

**Exchange Rate Volatility, Macroeconomic Instability and Foreign Portfolio Investment  
in Nigeria**

**BY**

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**BENIN CITY**

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**A PROJECT WRITTEN AND SUBMITTED TO THE DEPARTMENT OF FINANCE,  
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CITY.**

**NOVEMBER, 2025**

## **DECLARATION**

I, **OBUROH MASON**, do hereby declare that this project is undertaken by me in the Department of finance, Faculty of Management Sciences, University of Benin, Benin City, Edo State under the supervision of Dr. M. Uahunmwangho. To the best of my knowledge, this work has not been presented as part of the requirements for another qualification and is not concurrently being submitted for any other degree. All references made to the work of others have been duly acknowledged.

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**Oburoh Mason**

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**DATE**

## CERTIFICATION

This is to certify that this project work was carried out by **OBUROH MASON** with Matriculation Number **MGS2003504** in the Department of Finance, Faculty of Management Sciences, University of Benin, Benin city, Nigeria, in partial fulfillment for the award of Bachelor of Science (B.Sc) in Banking and Finance.

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## **DEDICATION**

I dedicate this project to God Almighty, whose grace, wisdom, and guidance have been my source of strength throughout this journey. This work is also dedicated to my loving parents, Mr. and Mrs. Oburoh, for their unwavering love, support, and encouragement.

## **ACKNOWLEDGEMENT**

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## **Abstract**

*This study examines the effect of exchange rate volatility and macroeconomic variable instability on foreign portfolio investment in Nigeria.*

*The data for this study was collected from World Bank Economic Indicator database and the Nigerian Security and Exchange commission Statistical Bulletin covering 1981 to 2024. The longitudinal research design was adopted by this study. The dynamic least squares regression technique was utilized and the E-view 9.0 econometric software was used for the analysis.*

*This study found that exchange rate volatility, growth in gross domestic product negatively and significantly affect foreign portfolio investment, while inflation rate and interest rate positively and significantly influence foreign portfolio investment. The study recommends among others that the Nigerian government, particularly the Central Bank of Nigeria should intensify effort towards stabilizing exchange rate; and that government should deepen current reforms directed at reducing general price level (inflation), as doing so will stimulate foreign portfolio investment inflows into the country.*

# CHAPTER ONE

## INTRODUCTION

### 1.0 Background of the Study

Foreign portfolio investment (FPI) has emerged as one of the most vital sources of capital inflow into developing economies, thus serving as an important stimulus for economic growth. Idowu (2015) stated that in today's interconnected global economy, it is a well-established principle that no nation can truly function in complete economic isolation, as international capital flows and cross-border investments have become essential mechanisms for sustainable development and economic growth, particularly for emerging and developing economies seeking to expand their infrastructure, technological capabilities, and industrial base. According to Osemene, et al (2015) both developed and developing countries make plans to attract more foreign capital so they can boost investment, create jobs, increase production, and reduce the gap between savings and investment. The existence of a gap in savings and investment, particularly in Nigeria as well as other developing countries, highlights the necessity to access more funding for more growth (Adom & Elbahnasawy, 2014). The neoclassical theory of growth posits that capital is expected to flow from developed countries to developing countries (Adeyemi, et al 2019). Foreign capital flows from one country to another to enhance the economic productivity and development of the recipient country (international Monetary Fund 2020).

Foreign portfolio investment (FPI) has grown in importance across many regions in recent years. It has become a key way for countries both developed and developing to get access to funding from outside sources. This type of investment plays a major role in supporting economic development by providing capital for industries, improving financial market performance, boosting investor confidence, and helping governments and businesses meet their funding needs for growth (Michael et al., 2014). According to the United Nations Conference on Trade and Development (UNCTAD, 2016), global foreign investment flows rose sharply by 38% in 2015, reaching \$1.76 trillion the highest level recorded since the 2008-2009 global financial crisis. In contrast, foreign investment inflows to Africa saw a decline by 7% that same year, having a decrease of \$54 billion compared to the previous year. There are two dimensions of capital inflows according to Kim and Zhang (2020), you have the private investment flow and public investment across both developed and developing countries. Teddy (2015) said Foreign investors enter the local economy hoping to earn profits, though they face several risks such as exchange rate instability, inflation, interest rate changes, and political and legal uncertainties.

According to (Agoh et al, 2024) foreign portfolio investment is influenced by several factors, which can differ based on a country, region and economic structure. The push and pull factors theory, stated that international capital movement can be grouped into two: push factors that drive investment out of the source country, and pull factors that attract investment into the destination country. Although foreign investment is less attractive to

countries with high levels of foreign exchange rate volatility, the Nigerian case is different (Erdal, 2001; Kennedy & Nourizad, 2016; Abanikanda & Akinbobola, 2023). The country's financial market is largely influenced by foreign investors, who hold a significant share of market activities and capital flows. Since 1986, when the Central Bank of Nigeria officially began recording foreign portfolio investment, its movement has been highly inconsistent, fluctuating in response to changes in economic policies, investor confidence, global market trends, and domestic financial conditions (osemene et al, 2018)

Exchange rate volatility makes international trade and investment decisions more difficult because volatility increases exchange rate uncertainty and risk (Kalu, 2016). Exchange rate volatility is a key factor that have a significant impact on economic activities in a country and thus have a significant impact on investment within and outside a country (Dahiru, 2013).

Macroeconomic indicators, operating within an economic system, serve as the fundamental metrics by which the overall condition and trajectory of an economy are evaluated. These indicators demonstrate the effectiveness of various sectors, the success of government spending and central bank policies, and the comprehensive economic health of a country (Alloul & Ferrouhi, 2024; Chigosimzo, Zubairu & Ibrahim, 2025). In economic analysis and financial prediction, macroeconomic indicators operate as external factors that affect spending patterns, manufacturing output, business investment, and capital market dynamics. Their role goes beyond simple quantification; they function as

conduits for policy changes, market sentiment, and economic disruptions (Rai, 2024; Hassan, Jiun, Kamu, Mun 2024). Additionally, in financial economics, they frequently serve as forecasting instruments for assessing risk-compensated profits and investment diversification strategies by reflecting the fundamental economic condition that could influence asset performance and associated risk (Adams et al., 2022; Zheng & Nilsson, 2023; Bluesky Capital, 2021). The fluctuation and movement of these indicators create uncertainty in financial markets, influencing not only tangible economic outcomes but also the pricing structures in capital markets (Aromolaran et al., 2024; Dadashzadehrishekani & Heidari, 2024).

An increase in GDP generally indicates economic growth, boosting market confidence and raising equity prices (Ordue et al., 2024; Chigosimzo et al., 2025). Conversely, inflation rate demonstrates shifts in overall pricing levels and impacts the buying capacity of consumers and market participants. Although controlled inflation may prove advantageous by encouraging expenditure and capital investment, high inflation rate creates instability and diminishes actual investment returns (Adesokan et al., 2025; Keswani, Puri & Jha, 2024). Interest rate structures function as borrowing costs and standards for guaranteed returns; modifications in central bank policy rates directly affect business funding choices and investor portfolio preferences, frequently creating an opposite correlation with stock prices (Jabil, Ibbih & Akawu, 2025; Trecy et al., 2024).

## **1.1 Statement of the Research Problem**

Nigeria's financial markets rely substantially on foreign portfolio investment (FPI) as a catalyst for economic growth. Nonetheless, the persistent challenge of exchange rate volatility, compounded by broader macroeconomic instabilities such as inflationary pressures, fiscal imbalances, and irregular economic growth, has heightened uncertainty in the investment environment. These conditions collectively undermine Nigeria's ability to attract and sustain foreign portfolio investors, thereby limiting the potential benefits of FPI for long-term economic development.

Although foreign portfolio investment (FPI) plays a pivotal role in Nigeria's economic development, there remains a scarcity of research examining the joint effects of exchange rate volatility and macroeconomic instability on FPI inflows. Existing studies have largely analyzed these factors independently, without considering how their interaction shapes the behavior of foreign investors. This limitation leaves a significant gap in knowledge for policymakers, who require a comprehensive understanding of these dynamics to formulate strategies that strengthen economic stability and promote sustained capital inflows.

This study will apply econometric techniques to analyze historical data on exchange rates, macroeconomic indicators, and foreign portfolio investment (FPI) in order to quantify their interrelationships and overall effects. The research aims to uncover structural vulnerabilities within the Nigerian economy while providing evidence-based policy recommendations. These recommendations will emphasize effective exchange rate

management, strengthened fiscal discipline, and the establishment of supportive regulatory frameworks, all of which are intended to reduce economic uncertainty and enhance Nigeria's capacity to attract and sustain stable foreign portfolio investment.

## **1.2 Research Questions**

- i. What is the impact of exchange rate volatility on foreign portfolio investment in Nigeria?
- ii. How does changes in general price level influence foreign portfolio investment in Nigeria?
- iii. To what extent does changes in interest rate affect foreign portfolio investment in Nigeria?
- iv. What is the effect of gross domestic product (GDP) growth on foreign portfolio investment in Nigeria?

## **1.3 Objective of the Study**

The main objective of this study is to examine the impact of exchange rate volatility and exchange rate instability on foreign portfolio investment in Nigeria. while the specific objectives of this study includes:

- i. Investigate the impact of exchange rate volatility on foreign portfolio investment in Nigeria;
- ii. To assess the influence of changes in general price level on foreign portfolio investment in Nigeria;

- iii. Determine the extent to which interest rate affects foreign portfolio investment in Nigeria;
- iv. To examine the effect of gross domestic product (GDP) growth on foreign portfolio investment in Nigeria.

#### **1.4 Research Hypothesis**

The hypotheses of the study which are stated in a null form are as follows:

H1: Exchange rate volatility has no significant impact on foreign portfolio investment in Nigeria.

H1: Inflation rate does not significantly influence foreign portfolio investment in Nigeria.

H1: Interest rate does not significantly affect foreign portfolio in Nigeria.

H1: Gross domestic product (GDP) growth has no significant effect on foreign investment portfolio in Nigeria.

#### **1.5 Significance of the Study**

Macro economic instability as well as exchange rate volatility creates risk which can affect saving and Investment decisions. This study is necessary because it provides emperical insight into how Exchange Rate Volatility and instability in some macroeconomic variables such as inflation, interest rate and gross domestic product (GDP) affect foreign portfolio investment in Nigeria. By establishing the characteristics of these relationships, the results will function as an important resource for diverse participants in

Nigeria's financial sector. Specifically, this study will be of immense benefit to the following group:

**Policymakers:** This finding will help government officials and the central bank of Nigeria develop targeted monetary and fiscal policies to maintain exchange rate stability while attracting international investors.

**The Investors:** Understanding the impact of exchange rate volatility and macroeconomic instability will benefit both domestic and international investors as it will enable them grasp the full impact of volatility in exchange rate and macroeconomic instability on their investment and assist them in formulating an effective risk management plan.

**Researchers/Academia:** The result of this study will serve as valuable reference for those that wishes to research further into this topic and it can also serve as a reference material for teachers or lecturers in the classroom.

## **1.6 Limitation of the Study**

This research has several limitations that may impact the scope and how widely the findings can be applied. The primary limitation is concerned with the availability and quality of the data. Though data was collected from reliable sources like the Central Bank of Nigeria (CBN) and the Nigerian Stock Exchange (NSE), there were still some gaps and inconsistencies in the data, particularly when looking at monthly or quarterly information on foreign portfolio investment and exchange rate changes during the study period.

Another significant limitation is that certain important factors were not included in the analysis. Variables such as political risk, quality of governance, and institutional factors are known to influence foreign investment flows, but they are difficult to measure accurately or are simply beyond what this research could cover. Issues like political instability, corruption, and regulatory problems that affect FPI inflows were not examined in detail in this study.

The research is also limited because it focuses only on foreign portfolio investment, leaving out other types of foreign money coming into the country like Foreign Direct Investment (FDI) and remittances. These other capital flows also affect exchange rate volatility and the overall stability of the economy, so not including them means the study might not show the complete picture of how foreign capital impacts Nigeria's exchange rate situation.

Additionally, this study depends mostly on secondary data, which makes it harder to explore qualitative aspects like how investors feel about the market, policy changes, and market expectations, all of which can influence exchange rate volatility and investment decisions.

Finally, the study only covers the period from 1981 to 2024, and the findings might not be fully applicable to future situations considering how quickly the global economy changes and how Nigeria's financial markets continue to evolve. Even with these limitations, this study still provides useful insights into how foreign portfolio investment and exchange

rate volatility are connected in Nigeria, and it can serve as a starting point for future research in this area.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.0 Introduction**

This chapter is organized into three key sections: the conceptual review, the theoretical review, and the empirical review. The conceptual review delves into a comprehensive explanation and clarification of the central concepts and variables underpinning the study, ensuring a clear understanding of their meanings and interrelationships. The theoretical review examines relevant theories that provide the foundational frameworks and explanatory models for understanding the dynamics of the research problem. The empirical review critically analyzes existing scholarly studies, highlighting their methodologies, findings, and relevance to the present research. The chapter concludes by identifying notable gaps and limitations in the existing literature, thereby establishing the rationale and need for the current study.

#### **2.1 Conceptual Literature**

##### **Concept of Exchange Rate**

Exchange rate refers to the price at which one currency is exchanged for another country's currency and acts as a critical determinant of international trade and financial flows (Bahmani, Oskooee & Gelan, 2018). It is essentially the amount of domestic currency required to purchase one unit of foreign currency and vice versa, functioning as both a measure of transaction costs in cross-border exchanges and an indicator of the relative value or purchasing power of a currency (Chinn, 2022). From a macroeconomic perspective, the exchange rate plays a dual role: (1) As a price, it influences import and export competitiveness, and (2) As a value indicator, it influences underlying economic conditions such as inflation, interest rates, and balance of payments positions (Klein & Shambaugh, 2015). Moreover, it serves as a key variable linking domestic and international goods, services, and capital markets, thereby influencing monetary policy effectiveness and overall economic stability (Reserve Bank of Australia, 2025).

According to the Reserve Bank of Australia (2024), exchange rates can be represented in multiple ways, each serving a distinct analytical purpose in international economics. The bilateral exchange rate reflects the relative value of one currency against another specific currency, such as the Australian dollar (AUD) against the United States dollar (USD), and is often used in evaluating direct trade relationships or currency market movements between two countries. In contrast, the effective exchange rate, exemplified by the Trade-Weighted Index (TWI), provides a broader measure by calculating a weighted average of a currency's value against a selected basket of foreign currencies, with weights typically based on trade shares. This approach offers a more comprehensive perspective on a

currency's overall performance in global markets, capturing fluctuations in competitiveness across multiple trading partners rather than focusing on a single bilateral relationship. Such dual measures enable policymakers, investors, and analysts to assess currency strength from both narrow, country-specific viewpoints and wider, trade-adjusted perspectives, thereby supporting more informed decision-making in trade, investment, and monetary policy.

In international economics, a critical distinction is made between the nominal exchange rate and the real exchange rate, as each conveys different aspects of currency valuation and economic competitiveness. The nominal exchange rate represents the unadjusted, market-determined price at which one currency can be exchanged for another, typically quoted in foreign exchange markets or financial publications (International Monetary Fund, 2023). It reflects the immediate market perception of relative currency values but does not account for changes in the internal purchasing power of those currencies. The real exchange rate, on the other hand, adjusts the nominal rate for differences in price levels or inflation rates between countries, offering a more meaningful indicator of a currency's true value in terms of goods and services. This adjustment makes it a vital tool for evaluating shifts in a country's international competitiveness, as it reflects how domestic goods compare in cost to those produced abroad. In this sense, while nominal rates are essential for financial transactions and short-term currency analysis, real exchange rates provide deeper insights into long-term trade performance, production costs, and economic balance between nations.

In economics, analysts often make an important distinction between the nominal exchange rate and the real exchange rate, as they serve different purposes in understanding currency value. The nominal exchange rate is simply the market-quoted rate showing how much of one currency can be exchanged for another at a given time. It is the rate people commonly see in foreign exchange markets, banks, and financial news reports (International Monetary Fund, 2023). However, this figure does not take into account changes in the general price level within each country. To address this limitation, economists use the real exchange rate, which adjusts the nominal rate for differences in inflation between countries. This adjustment provides a clearer picture of the actual purchasing power of one currency compared to another in terms of goods and services. The real exchange rate is especially useful when assessing how competitive a country's products are in the global market, since it indicates whether domestic goods are becoming more or less expensive relative to foreign goods. While the nominal exchange rate is important for short-term financial transactions and market trends, the real exchange rate is more valuable for long-term analysis of trade, investment decisions, and economic policy.

According to Karimo (2020) the process of determining an exchange rate is complex and shaped by a combination of interconnected economic, financial, and market-related factors. Key drivers include interest rate differentials, which influence the flow of investment capital between countries; trade balances, where persistent surpluses or deficits can exert upward or downward pressure on a currency's value; and capital flows, such as foreign direct investment or portfolio investment, which affect the supply and

demand for a currency in international markets. Also, market expectations shaped by investor sentiment, political stability, and anticipated economic performance can play a significant role in short-term exchange rate movements (Chen, 2024).

The framework within which a currency's value is determined also depends on the exchange rate regime adopted by a country. Broadly, these regimes can be categorized into floating exchange rates, where the value of the currency is allowed to fluctuate according to market forces of supply and demand, and fixed or pegged exchange rates, where the central bank actively intervenes to maintain the currency's value at a predetermined level, often by buying or selling foreign reserves (Reserve Bank of Australia, 2024; Western Union, 2023). Some countries adopt managed float systems, where the currency is primarily market-driven but subject to occasional intervention to prevent excessive volatility. These policy choices reflect broader economic priorities, such as promoting export competitiveness, controlling inflation, or maintaining financial stability.

### **Exchange Rate Volatility**

Exchange rate volatility refers to the degree of irregular, frequent, and often unpredictable changes in the value of one currency relative to another over a given period. It captures not only the size of the fluctuations but also their uncertainty and instability in the foreign exchange market (Ghauri, Ahmed, Streimikiene, Qadir & Hayat, 2024; Kearney, Shang, & Zhao, 2023). This concept is central to international trade, investment, and economic

stability because unpredictable currency swings can directly impact cross-border transactions, investment decisions, and the competitiveness of goods and services and ultimately foreign portfolio investment.

In extant literature, exchange rate volatility is generally quantified using statistical and econometric approaches. A common statistical method is the standard deviation of exchange rate returns, which provides a measure of average fluctuation over time. More sophisticated econometric models, such as ARCH (Autoregressive Conditional Heteroskedasticity), GARCH (Generalized ARCH), and GARCH–MIDAS (Mixed Data Sampling), are employed to capture both short-term variability and longer-term underlying drivers of volatility (Oyadeyi, 2024; Ghauri, Ahmed, Streimikiene, Qadir & Hayat, 2024; Kearney, Shang, & Zhao, 2023). These models are particularly useful for identifying patterns during periods of financial stress or macroeconomic instability.

The sources of exchange rate volatility are diverse and often interconnected. A key driver is the interest rate differential between two countries. When one nation offers higher interest rates than another, it tends to attract short-term capital inflows seeking better returns, thereby increasing demand for its currency. However, changes in interest rate expectations such as those driven by central bank policy announcements can cause sudden shifts in currency demand, leading to volatility (Ghauri, Ahmed, Streimikiene, Qadir & Hayat, 2024).

Another important factor is the inflation rate disparity between economies. Currencies from countries experiencing persistently higher inflation often face depreciation pressures, as their purchasing power declines relative to her trading partners. This depreciation, combined with market reactions to inflation data, can intensify exchange rate instability (Oyadeyi, 2024). Beyond these macroeconomic fundamentals, market sentiment plays a crucial role. Investor perceptions shaped by news events, political developments, and expectations about future economic performance can trigger rapid speculative movements in foreign exchange markets. Similarly, external shocks, such as sudden changes in commodity prices, global financial crises, geopolitical conflicts, or natural disasters, can disrupt normal trading patterns and amplify volatility.

conclusively, exchange rate volatility is a complex phenomenon influenced by a mix of measurable economic indicators and less tangible market psychology. Understanding its causes and measurement techniques is essential for policymakers, multinational corporations, and investors, as it helps in designing strategies to mitigate potential adverse impacts on trade, investment, and financial stability.

Persistent imbalances in a country's balance of payments, especially when there are ongoing trade deficits, can exert downward pressure on the national currency, leading to notable fluctuations in exchange rates (Katusiime, Agbola Shamsuddin, 2021). Similarly, political instability and uncertainty in government policies tend to heighten exchange rate volatility by weakening investor confidence and encouraging speculative activities within

the foreign exchange market (Alagidede & Ibrahim, 2017). At the international level, factors such as sharp movements in commodity prices particularly for economies heavily reliant on resource exports can significantly influence currency values. In addition, shifts in global risk sentiment and monetary policy decisions made by influential central banks like the U.S. Federal Reserve can trigger abrupt and substantial exchange rate adjustments (Chen, Habib, Wilson, 2023). Moreover, speculative trading behavior and certain market microstructure characteristics, such as reduced liquidity during off-peak trading hours, can contribute to short-term but intense spikes in currency volatility (Kearney, Shang, & Zhao, 2023, 2023).

### **Concept of Foreign Portfolio Investment**

Foreign Portfolio Investment (FPI) refers to the movement of capital across national borders for the purpose of purchasing financial assets such as equities (stocks), debt instruments (bonds), mutual funds, exchange-traded funds (ETFs), and short-term money market instruments like treasury bills or certificates of deposit (Corporate Finance Institute, 2025). It represents an important channel through which global investors participate in foreign financial markets, often seeking opportunities for portfolio diversification, risk management, and potentially higher returns compared to their domestic markets. A defining feature of FPI is its passive investment nature, that is they do not take part in the management or have voting power unlike Foreign Direct Investment (FDI) which involves acquiring a significant ownership stake in domestic

firms (typically 10% or more) and actively participating in management or operations, FPI investors generally hold less than 10% of a company's equity. This means they do not exert control over business decisions, strategic direction, or operational activities (Tickeron, 2025). Instead, their involvement is primarily financial, focusing on asset performance, market trends, and macroeconomic conditions. Additionally, FPIs tend to be more liquid and short to medium term in nature compared to FDIs, making them more sensitive to changes in interest rates, exchange rate volatility, political stability, and global market sentiment. As a result, large inflows or sudden withdrawals of FPI can significantly influence a country's financial markets, currency value, and overall economic stability (Sanusi and Dickason-Koekemoer, 2025)

Foreign Portfolio Investments (FPIs) are generally characterized by their high liquidity, meaning investors can quickly move funds in and out of financial markets with minimal transaction delays. This flexibility makes them more suited to short or medium term investment objectives, unlike Foreign Direct Investments (FDIs), which usually involve long-term commitments (Picardo, 2024). In international economic reporting, FPIs are documented within a nation's capital or financial account, forming a key component of the balance of payments, the statistical record that tracks all economic transactions between residents of a country and the rest of the world (<https://byjus.com/free-ias-prep/foreign-portfolio-investment-fpi/Byjus/> retrieved 20/09/25).

Generally Foreign Portfolio Investment (FPI) plays a significant role in modern financial systems by offering portfolio diversification opportunities. This allows investors to distribute their funds across multiple countries, industries, and asset types, thereby reducing overall exposure to risk from economic downturns in any single market (Chen, 2024). Beyond diversification, FPIs provide investors with the ability to participate in international credit markets, which can open doors to higher-yield opportunities that may not be available domestically. Investors may also benefit from favorable fluctuations in exchange rates, which can enhance overall returns when foreign currency values shift advantageously (Chen, 2024). From the perspective of host economies, inflows of FPI capital can strengthen market liquidity, making it easier for local businesses and governments to raise funds, while also contributing to the growth and sophistication of domestic financial markets through increased participation, improved regulatory frameworks, and the adoption of global best practices (Corporate finance institute, 2025).

While foreign portfolio investment (FPI) offers numerous advantages, it is not without significant challenges and risks. One of the most prominent concerns is the high volatility associated with portfolio flows. These funds, often called “hot money”, can move in and out of economies at remarkable speed in response to global financial conditions, changes in investor sentiment, or shifts in interest rate differentials (Tunji, 2025; Tickeron, 2025). In emerging and less developed economies, such abrupt capital flight can trigger severe financial instability, exerting downward pressure on currency values, disrupting financial markets, and weakening investor confidence.

Another major risk stems from currency fluctuations. Because FPIs involve cross-border investments, returns are affected not only by the performance of the underlying asset but also by movements in the exchange rate between the domestic currency and the host country's currency. Unfavorable shifts such as a depreciation of the host country's currency can erode returns or even result in losses when profits are repatriated, regardless of asset performance (Picardo, 2024).

Furthermore, political instability and sudden regulatory or policy changes can significantly impact FPI outcomes. Government decisions such as altering capital controls, imposing foreign investment restrictions, or implementing sudden tax reforms may deter foreign investors or prompt mass withdrawals. For example, an unanticipated increase in capital gains tax or the introduction of stricter repatriation rules could diminish the attractiveness of a market. In extreme cases, political unrest or shifts in governance can lead to the freezing of foreign-held assets or the nationalization of industries, resulting in direct losses to portfolio investors (Perry, 2024).

In essence, while FPI can foster growth and diversification, in the long-run, its short-term nature and sensitivity to global and domestic shocks suggests that investors and host countries must adopt robust risk management strategies to mitigate potential negative effects. These may include hedging against currency risk, establishing stable macroeconomic policies, and maintaining transparent, investor-friendly regulatory frameworks.

## **Macroeconomic Variables**

Macroeconomic variables are broad, economy-wide indicators that capture the overall state, structure, and performance of a nation's economy. They represent aggregated statistical measures such as growth rates, inflation levels, interest rates, exchange rates, and money supply that provide a comprehensive picture of economic activity and are used to evaluate trends, forecast developments, and guide policy decisions (Carlin & Soskice, 2024; Goodwin, Harris, Nelson, Rajkarnikar, Roach, Torras, 2022). These variables are interdependent, meaning that changes in one often influence others, creating a complex system of economic interactions. They serve as essential tools for policymakers, investors, and researchers to understand the health of an economy, assess risks, and formulate strategies for growth and stability (Thomas, 2021). From a theoretical standpoint, macroeconomic variables bridge the gap between microeconomic decision-making at the individual or firm level and the aggregate outcomes observed in national and global markets (Campante, Sturzenegger, & Velasco, 2021).

In the context of financial markets, macroeconomic variables are critical in shaping investment behavior, corporate performance, and overall market sentiment. They reflect both cyclical changes, such as business cycle expansions and contractions, and structural trends driven by long-term factors like technological progress or demographic shifts (Widarni, Drean, & Bawono, 2022). Economists and market analysts closely monitor these variables because their fluctuations can signal turning points in economic

performance or shifts in monetary and fiscal policy directions (Dykas, Tokarski, & Wisła, 2023). Furthermore, macroeconomic variables are often embedded within empirical models such as vector autoregression (VAR) or cointegration frameworks to analyze their relationships with other key outcomes, including stock market returns and capital formation. By providing a structured, measurable lens through which economic performance is assessed, macroeconomic variables remain central to understanding and predicting the complex dynamics of both national and global economies.

### **Gross Domestic Product (GDP) growth**

Gross Domestic Product (GDP) growth refers to the pace at which the total monetary value of all goods and services produced within a country increases over a specific period, usually measured annually or quarterly as a percentage. It captures the overall scale, vitality, and direction of economic activity, encompassing production, consumption, investment, and net exports within national borders (Goodwin et al., 2022). As one of the most widely used indicators of economic health, GDP growth reveals whether an economy is expanding, stagnating, or contracting. Strong and sustained GDP growth is often linked to rising employment opportunities, higher incomes, improved living standards, and enhanced government capacity to fund public goods and infrastructure. For policymakers, it serves as a central benchmark for setting monetary, fiscal, and structural reforms, while investors view it as a signal of favorable business conditions and increased return potential.

On a deeper level, GDP growth reflects the combined impact of numerous structural and microeconomic factors, such as technological progress, labor productivity, capital accumulation, demographic shifts, and institutional efficiency (Carlin & Soskice, 2024). Its influence extends beyond domestic borders, shaping a nation's trade competitiveness, currency strength, and attractiveness to foreign investors. Additionally, GDP growth is closely tied to business cycle dynamics: rapid expansions can trigger inflationary pressures, whereas slowdowns or recessions often call for economic stimulus. Importantly, the quality of GDP growth matters: expansion driven by innovation and sustainable productivity gains strengthens long-term resilience, while growth fueled by excessive debt or short-term consumption can create vulnerabilities. This dual nature makes GDP growth both a celebrated measure of progress and a critical focus for sustainable economic policy.

### **Interest rate**

Interest rates represent the price of borrowing money or the reward for saving, expressed as a percentage of the amount borrowed or deposited over a set period. They are a central instrument of monetary policy, used by authorities to influence economic activity by affecting how households and businesses consume, invest, and save (Thomas, 2021). Central banks establish key policy rates such as the repurchase rate (repo rate) or the federal funds rate which serve as benchmarks for short-term lending rates and, in turn, shape long-term borrowing costs. Generally, lower interest rates make borrowing cheaper

and encourage investment and spending, while higher rates discourage borrowing, slow economic activity, and make saving more appealing. Interest rates also influence the value of assets like bonds, stocks, and property by affecting discount rates and the valuation of future earnings. By adjusting liquidity in the economy, they help maintain a balance between growth and inflation.

On a broader scale, interest rates are closely tied to other macroeconomic factors such as inflation, exchange rates, and GDP growth (Campante, Sturzenegger, & Velasco, 2021). For example, higher interest rates can draw in foreign investment, leading to currency appreciation, but may also suppress domestic consumption and capital formation. Conversely, very low rates can stimulate growth but might also encourage excessive borrowing, inflate asset prices, and spark inflationary trends. Interest rate changes can also have distributional impacts favoring borrowers when rates are low and benefiting savers when they are high. In global financial markets, differences in interest rates between countries shape cross-border capital flows and influence foreign direct investment patterns. Beyond their economic effects, interest rates act as a signaling tool, reflecting central bank policy direction and influencing business sentiment and consumer confidence. Ultimately, interest rates are far more than just a cost of credit or a return on savings, they are powerful levers in macroeconomic management, with wide-reaching consequences for financial stability and long-term growth.

## **Inflation**

Inflation rate represents the speed at which the overall prices of goods and services increase in an economy over a certain period, thereby reducing the purchasing power of money (Thomas, 2021). It is most often measured using indicators such as the Consumer Price Index (CPI) or Producer Price Index (PPI), which reflect price changes in a standard basket of goods and services. Inflation may be driven by demand-pull pressures where demand exceeds supply; cost-push pressures arising from higher production costs; or built-in inflation caused by wage price spirals. While moderate inflation is generally viewed as a sign of healthy economic growth, encouraging spending and investment, excessive or unstable inflation can harm economic stability, distort market signals, diminish savings, and discourage investment.

From a macroeconomic standpoint, inflation is a critical variable shaping monetary policy, wage-setting processes, and asset valuations (Campante, Sturzenegger, & Velasco, 2021). Central banks often target a moderate inflation rate around 2% in many developed economies to balance sustainable growth with price stability. Persistent inflation above or below this target can disrupt consumer behavior, hinder business planning, and threaten fiscal health. Additionally, inflation has distributional impacts: it tends to hurt those on fixed incomes and savers, while potentially benefiting borrowers by reducing the real value of debt. On the global stage, differences in inflation rates between countries can influence exchange rates and trade competitiveness, reinforcing its importance as a central focus in macroeconomic analysis.

## **Macroeconomic Instability**

Macroeconomic instability refers to fluctuations and uncertainty in key economic indicators such as inflation, output, fiscal balance, and exchange rates. The period from 2021 to 2024 has been characterized by heightened macroeconomic instability, driven by overlapping shocks. These include the COVID-19 pandemic, energy price spikes, supply chain disruptions, geopolitical conflicts (notably the Russia Ukraine war), and renewed inflationary pressures (Alessandria, George; Khan, Shafaat Yar; Khederlarian, Armen; Mix, Carter; Ruhl, Kim J.2023)

According to Rexford and Elvis (2024) in a macroeconomic environment characterized by recurrent fluctuations in key economic indicators, economic agents (investors, consumers and governments) adjust decision-making behaviors in line with prevailing macroeconomic conditions to make optimal choices according to the rational choice theory. In this process, economic agents reduce vulnerability to such macroeconomic fluctuations by incorporating all available and relevant information into the decision-making process that can improve chances of realizing optimal outcomes. For instance, consumers may minimize vulnerability to inflationary pressures by reducing. stability of macroeconomic variables sends important signals to the private sector about the direction of economic policies. Such stability facilitates long-term planning and investment decisions, by encouraging savings and capital accumulation. On the other hand, excessive volatility in key macroeconomic variables or uncertainty about the outlook for these

variables make it difficult and costly for economic agents to extract the correct signals from relative prices i.e. real returns to investment and this leads to inefficient allocation of resources (Roland 2022)

## **2.2 Theoretical Review**

### **The Push and Pull Factor Theories**

The path of capital flows is made clear by two classes of theories, namely; push factor and pull factor theories. These theories were propounded by Everett (1966) in relation to labour migration across the globe. In the mid-1990s researchers in the field of finance adopted these theories in international investment strategy. Pull factors in capital flow are country-specific factors that make a country an attractive destination for foreign investment. These factors are internal to the host country and are often contrasted with "push factors," which are external or global conditions that drive capital out of a domestic economy (Fratzscher, 2011).

In pull factor theory, the causes of capital flows to some domestic factors can be linked to autonomous increases in the domestic money demand function, stable exchange rate, increases in the domestic productivity of capital (Uihaque, Mathieson & Sharma,1997), increasing integration of domestic capital markets with global capital markets (Agenor &

Montiel,1999), improvement in external creditor relations, adoption of sound fiscal and monetary policies and regional externalities.

According to Garnic, Mehmed & Garvranovic, Nedim (2024) several important pull factors that drive capital inflows, covering both FDI and FPI. For governments, understanding these drivers is key to formulating strategies that attract and maintain foreign capital. According to Audu, Tule, and Omolehinwa (2022) different research has shown that the pull factors such as domestic output growth, the supply of money and other institutional factors in developing countries are speculated to influence the capital flow. Hence, the importance of domestic output in influencing the flow of capital cannot be overemphasized as studies have shown a positive relationship between GDP growth, money supply and capital flow variables can be positive (Akyuz, 2011; Ahmed & Zlate, 2014; Ahmed Coulibaly, Zlate, 2017; Lipovina Bozovic & Ivanovic, 2018; Mudyazvivi, 2018). Conversely, a growing body of recent research on the drivers of capital flows suggests that push factors carry greater importance than pull factors. Push factors are strongly associated with neoclassical theory, which asserts that capital is influenced by interest rate differentials across nations (Ahmed Hannan, 2018). Under the neoclassical framework, capital shifts from economies offering lower returns to those providing higher returns. In the same vein, studies such as Baek and Song (2016), Bruno and Shin (2013), Byrne and Fiess (2016), and Sarno et al. (2016) emphasize that variables beyond interest rates including global economic growth, levels of risk aversion, global liquidity, and

commodity price movements also play a critical role as push factors driving capital flows across countries.

### **Theory of Market Failure**

The theory of market failure was put forth by Paul A. Samuelson in the year 1954, an economist from the Keynesian school. This theory recognizes that markets have imperfections and suggests that a firm decides to produce internationally only because these market flaws, such as information asymmetry, the potential for monopoly and oligopoly and negative externalities (Rizvanolli, 2012). To invest in an international portfolio, Enisan (2017) argued that a business needs a specific ownership advantage that is strong enough to compensate for the natural disadvantages it faces when competing with local companies. Faeth (2009) identified these disadvantages as the foreign investor's lack of familiarity with the market, a higher degree of uncertainty, geographical separation from its branches, and disparities in culture, business ethics, legal systems, and regulations.

Therefore, these distinct, non-financial ownership advantages such as product differentiation, managerial skill, technological progress, or government support act as indicators of existing market and institutional imperfections. Rizvanolli (2012) connects these ownership advantages to a firm's capacity for innovation, which is influenced by institutional and market structures and linked to the distribution of factor endowments, giving firms from certain nations an advantage over others.

In support of the market failure theory, Enisan (2017), Rizvanolli (2012), and Emenuga (2019) asserted that market failure is an inevitable feature of any economy. This inevitability creates the foundation for international trade and multinational production, which in turn leads to inflows of Foreign Direct Investment (FDI). However, the market failure theory has faced criticism because it implicitly assumes that the government is more capable of directing growth through international production. Emenuga (2019) further noted that even when policymakers have all the necessary information, achieving a perfectly optimal societal outcome is not possible.

### **Stock-Oriented Model**

The stock-oriented model initially developed by Branson and Frankel in 1983. These models indicate that exchange rates are determined by the demand and supply dynamics of financial assets like stocks and bonds. This perspective suggests that stock prices influence exchange rates; specifically, rising stock prices motivate investors to purchase more domestic assets, which in turn boosts the value of the local currency. Consequently, as the domestic currency strengthens, it attracts more foreign capital and investment into the country, promoting further currency appreciation. Agubata and Odubuasi (2018) argued that higher stock prices lead to significant capital inflows. This influx creates greater demand on the domestic currency, causing the exchange rate to rise. In essence, the exchange rate is driven by the supply and demand for financial assets.

This approach, however, was critiqued by Richard, Simpson and Evans (2009) for its failure to incorporate global capital flows. They also observed that the stock-oriented paradigm is primarily relevant in the early stages of a business. Cerra and Saxena (2002) added that during a firm's initial phase, the influence of exchange rate volatility on its economic performance is better described by the flow-oriented model. This hypothesis is essential to this study because it provides an alternative explanation, asserting that stock prices, exchange rates, and the level of Foreign Portfolio Investment (FPI) in an economy are all interconnected at any given time. These theories are pertinent to this research as they provide insight into the factors that influence FPI and multinational production across all economies.

### **2.3 Empirical Review**

The body of research on this topic spans multiple countries both within Africa and globally and also includes studies specifically focused on the Nigerian economy.

Soyoung, Sunghyum and Yoonseok (2013) investigated the determinants of international capital flows in Korea, focusing on the distinction between push and pull factors. Covering the period from 1980 to 2010, the study utilized time series data and applied the Generalized Method of Moments (GMM) to estimate the relationships among key variables. The results revealed that exchange rate volatility was positively associated with foreign portfolio investment in Korea, suggesting that fluctuations in the exchange rate may, under certain conditions, attract rather than deter foreign investors.

Nwosa and Amassona (2014) explored the link between capital inflows and exchange rate behavior in Nigeria over the period of 1986 to 2011, applying both Granger causality analysis and error correction modeling to identify short and long run dynamics. Their research suggested that foreign portfolio inflows exerted only a marginal positive effect on the Nigerian exchange rate, indicating that portfolio flows were not a major driver of currency movements during that period. Idowu (2015) conducted a comprehensive investigation into the determinants of foreign portfolio investment between 1970 and 2010. Using a combination of time series analysis, Granger causality tests, Johansen co-integration, and error correction mechanism estimations, she concluded that variations in the real exchange rate had little to no measurable effect on portfolio inflows, suggesting that other macroeconomic variables may be more influential in attracting foreign investors.

Nwadibe, Okonkwo & Nwanna, (2023) conducted an in-depth analysis of the factors determining foreign portfolio investment (FPI) within Nigeria's financial sector between 2007 and 2021. The research examined a wide array of variables, such as exchange rates, inflation, interest rates, market capitalization, the all-share index, external debt, trade openness, political stability, GDP growth rate, and industrial production. FPI was segmented into four distinct types: net foreign portfolio investment (NFPI), money market instrument investments (PIMI), bond investments (PIB), and equity investments (PIE). Using Stepwise Regression analysis on secondary data, the study identified the most crucial determinants for each FPI category. The analysis showed that interest rates,

trade openness, and industrial production were key drivers for foreign equity investments. In contrast, interest rates, trade openness, and GDP growth rates were the primary factors influencing bond investments.

Ehiedu, Onuorah, & Owoneye (2023) investigated the relationship between foreign portfolio investment inflows (FPIs) and economic growth in Nigeria over a forty-year period from 1981 to 2021. The study used Real Gross Domestic Product (RGDP) as a measure of economic growth and assessed the impact of various FPI components, including the Exchange Rate (EXCHR), Trade Openness (TROP), Money Market Instrument FPI (MMIFPI), Equity FPI (EFPI), Bond FPI (BFPI), and the Interest Rate (INTR). Employing Ex-post facto and Quasi-Experimental research designs, the study found that while the Interest Rate (INTR) had a significant short-term effect on Nigeria's RGDP, the other variables had a negligible influence in both the short and long term. Ehiedu, Onuorah, & Owoneye (2023) analyzed the effect of macroeconomic variables on the volatility of Foreign Portfolio Investment (FPI) in Nigeria using time series data from January 2014 to December 2019. Adopting an ex post facto design, the study retrospectively examined the link between FPI volatility and economic indicators like Gross Domestic Product (GDP), monetary policy rates, inflation, and the all-share index. The empirical results pointed to a significant long-run connection between FPI volatility and these macroeconomic factors. It was specifically discovered that the previous month's FPI volatility, current inflation rates, and changes in the all-share index were critical predictors of FPI instability in Nigeria. Furthermore, by using the Autoregressive

Conditional Heteroskedasticity (ARCH) model, the study showed that Nigerian FPI, contrary to common assumptions, does not experience persistent volatility.

Alalade, Oliyide, Okwu, Adebola, Ademola, & Ogunwale, (2024) assessed the vital contribution of foreign portfolio investment (FPI) to improving the liquidity and efficiency of Nigeria's capital markets between 1993 and 2023. Using an ex-post facto research design, they utilized data from the Central Bank of Nigeria Statistical Bulletin to analyze how macroeconomic variables, specifically the interest rate (InR) and exchange rate (ExR), affect FPI. Applying a 5% significance level for panel data analysis and employing the Fully Modified Ordinary Least Squares (FMOLS) estimator, the study found that the relationship between interest rate and FPI was contrary to expectations, as indicated by an InR coefficient of -0.214 ( $t = -3.284$ ,  $P < 0.05$ ). Moreover, the exchange rate was found to significantly impact FPI, with an ExR coefficient of 0.0076 ( $t = -2.526$ ,  $P < 0.05$ ).

Bamidele (2024) explored the effect of exchange rate volatility on foreign portfolio investment (FPI) in Nigeria using data from 1986 to 2023. The research employed a multivariate econometric methodology, specifically the Autoregressive Distributed Lag (ARDL) model to investigate both short- and long-term dynamics and the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model to measure exchange rate volatility. The key finding highlighted that exchange rate volatility significantly affects foreign portfolio investment over time, with a shift from a negative and

insignificant effect in the short run to a positive and significant effect in the long run. This suggests that investors adapt their strategies based on past volatility to capitalize on speculative opportunities. The study also revealed a cyclical trend in FPI, where phases of high inflows are usually succeeded by declines, implying investors often reduce their investments following surges, possibly due to concerns over overvaluation or market corrections. Abubakar (2024) analyzed the influence of Foreign Portfolio Investment (FPI) on economic growth in Nigeria from 1986 to 2023. Hypotheses were tested using the Ordinary Least Squares method and Granger Causality analysis, implemented through the E-view statistical software. The Granger causality test results indicated that FPI Granger causes GDP, while GDP does not Granger cause FPI. Regression analysis revealed that FPI positively and significantly influences Nigeria's GDP, whereas inflation (INF) has a negative and significant impact on GDP. Additionally, exchange rate (EXR) demonstrated a positive and significant effect on GDP.

Ejem, Chukwu & Ogbulu, Onyemachi. (2024) examined the relationship between exchange rate volatility and foreign portfolio investment in Nigeria. Given the current assumption that exchange rate fluctuations affect all sectors of Nigeria's economy, the study analyzed monthly data sourced from the 2022 Central Bank of Nigeria Statistical Bulletin, employing EGARCH and other econometric techniques. The empirical results indicated a significant link between exchange rate movements and foreign direct investment in Nigeria during the study period. Furthermore, it was found that shocks from

exchange rate changes on stock prices are persistent, suggesting that exchange rate shocks affecting foreign portfolio investment endure for an extended period before diminishing.

Duruechi (2020) investigated the factors influencing foreign portfolio investments in an emerging economy like Nigeria, utilizing secondary data from the Central Bank of Nigeria (CBN) Statistical Bulletin covering the period from 1990 to 2018. The Vector Error Correction Mechanism (VECM) was applied for data analysis with the aid of e-views version 10. The study's results indicated that market capitalization, all-share index, economic growth, foreign exchange rates, interest rates, and inflation rates are key determinants of Foreign Portfolio Investments in Nigeria. Consequently, it was concluded that these variables constitute major considerations for foreign investors regarding foreign portfolio investments in Nigeria. Tyoga, Lawani, Gambo, & Abbas (2024) found that exchange rate changes increased Nigerian FPI, whereas other factors showed a negative relationship. This study analyzed macroeconomic determinants of FPI in Nigeria for the period 2011-2022 using quarterly data. After confirming that variables were integrated at levels and first differences, OLS modeling was applied. The results demonstrated that exchange rates, inflation, and GDP significantly influenced FPI flows. Specification tests confirmed the stability of the model. The analysis revealed that exchange rate fluctuations substantially affected capital inflow and divestment decisions, suggesting that exchange rate uncertainty discourages long-term FPI.

Kondo, Talent, Mutsvangwa, Simba, Chari, Felix, & Bafana, Sithokozile (2024) examined the causal relationship among Foreign Portfolio Investment (FPI), equities market volatility, exchange rate, and inflation in Zimbabwe using monthly time series data from October 2018 to November 2021. The Granger causality model was employed to assess the relationships, while EGARCH accounted for volatility and asymmetric effects. Impulse response functions were used to incorporate innovations and responses in the Granger model. The study identified links between exchange rate and foreign portfolio investments, implying that exchange rate volatility fluctuates when foreign investors buy and sell securities on the Zimbabwe Stock Exchange (ZSE). Conversely, foreign investors tend to sell local securities when local stock market returns are negative, causing a notable outflow of foreign portfolio investment and a reduction in currency demand. A significant causal relationship was discovered between exchange rate volatility and stock market returns.

Gini, Kiyentei, and Menoja Nathaniel Akokaike (2021) investigated the effect of interest rates on portfolio investment in Nigeria from 1984 to 2018, using time series data sourced from the CBN and WDI. The study applied the Autoregressive Distributed Lag (ARDL) technique. Findings showed that interest rates positively and significantly affected portfolio investment in the short run but had no impact in the long run. The study concluded that interest rate is only one of multiple factors influencing portfolio investment in Nigeria.

Ejaz, Muhammad, Shahzad, Muhammad, & Khan, Rana. (2021) estimated the extent to which capital inflows are affected by exchange rate and exchange rate volatility in developing economies. The Generalized Method of Moments (GMM) was applied to a panel dataset of 34 developing countries covering the years 1978-2015. The GARCH model was used to measure exchange rate volatility, while capital inflows were represented by net foreign direct investment (FDI) and foreign portfolio investment (FPI). The findings revealed that when capital inflows are measured by FDI, they are positively influenced by exchange rate but negatively impacted by exchange rate volatility. GDP growth showed a positive effect, whereas terms of trade and interest rate exhibited a negative effect on capital inflows. Inflation had a negative but minimal impact on FDI inflows. When capital inflows are measured by FPI, the results showed that exchange rate, exchange rate volatility, and terms of trade negatively affected FPI. Economic growth, interest rate, and industrialization positively influenced capital inflows captured by FPI. Since exchange rate volatility negatively affects capital inflows measured by both FDI and FPI, exchange rate fluctuations should be minimized to boost capital inflows in developing economies.

Ganic, Mehmed & Gavranovic, Nedim. (2024) investigated the pull factors influencing capital inflows through an empirical analysis based on a panel study covering eleven Southeast European nations (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Kosovo, Romania, Serbia, and Türkiye) during the period from 2004 to 2021. The study employs a fixed effects (FE) regression model with robust

Driscoll-Kraay standard errors to tackle issues related to heteroskedasticity, autocorrelation, and potential cross-country correlation. The findings indicate that several pull factors are significant in attracting capital inflows, including market size, inflation, financial openness, and trade openness. The empirical results confirm that trade liberalization, financial liberalization, market size, real interest rates, and inflation stability are key elements that foster capital inflows. Conversely, the estimated impacts of current account balance and real economic growth appear to be less convincing.

Bello, Kehinde, Olayungbo, David, and Folorunso, Benjamin (2022) investigated the asymmetric impact of exchange rate volatility on Nigeria's macroeconomic performance from 1986Q1 to 2019Q4. They utilized the Non-linear Generalised Autoregressive Distributive Conditional Heteroscedasticity (GARCh) model for analysis. The study was driven by the recurring rise in the naira-to-dollar exchange rate and fluctuations in key macroeconomic indicators. The detection of an Autoregressive Distributive Conditional Heteroscedasticity (ARCH) effect justified the application of the non-linear GARCh model, which indicated that volatility remained persistent throughout the period examined. Findings showed that exchange rate volatility had a positive association with trade balance, industrial output, and inflation during the timeframe. Hence, positive effects outweighed negative ones.



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter outlines the procedures employed in investigating the relationship between exchange rate volatility, macroeconomic instability, and foreign portfolio investment in Nigeria. Key areas considered are research design, population, data sources, econometric model formulation, and measurement of variables

#### **3.1 Research Design**

The study adopts a quantitative research approach utilizing an ex-post facto and longitudinal research design to examine the dynamic relationships between exchange rate volatility, macroeconomic instability indicators, and foreign portfolio investment inflows in Nigeria. Ex-post facto research design is appropriate for this investigation because it involves the use of historical data that are already collected and cannot be manipulated by the researcher. The ex-post facto design enables the examination of causal relationships between variables using time series data spanning multiple years.

#### **3.2 Population and Sample Size**

This study focuses on the Nigerian economy as the unit of analysis, examining aggregate macroeconomic indicators and foreign portfolio investment flows. The domain of interest

comprises all macroeconomic data pertaining to exchange rates, inflation rates, interest rates, GDP growth, and foreign portfolio investment in Nigeria for the period 1981 to 2024. Thus, the the sample size consist of annual series data covering the period from 1981 to 2024 making a total of 44 observations. This time frame was selected to capture various economic cycles, policy regimes, and external shocks that have affected the Nigerian economy, ensuring robust analysis and reliable findings.

### **3.3 Sources of Data**

Secondary data for this research were obtained primarily from official statistical publications and databases of reputable institutions. The main sources were collected from the Central Bank of Nigeria (CBN) Statistical Database which serves as the primary source for exchange rate data, foreign portfolio investment flows, interest rates, and money supply statistics and the National Bureau of Statistics (NBS) which provides comprehensive data on GDP growth rates, inflation indices, and other macroeconomic indicators as well as world Bank development indicators databases.

### **3.4 Model Specification**

Building on established theoretical frameworks in international finance and macroeconomics such as the push and pull factor theory propounded by Everett (1966), to explain labor migration but was later adopted by finance researchers to explain international capital flows. This study develops an empirical model to examine the impact

of exchange rate volatility and macroeconomic instability on foreign portfolio investment in Nigeria. The theoretical foundation recognizes that foreign portfolio investment decisions are influenced by risk-return considerations, where exchange rate volatility and macroeconomic instability represent key risk factors.

The functional relationship is specified as:

$$FPI = f(ERV, INF, INT, GDP) \dots \dots \dots (1)$$

Where:

FPI = Foreign Portfolio Investment

ERV = Exchange Rate Volatility

INF = Inflation Rate (proxy for macroeconomic instability)

INT = Interest Rate

GDP = Gross Domestic Product Growth Rate

MS = Money Supply Growth Rate

The Dynamic least squares (DOLS) was implemented by this study. DOLS generally take the form:

$$Z_t = X_t K_1 + \sum_q^p \Delta X_{t-1} + \dots \dots \dots E_t \dots \dots \dots (2)$$

Where:

Z is the dependent variable,  $X_tK_1$  is the cointegrating equation with deterministic trend regressor,  $\Delta X$  represent differenced regressors, E is the error term, p, q are the lag(s) and lead(s) respectively.

The econometric form of equation (1) is stated as follows:

$$FPI_t = \beta_0 + \beta_1 XRV_t + \beta_2 INF_t + \beta_3 INT_t + \beta_4 GDP_t + \varepsilon_t \dots\dots\dots (2)$$

Where:

XRV= Exchange rate volatility at time t,

INF= Inflation rate at time t,

INT= Interest rate at time t,

GDP= Gross domestic product growth at time t,

t = represents time period

$\beta_0$  is the intercept term,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  are the slope coefficients

$\varepsilon_t$  is the error term

### 3.5 Measurement of Variables

**Foreign Portfolio Investment (FPI):** Measured as the annual net inflows of portfolio investment in millions of US dollars, obtained from CBN statistical bulletins. This includes investments in equity securities and debt instruments with maturities greater than one year.

**Exchange Rate Volatility (XRV):** Computed as the conditional volatility of the naira-dollar exchange rate using GARCH(1,1) methodology. The volatility measure captures the time varying uncertainty in exchange rate movements, which serves as a key risk indicator for foreign investors.

**Inflation Rate (INF):** Represented by the quarterly consumer price index inflation rate, serving as a primary indicator of macroeconomic instability. High and volatile inflation rates signal economic uncertainty and policy inconsistency.

**Interest Rate (INT):** Measured using the Central Bank of Nigeria's Monetary Policy Rate (MPR), which serves as the benchmark interest rate and reflects the monetary policy stance.

**GDP Growth Rate (GDP):** Calculated as the quarter-on-quarter percentage change in real GDP, indicating the pace of economic expansion and overall economic performance.

### **3.6 Method of Data Analysis**

The analysis employs several econometric techniques appropriate for time series data analysis:

**Descriptive Statistics:** Summary statistics including mean, median, standard deviation, skewness, and kurtosis are computed to provide initial insights into the data characteristics.

Unit Root Tests: Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests are conducted to examine the stationarity properties of the variables and determine the order of integration.

Cointegration Analysis: The Johansen cointegration approach is employed to test for long-run relationships among the variables.

Vector Error Correction Model (VECM): If cointegration is established, a VECM is estimated to analyze both short-run dynamics and long-run relationships.

GARCH Modeling: GARCH(1,1) models are used to generate volatility measures and examine conditional heteroskedasticity in the data.

Granger Causality Tests: Applied to determine the direction of causality between variables and identify lead-lag relationships.

Diagnostic Tests: Various post-estimation tests including residual normality, serial correlation, and heteroskedasticity tests are conducted to validate model adequacy.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND INTERPRETATION**

#### **4.0 Introduction**

This chapter focus on the presentation of the outcome of the econometric analysis of data used for the study. Indeed, it presents the outcome of the econometric analysis and the subsequent interpretations. Also, the chapter tested the hypotheses formulated earlier in this study and the discussion of the findings. The analysis started with preliminary investigation through descriptive statistics, correlation analysis and unit root tests on data. The effect of exchange rate volatility and macroeconomic variables on foreign portfolio investment was captured using dynamic least squares regression. The E-view 9.0 econometric software was used for the analysis.

#### **4.1 Presentation and Interpretation of Results**

The outcome of econometric investigation is presented in this section. The analysis was done in the order of descriptive statistics, correlation, unit root test and regression estimation. The procedure for the maximum lag utilized is also presented together with

the determination of cointegrating relationship among the variables. However, the cointegrating relationship was detected using post estimation procedures.

## Descriptive Statistic

Descriptive statistics is undertaken in this study to determine the characteristics of the variables used for this study. The outcome of the summary statistic is displayed in table 1 below.

**Table 1: Descriptive Statistics**

|              | LFPI      | DVXR      | GDPG      | INF      | RIR       |
|--------------|-----------|-----------|-----------|----------|-----------|
| Mean         | 20.95514  | -17.09362 | 3.042141  | 19.07948 | 0.482534  |
| Median       | 21.09299  | -17.85030 | 3.251681  | 13.00697 | 3.023542  |
| Maximum      | 23.02174  | 293.2299  | 15.32916  | 72.83550 | 18.18000  |
| Minimum      | 18.08664  | -132.1315 | -13.12788 | 5.388008 | -65.85715 |
| Std. Dev.    | 0.810674  | 119.1827  | 5.255826  | 16.28122 | 13.91620  |
| Skewness     | -0.968720 | 1.025345  | -0.839215 | 1.867414 | -2.788874 |
| Kurtosis     | 6.097099  | 3.230143  | 4.845801  | 5.472970 | 13.56168  |
| Jarque-Bera  | 23.91105  | 7.452020  | 11.15153  | 35.94894 | 255.6000  |
| Probability  | 0.000006  | 0.024089  | 0.003789  | 0.000000 | 0.000000  |
| Sum          | 901.0711  | -717.9320 | 130.8121  | 820.4177 | 20.74898  |
| Sum Sq. Dev. | 27.60211  | 582385.6  | 1160.196  | 11133.28 | 8133.748  |
| Observations | 43        | 42        | 43        | 43       | 43        |

Researcher's estimation 2025

Table 1 above reveals that there is no remarkable variation in the level of foreign portfolio investment (FPI) inflows into the country within the period under investigation. This is because the mean of FPI lies far above its standard deviation, portraying no significant fluctuations in the level of FPI movement within the period. However, a close look at the maximum and minimum value of FPI reveals some level of changes. Table 1 further reveals a negative mean for exchange rate volatility, and the mean which lies below its standard deviation, tends to indicate that exchange rate has indeed been volatile within the period under investigation. As shown in table 1 above, change in GDP which measures growth in national economy has a mean of about 3.04%. Meaning the economy

grow at the rate of 3.04% on the average within the period under review. The standard deviation of GDPG which is above the mean of GDPG portrays changes in the economy within the period of this investigation. It can also be observed in table 1 above that changes in the general price level proxy by inflation (INF) has a mean of about 19.08. This implies that inflation rate within the period reach a height of about 19.08%, which is remarkably high. It is obvious in table 1 that real interest rate (RIR) has a maximum value of 18.18 within the period under consideration. High interest rate signify increase in the cost of borrowing domestically and this may encourage foreign investment because of the attractive returns.

The Jarque-Bera statistics of the variables displayed in table 1 reveals that all the variables used are not normally distributed. This is because none of probability of the Jarque-Bera statistic of the variable is significant at 5% level. Specifically, the probability of LFPI, DVXR, GDPG, INF and RIR are not significant at 5% level, suggesting that these variables are not normally distributed. Therefore, unit root test procedures should be applied on the variables to determine their level of stationarity.

### **Correlation**

Correlation analysis was undertaken in this study to ascertain the relationship between the variables, especially the association between the dependent variable and the explanatory variables. The outcome of the correlation analysis is presented in table 2 below.

**Table 2: Correlation Matrix**

| Variables | LFPI                  | DVXR                  | GDPG                  | INF                   | RIR               |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------|
| LFPI      | 1.000000              |                       |                       |                       |                   |
| DVXR      | -0.466558<br>(0.0018) | 1.000000<br>-----     |                       |                       |                   |
| GDPG      | -0.031506<br>(0.8430) | 0.103916<br>(0.5125)  | 1.000000<br>-----     |                       |                   |
| INF       | 0.058352<br>(0.7136)  | -0.241251<br>(0.1238) | -0.227459<br>(0.1474) | 1.000000<br>-----     |                   |
| RIR       | -0.125944<br>(0.4268) | 0.250114<br>(0.1102)  | 0.357749<br>(0.0200)  | -0.748669<br>(0.0000) | 1.000000<br>----- |

\* = Significance at 5% level (Probability reported in parenthesis)

Source: Researcher's computation, 2024

Table 2 above reveals that all the variables except inflation (INF) are inversely related to foreign portfolio investment (LFPI). However, only the volatility of exchange rate is statistically significant at 5% level, judging by the probability value. This result tends to imply that, exchange rate fluctuations is a hindrance to foreign portfolio investment inflows, especially to developing economy like that of Nigeria. A close look at table 2 further reveals that, though inflation is positively related to foreign portfolio inflows, the relationship is not statistically significant at 0.05 level. Other variables are positively/negatively associated with one another.

### **Unit Root Test**

It is usually argued that the mean and variance of time series data are not stationary over time. Meaning, the variables may not be stationary when consider over a long period. The implication of using data which is not stationary is that the regression result may not be

consistent or reliable. To be sure that the data used in this study does not contain unit root, the Augmented Dickson Fuller (ADF) unit root test was applied on the variables at levels and at first difference. The results of the unit root test are represented in table 3.

**Table 3: Unit Root Test Results**

| Variable | Unit Root @ Levels |                       |                | Unit Root @ First Difference |                       |            |
|----------|--------------------|-----------------------|----------------|------------------------------|-----------------------|------------|
|          | ADF Statistic      | 5% ADF Critical Value | Remark         | ADF Statistic                | 5% ADF Critical Value | Remark     |
| FPI      | -3.59829           | -2.948404             | Stationary     | -3.054741                    | -2.951125             | Stationary |
| XR       | 2.471870           | -2.933158             | Not Stationary | -4.348002                    | -2.935001             | Stationary |
| GDPG     | -3.24456           | -2.935001             | Stationary     | -10.68051                    | -2.935001             | Stationary |
| INF      | -3.08236           | -2.933158             | Stationary     | -5.963592                    | -2.935001             | Stationary |
| RIR      | -7.67057           | -2.933158             | Stationary     | -10.35630                    | -2.935001             | Stationary |

Researcher's computation 2025

Table 3 above indicates that all the variables except XR are stationary at levels. Meaning, the other variables namely FPI, GDPG, INF and RIR are integrated of order zero  $I(0)$ , but mean and variance of XR are not stable in its original form. Applying regression on the variables incorporating XR may produce unreliable result. Based on this, the unit root test procedure was repeated on the variables but this time around at their differenced levels. It is obvious in table 3 below that all the variables are now stationary at their first difference

because their ADF statistic values is now higher than their respective 5% ADF critical values. To this end, this study cannot accept the hypothesis that the mean and variance of the data set engaged in this study are not stable over time. This suggests that using the variables at their differenced status will produce acceptable and reliable estimates.

### **Long-Run Cointegrating Relationship**

Co-integration is a technique used to determine whether a long-run equilibrium relationship exist between variables. Although two different entities may not be stationary individually on their own, they may do so when put together in linear form (Komolafe, 1996 cited in Isede and Izilein, 2014). The necessary conditions for implementing dynamic ordinary least square in system equation is that there must be cointegrating relationship among the variables. That is, a long-run association must exist among the variables used. To test for co-integration in this study, the Johansen co-integration rank test was applied on the initial data set. The outcome of the co-integration test is depicted on table 4 below:

**Table 4: Johansen Cointegration Rank Result**

| Unrestricted Cointegration Rank Test (Trace) |            |           |                |         |
|--|------------|-----------|----------------|---------|
| Hypothesized                                 |            | Trace     | 0.05           |         |
| No. of CE(s)                                 | Eigenvalue | Statistic | Critical Value | Prob.** |
| None *                                       | 0.560557   | 87.40298  | 69.81889       | 0.0011  |
| At most 1 *                                  | 0.430120   | 54.51313  | 47.85613       | 0.0104  |
| At most 2 *                                  | 0.341093   | 32.01996  | 29.79707       | 0.0273  |
| At most 3                                    | 0.255352   | 15.33302  | 15.49471       | 0.0529  |
| At most 4                                    | 0.084680   | 3.539276  | 3.841466       | 0.0599  |

|   |
|---|
| Trace test indicates 3 cointegrating eqn(s) at the 0.05 level |
|---|

Source: Researcher's representation of E-view outcome.

The trace statistic in table 4 above indicates that there exist at least three co-integrating equations, suggesting that a long-run equilibrium relationship exist among the variables used in this study. Therefore, we reject the null hypothesis that there is no long-run relationship among the variables utilized in this study. Thus, the variables used in this study cointegrates. On this backdrop, this study proceeds to implement the dynamic least square regression.

### Regression Result and Interpretation

The primary objective of this study is to ascertain the effect of exchange rate volatility and other macroeconomic variables on foreign portfolio investment inflows. To achieve this, this study engaged the dynamic least square (DOLS) regression. The outcome of the dynamic regression is represented in table 5 below.

**Table 5: DOLS Regression Output (LFPI as Dependent Variable)**

| Variable                           | Coefficient | Std. Error         | t-Statistic | Prob.    |
|------------------------------------|-------------|--------------------|-------------|----------|
| VXR                                | -0.003986*  | 0.001452           | -2.744742   | 0.0178   |
| GDPG                               | -0.188114*  | 0.036336           | -5.177138   | 0.0002   |
| INF                                | 0.048855*   | 0.019902           | 2.454800    | 0.0303   |
| RIR                                | 0.241644*   | 0.038702           | 6.243700    | 0.0000   |
| C                                  | 20.89857    | 0.458817           | 45.54881    | 0.0000   |
| R-squared                          | 0.878381    | Mean dependent var |             | 20.92548 |
| Adjusted R-squared                 | 0.835144    | S.D. dependent var |             | 0.817097 |
| S.E. of regression                 | 0.493554    | Sum squared resid  |             | 2.923144 |
| Long-run variance                  | 0.104427    |                    |             |          |
| * = Significance @ 5 percent level |             |                    |             |          |

Source: Researcher's computation extracted from using E-View software estimate

Table 5 above clearly demonstrates that the coefficient of determination ( $R^2$ ) stood impressively at 0.8784 (87.84%). On adjustment, the  $R^2$  with a value of 0.8351, suggests that the distortion in foreign portfolio inflows in the past is normalised in the current period to the tune of about 83.51%. Meaning, the explanatory variables captured about 83.51% of the variations in foreign portfolio investment inflows, while the remaining 16.49% reflected in the error term.

Table 5 further reveals that exchange rate volatility negatively and significantly influence foreign portfolio investment inflows. This implies that, as exchange rate fluctuates, foreign portfolio investment inflows into the country declines. Meaning, foreign investors considered fluctuations in exchange rate as risk to their investment. Indeed, a fall in the value of local currency signals a fall the in returns to foreign investors because the monetary value of the return when converted to foreign currency declines. Thus, exchange rate volatility (risk) discourages foreign investment inflows to domestic economy experiencing currency devaluation.

As the economy grows, activities in the domestic home front intensifies and this attracts foreign investor to domestic market. However, the result in table 5 above demonstrates that economic growth (GDPG) inversely and significantly impacts foreign portfolio investment inflows. Arguably, foreign investors are skeptical investing in developing economy like Nigeria where there is high level of insecurity, poor governance structure and poor infrastructures like power. This probably account for the reason developing

countries roll out different kinds of incentives like tax holidays to woo investors to domestic markets.

It is obvious in table 5 above that changes in general price level (INF) proxy by inflation directly and significantly drives foreign portfolio investment inflows. The positive impact tends to indicate that a unit rise in general price level boost foreign portfolio investment inflows remarkably. Meaning, inflation in domestic market is an incentive to attract foreign investment. Indeed, a rise in the general price level may mean increase in earnings and returns, all things being equal.

Table 5 clearly demonstrates that interest rate (RIR) has positive and significant impact on foreign portfolio investment inflows. This tends to suggest that a unit rise in interest rate in domestic market stimulates foreign portfolio investment inflows. This is so because a rise in interest rate increases the cost of borrowing and production cost at the domestic level, and this attracts cheap capital from foreign countries. Obviously, capital in foreign countries is relatively cheaper when compared to that at the domestic market. This accounts for why most developing countries depend on foreign nations for development capital, thus becoming heavily indebted. A rise in borrowing cost serves as discouragement because it leads to an increase in operating expenses and reduction in returns or profitability. Undoubtedly, this will serve as discouragement to investment, especially on the part of foreign investors.

## 4.2 Test of Hypotheses

Hypothesis is a tentative statement to be accepted or rejected only after empirical verification. Thus, in this section the hypotheses stated earlier in this study will be tested.

### Decision Rule

Reject the null hypothesis if the T-statistic is significant at 5% level (using the probability value), otherwise accept the hypothesis. The T-statistic and probability values in table 5 above will be used for this purpose.

**Hypothesis one (H<sub>1</sub>):** Exchange rate volatility has no significant impact on foreign portfolio investment in Nigeria.

**Test statistic:** The test statistic value of exchange rate volatility in table 5 in this study is significant at 5% level. This result indicates that exchange rate volatility is an important factor influencing foreign portfolio investment in Nigeria. On this basis, this study rejects the null hypothesis that exchange rate volatility has no significant impact on foreign portfolio investment in Nigeria.

**Hypothesis two (H<sub>2</sub>):** Inflation rate does not significantly influence foreign portfolio investment in Nigeria.

**Test Statistic:** The test statistic value of inflation (INF) proxy for general price level with a T. statistic value of 2.4548 is significant at 5% level is displayed in table 5 above. This tends to suggest that change in general price level is a potent factor stimulating foreign

portfolio investment in Nigeria. On this backdrop, the null hypothesis that inflation rate does not significantly influence foreign portfolio investment in Nigeria is rejected in favour of the alternative hypothesis.

**Hypothesis two (H<sub>3</sub>):** Interest rate does not significantly affect foreign portfolio in Nigeria.

**Test Statistic:** The test statistic value of interest rate (RIR) in table 5 with the value of 6.2437 is significant at 5%, judging by the probability value. Thus, variation in interest rate can be taken advantage of to attract foreign portfolio investment into Nigeria. Arising from this, the null hypothesis that interest rate does not significantly affect foreign portfolio in Nigeria could not be accepted.

**Hypothesis two (H<sub>4</sub>):** Gross domestic product growth (GDPG) has no significant effect on foreign investment portfolio in Nigeria.

**Test Statistic:** A look at table 5 above indicates that the test statistic value of GDPG is significant at 5% level. Meaning that economic growth is a major factor driving foreign portfolio investment inflows into Nigeria. Based on this, this study could not accept the null hypothesis that growth in gross domestic product (GDP) has no significant effect on foreign investment portfolio in Nigeria.

### **4.3 Discussion of Findings**

The pull factor theory associated country specific factors as key driver of foreign investment inflows. The factors are internal to the host country which may include exchange rate and other macroeconomic indicators. Specifically, capital flows to domestic market may be linked to autonomous increases in the domestic money demand function, stable exchange rate, increases in the domestic productivity of capital among others.

This study found that exchange rate volatility negatively and significantly influences foreign portfolio investment in Nigeria. This result tends to suggest that volatility of exchange rate constitute risk factor hindering the flow of foreign portfolio investment into Nigeria. Meaning, foreign investors considered fluctuations in exchange rate as risk factor and most investors want to avoid risk because of the adverse effect it may have on their investment. Indeed, a fall in the value of local currency signifies that foreign investors would be repatriating earnings whose value has depreciated. Thus, exchange rate volatility (risk) discourages foreign investment inflows to domestic economy experiencing currency devaluation. This finding tends to provide support for Bamidele (2024) that exchange rate volatility significantly affects foreign portfolio investment over time. However, this finding is contrary to Soyoun, et al (2013) who discovered positive impact of exchange rate volatility on foreign portfolio investment.

This study also found economic growth negatively and significantly accounts for foreign portfolio investment in Nigeria. This finding is contrary to expectation and may be

attributed to the fact that foreign investors are skeptical investing in an economy like Nigeria where there is high level of insecurity, poor governance structure and poor infrastructures. These factors constitute risk which may serve as disincentive to investment in domestic markets. This finding is in line with Duruechi (2020) that economic growth is a key determinants of foreign portfolio investments in Nigeria.

This study further discovered that inflation as macrocosmic factor is a positive and significant determinant of foreign portfolio investment in Nigeria. This result is an attestation that foreign investors are sensitive to the general price movement in domestic market. Increase in general prices level may signifies more earnings for firms, and this ultimately may culminate to high returns for investment either in terms of dividend or share appreciation occasion by high demand. This finding tends to align with Ganic, et al (2024) that several pull factors including the general price level are significant factor in influencing capital inflows.

Finally, this study found that change in interest rate has positive and significant impact on foreign portfolio investment inflows. This is so because a rise in interest rate increases the cost of borrowing as well as the cost of production at the domestic level. Foreign is relatively cheaper when compared to the one obtainable at the domestic market. This probably account for why most developing countries depends on foreign nations for development capital. This result is in line with Gini, et al (2021) that interest rates positively and significantly impact on portfolio investment. It also provides support for

Nwadike, et al (2023) who discovered that interest rates among other macroeconomic factors is a key drivers of foreign equity investments as well as bond investments.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.0 Introduction**

This study considered the link between exchange rate volatility, macroeconomic variable instability and foreign portfolio investment. Specifically, it examine whether exchange rate volatility constitute risk to foreign investment capital inflows into Nigerian economy. Indicators used for the study include exchange rate volatility, inflation rate, interest rate, gross domestic product growth and foreign portfolio investment. This chapter presents the findings of the study, conclusion and recommendations put forward.

#### **5.1 Summary of Findings**

Arasing from the data analysis, the testing of the hypotheses and the discussion of results, the findings of this study are as follows:

- i. That exchange rate volatility negatively and significantly influence foreign portfolio investment in Nigeria

- ii. That economic growth (GDP growth) inversely and significantly determine foreign portfolio investment in Nigeria.
- iii. That changes in the general price level (measure by inflation) positively and significantly account for foreign portfolio investment in Nigeria.
- iv. That interest rate of the aggregate economy positively and significantly drives foreign portfolio investment in Nigeria.

## **5.2 Conclusion**

The aim of this study is to examine the link between exchange rate volatility, macroeconomic variable instability and foreign portfolio investment in Nigeria. The data for this study was collected from World Bank Economic Indicator database and the Nigerian Security and Exchange commission Statistical Bulletin covering 1981 to 2024. The longitudinal research design was adopted by this study. The Augmented Dickson Fuller unit root test, the descriptive statistics and correlation and the Johansen cointegration test were the preliminary econometric analysis. This study implements dynamic least squares regression procedure to achieve the stated objectives. The E-view 9.0 econometric software was utilised for the analysis.

This study found that macroeconomic instability significantly influence foreign portfolio investment. Particularly, exchange rate volatility, growth in gross domestic product negatively and significantly affect foreign portfolio investment, while inflation rate and interest rate positively and significantly influence foreign portfolio investment. Based on

these findings, this study conclude exchange rate volatility, instabiloity in macroeconomic variable account for foreign portfolio investement in Nigeria.

### **5.3 Recommendation**

The following are the recommendations of this study:

- i. That the Nigerian government, particularly the Central Bank of Nigeria should intensify effort gear towards exchange rate stabilization because instability in exchange rate market constitute risk likely to discourage foreign portfolio investors.
- ii. That government should deepen current reforms directed at reducing general price level (inflation), as doing so will stimulate foreign portfolio investment inflows into the country.
- iii. That government should sustain the current interest rate policy drive because it holds the potential to stimulate foreign portfolio investment inflows

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## Appendix I: Regression

Dependent Variable: LFPI

Method: Dynamic Least Squares (DOLS)

Date: 10/02/25 Time: 13:06

Sample (adjusted): 1985 2021

Included observations: 37 after adjustments

Cointegrating equation deterministics: C

Fixed leads and lags specification (lead=2, lag=2)

Long-run variance estimate (Prewhitening with lags = 2, None kernel)

| Variable           | Coefficient | Std. Error         | t-Statistic | Prob.  |
|--------------------|-------------|--------------------|-------------|--------|
| VXR                | -0.003986   | 0.001452           | -2.744742   | 0.0178 |
| GDPG               | -0.188114   | 0.036336           | -5.177138   | 0.0002 |
| INF                | 0.048855    | 0.019902           | 2.454800    | 0.0303 |
| RIR                | 0.241644    | 0.038702           | 6.243700    | 0.0000 |
| C                  | 20.89857    | 0.458817           | 45.54881    | 0.0000 |
| R-squared          | 0.878381    | Mean dependent var | 20.92548    |        |
| Adjusted R-squared | 0.835144    | S.D. dependent var | 0.817097    |        |
| S.E. of regression | 0.493554    | Sum squared resid  | 2.923144    |        |
| Long-run variance  | 0.104427    |                    |             |        |

## Appendix II: Descriptive Statistics

|              | LFPI      | DVXR      | GDPG      | INF      | RIR       |
|--------------|-----------|-----------|-----------|----------|-----------|
| Mean         | 20.95514  | -17.09362 | 3.042141  | 19.07948 | 0.482534  |
| Median       | 21.09299  | -17.85030 | 3.251681  | 13.00697 | 3.023542  |
| Maximum      | 23.02174  | 293.2299  | 15.32916  | 72.83550 | 18.18000  |
| Minimum      | 18.08664  | -132.1315 | -13.12788 | 5.388008 | -65.85715 |
| Std. Dev.    | 0.810674  | 119.1827  | 5.255826  | 16.28122 | 13.91620  |
| Skewness     | -0.968720 | 1.025345  | -0.839215 | 1.867414 | -2.788874 |
| Kurtosis     | 6.097099  | 3.230143  | 4.845801  | 5.472970 | 13.56168  |
| Jarque-Bera  | 23.91105  | 7.452020  | 11.15153  | 35.94894 | 255.6000  |
| Probability  | 0.000006  | 0.024089  | 0.003789  | 0.000000 | 0.000000  |
| Sum          | 901.0711  | -717.9320 | 130.8121  | 820.4177 | 20.74898  |
| Sum Sq. Dev. | 27.60211  | 582385.6  | 1160.196  | 11133.28 | 8133.748  |
| Observations | 43        | 42        | 43        | 43       | 43        |

### Appendix III: Correlation

Covariance Analysis: Ordinary

Date: 10/02/25 Time: 13:13

Balanced sample (listwise missing value deletion)

| Correlation<br>Probability | LFPI                | DVXR                | GDPG                | INF                 | RIR                    |
|----------------------------|---------------------|---------------------|---------------------|---------------------|------------------------|
| LFPI                       | 1.000000<br>-----   |                     |                     |                     |                        |
| DVXR                       | -0.466558<br>0.0018 | 1.000000<br>-----   |                     |                     |                        |
| GDPG                       | -0.031506<br>0.8430 | 0.103916<br>0.5125  | 1.000000<br>-----   |                     |                        |
| INF                        | 0.058352<br>0.7136  | -0.241251<br>0.1238 | -0.227459<br>0.1474 | 1.000000<br>-----   |                        |
| RIR                        | -0.125944<br>0.4268 | 0.250114<br>0.1102  | 0.357749<br>0.0200  | -0.748669<br>0.0000 | 1.000000<br>0<br>----- |

