 18.09784. The median of the Infection Fatality Rate (IFR) is 17.58562. The maximum documented value for the (IFR) is 29.80000. The minimum documented value for the (IFR) is 9.670000. The IFR values exhibit a dispersion or variability measure of 4.126629. The analysis of the IFR skewness reveals a positively skewed distribution, indicating a slight rightward skew.

The kurtosis value of the IFR suggests that the distribution is characterised by heavy tails. The statistical analysis reveals that the Jarque-Bera test statistic for IFR is 3.841723, with a corresponding probability of 0.146481. This indicates that the distribution is in close proximity to the normal distribution.

The mean value of EXR is approximately 119.8137. The median of the EXR dataset is 120.9702. The maximum documented value for EXR stands at 399.9636. The minimum observed EXR value is 1.905330. The EXR values exhibit a dispersion or variability measure of 109.5171.

The statistical measure of skewness for the EXR reveals a positive value, indicating a rightward skew in the distribution. The kurtosis value of the EXR suggests that the distribution has a heavier tail compared to a normal distribution.

The statistical analysis reveals that the Jarque-Bera test statistic for EXR is 4.741870, with a corresponding probability of 0.093393. These results indicate that the distribution of EXR is in reasonable proximity to a normal distribution.

4.1. Unit Root Test

Table 2 shows the result of the test for the ADF unit root test.

Table 2.
Augmented Dickey-Fuller Unit root Stationarity Test.

Variable	Test at Levels			Test at 1st difference			Inference
	ADF statistic	t-statistic	Prob.*	ADF statistic	t-statistic	Prob.*	
FPI	-2.052179	-2.945842	0.2644	-4.850754	-2.945842	0.0004	I(1)
MCAP	-0.783378	-2.941145	0.8124	-4.188023	-2.943427	0.0022	I(1)
ASI	-1.469541	-2.941145	0.5380	-4.833307	-2.943427	0.0004	I(1)
VST	-0.924438	-2.943427	0.7692	-3.670680	-2.943427	0.0088	I(1)
VOT	-0.627951	-2.954021	0.8509	-6.464131	-2.943427	0.0000	I(1)
IFR	-2.915636	-2.941145	0.0529	-5.672642	-2.943427	0.0000	I(1)
EXR	-0.508733	-2.948404	0.8777	-4.377405	-2.948404	0.0014	I(1)

The ADF test shows that all the variables are not stationary at levels, as the absolute value of their respective t-statistics are less than the absolute 95% critical value in both tests. However, after testing them at their first difference they were all stationary. This implies that all the variables are integrated of the same order 1(1). Therefore, the Cointegration test is necessary to further check for the long run relationship among the variables.

4.2. Co-integration Test

Cointegration is a statistical property of time series variables. Two or more time series variables are cointegrated if they share a change of the average value. According to Nelson and Plosser [33] time series data evolve over time such that their mean and variance are not constant. To address this problem in the time series data, a cointegration test is normally performed. The Johansen and Juselius [34]

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cointegration test was conducted to test the order of cointegrating relationships and the result is presented below.

Table 3.
Co-integration Result.

Series: FPI ASI MCAP VOT VST IFR EXR				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.946359	220.6574	125.6154	0.0000
At most 1 *	0.657056	118.2666	95.75366	0.0006
At most 2 *	0.612888	80.81004	69.81889	0.0051
At most 3	0.428221	47.59355	47.85613	0.0529
At most 4	0.366940	28.02849	29.79707	0.0789
At most 5	0.177800	12.02681	15.49471	0.1556
At most 6 *	0.137440	5.174788	3.841466	0.0229
Trace test indicates 3 cointegrating eqn(s) at the 0.05 level				

Note: *denotes rejection of the hypothesis at the 0.05 level.
**MacKinnon, et al. [35] p-values.

The procedure for Cointegration check begins with the null hypothesis that there are no Cointegration among the systems of equations in the VAR model. A rejection of this hypothesis, implies the existence of Cointegration among some or all the equations. Table 4.3.2 presents the result for both the trace statistics cointegration rank test. The trace statistics indicates the rejection of all the null hypothesis stated at 5% critical value, this implies the existence of long run relationship among four equations in the model. The implication of the result implies the existence of a long run relationship among some of the variables, therefore it's required that the VAR analysis is estimated through an error correction mechanism (ECM) to know the rate at which errors in the VAR system are corrected in the long run and converges to equilibrium

4.3. Error Correction Model

$$FPIt = \beta_0 + \beta_1 ASIt + \beta_2 MCAPt + \beta_3 VOSt + \beta_4 VOTt + \beta_5 IFRt + \beta_6 ETRt + \mu \ldots\ldots\ldots\ldots$$

Table 4.
ECM Regression.

ECM Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASI	0.052071	0.012191	4.271205	0.0004
MCAP	0.340853	0.039338	8.664610	0.0000
VOT	0.006342	0.000574	11.04338	0.0000
VST	7.173688	0.711627	10.08069	0.0000
EXR	7.780964	3.113644	2.498990	0.0218
ECT(-1)*	-0.760876	0.063562	-11.97068	0.0000
R-squared	0.988497	Mean dependent var		1167.101
Adjusted R-squared	0.984958	S.D. dependent var		2595.428
Durbin-Watson stat	2.235699			

The regression results reveal that all the independent variables included in the model—All Share Index (ASI), Market Capitalization (MCAP), Volume of Trade (VOT), Value of Shares Traded (VST), and Exchange Rate (EXR)—have statistically significant impacts on the dependent variable, indicating a robust model fit. This is substantiated by a very high adjusted R-squared value of 0.9849, suggesting that approximately 98.5% of the variability in the dependent variable is explained by the model, which aligns with similar high explanatory power reported in capital market studies in Nigeria [1, 2].

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The positive and significant coefficient for ASI (0.0521) indicates that improvements in the overall stock market performance are associated with increases in the dependent variable, consistent with findings by Araoye [17] who documented that the All Share Index positively influences foreign portfolio investment inflows by signaling market growth and investor confidence. Likewise, the positive effect of market capitalization (0.3409) corroborates Osuka, et al. [6] who demonstrated that larger market size attracts foreign investors by providing better liquidity and diversified opportunities.

The volume of trade (VOT) shows a positive and highly significant relationship with the dependent variable, supporting the notion that increased trading activity reflects higher market liquidity, which is crucial for foreign portfolio investors [1, 3]. This aligns with Portfolio Theory, which emphasizes the importance of liquidity in reducing transaction costs and enhancing portfolio optimization [18].

Interestingly, the negative coefficient for value of shares traded (VST) (-7.1737) may suggest that while higher trading value typically reflects increased activity, in this context, it could be capturing speculative trading or market volatility effects that deter stable foreign portfolio investment. This phenomenon resonates with Ozili [7] findings, where excessive trading volume was associated with increased market volatility, negatively affecting investor confidence in emerging markets such as Nigeria.

The exchange rate (EXR) also exhibited a positive and significant effect (7.7809), indicating that currency fluctuations have a measurable impact on foreign portfolio investment. This result supports Ogudu, et al. [4] who argued that exchange rate movements influence foreign investors' decisions due to the risk of currency depreciation and repatriation constraints. However, the relatively lower significance of this variable compared to others suggests that while important, exchange rate risk may be moderated by other market factors or hedging mechanisms.

The Durbin-Watson statistic of 2.2357 confirms the absence of significant autocorrelation in the residuals, implying the reliability of the regression estimates [36]. Overall, these results highlight that capital market performance metrics, particularly market size, liquidity, and market returns, play pivotal roles in attracting foreign portfolio investment in Nigeria, consistent with empirical evidence from previous studies

5. Conclusion

This study examined the relationship between capital market performance and foreign portfolio investment (FPI) in Nigeria by analyzing key market indicators and their influence on FPI inflows. The findings revealed a significant positive association between the All Share Index (ASI) and FPI, supporting the Efficient Market Hypothesis, which suggests that rising stock market performance reflects increased investor confidence and favorable economic conditions that attract foreign investors. Similarly, market capitalization (MCAP) demonstrated a strong positive impact on FPI, consistent with the size effect theory that larger firms with greater market value tend to command more foreign investment due to their perceived stability and growth potential.

Additionally, trading activity indicators such as the volume of trade (VOT) and the value of shares traded (VST) showed contrasting effects on FPI. While an increase in VOT positively influenced FPI, indicating that higher market liquidity and trading opportunities attract foreign investors, the negative coefficient on VST suggests that excessive trading values might reflect speculative behavior or market volatility that could deter stable foreign capital. Furthermore, exchange rate (EXR) fluctuations were found to significantly affect FPI, where favorable exchange rate conditions enhance the competitiveness of Nigerian assets and facilitate capital inflows, although this effect was somewhat less pronounced compared to other variables.

Overall, the study concludes that capital market strength and stability characterized by robust market indices, significant market capitalization, active trading, and stable currency conditions—play critical roles in attracting foreign portfolio investment to Nigeria. These insights have important implications for policymakers and market participants, emphasizing the need to foster a conducive

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investment climate by strengthening market infrastructure, ensuring liquidity, and maintaining exchange rate stability to boost foreign investor confidence and promote sustainable economic growth.

6. Recommendations

In light of these findings, several key recommendations are proposed to enhance Nigeria's attractiveness to foreign portfolio investors. First, regulatory frameworks should be strengthened and effectively implemented to guarantee transparency, fairness, and investor protection. Clear and consistent market regulations build trust among international investors and reduce perceived risks, thereby encouraging capital inflows. Second, market liquidity should be improved by lowering transaction costs, upgrading trading infrastructure, and incentivizing market-making activities, which facilitate efficient price discovery and smooth trading.

Third, investor education programs are essential to raise financial literacy and awareness about the Nigerian capital market. Educated investors are more likely to participate actively and make informed decisions, which in turn attracts foreign investors seeking reliable local market partners. Fourth, market surveillance mechanisms must be reinforced to detect and prevent market manipulation and insider trading, promoting fair and transparent trading conditions that sustain investor confidence. Fifth, promoting cross-listing of Nigerian firms on international exchanges can increase market visibility, liquidity, and diversification of the investor base, providing easier access for foreign portfolio investors.

Finally, collaboration between capital market regulators and monetary authorities is crucial to maintain stable exchange rates and implement efficient foreign exchange policies. Exchange rate stability reduces currency risk, enhances asset competitiveness, and makes Nigeria more appealing for foreign portfolio investment.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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