

MIGRANT REMITTANCES AND AGGREGATE DEMAND IN NIGERIA

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**BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF
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CERTIFICATION

This is to certify that this work titled **MIGRANT REMITTANCES AND AGGREGATE DEMAND IN NIGERIA** was carried out by **Favour Godwin ADEWOLE** for the award of Bachelor of Science (B.sc) Degree in the Department of Economics, Faculty of Social Sciences University of Benin, Benin City, under the supervision of the following persons;

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DEDICATION

This project is dedicated to the glory of God, the Almighty, in recognition of His love, guidance, and support. Through His grace and mercy, I was able to complete this project and achieve my goals. May His name be forever praised and glorified.

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ABSTRACT

This study examines the impact of migrant remittances on aggregate demand in Nigeria from 1990 to 2020, analyzing key economic variables such as migrant remittances (MGR), consumption (CON), investment (INV), population growth rate (PGR), interest rate (INTR), exchange rate (EXCR), and real gross domestic product (RGDP).

Findings reveal a surprising negative relationship between migrant remittances and consumption, contrasting with the positive correlation between population growth rate and consumption, indicating the potential demographic dividend of Nigeria's youthful population. Additionally, a positive correlation between real GDP and consumption underscores the importance of sustainable economic growth.

Moreover, the study identifies a positive relationship between migrant remittances and investment, highlighting their role as a source of capital for investment in Nigeria.

These insights emphasize the need for nuanced policy approaches that consider factors like exchange rates, interest rates, population growth, and economic diversification. Policymakers should explore avenues to channel remittances into productive investments and prioritize initiatives supporting sustainable economic development to enhance living standards for Nigerians.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Remittances from Nigerian migrants play a vital role in supporting households and boosting the nation's foreign exchange earnings, serving as a reliable income source. These financial contributions are integral to the Nigerian economy, significantly influencing various components of aggregate demand. Nigeria has a substantial migrant population residing across the globe, including in the United States, the United Kingdom, and other African countries. These migrants regularly send payments, known as remittances, to their friends and relatives in Nigeria, becoming a crucial income source for many households. This influx of funds has played a significant role in reducing poverty and promoting financial inclusion.

As of 2021, remittances have become one of the largest contributors to foreign capital inflows in developing economies, constituting approximately 37% of the GDP, according to the World Bank. The surge in remittances to developing countries can be attributed to improved global migration patterns and advancements in technology facilitating low-cost international money transfers.

Remittances involve the transfer of assets, typically in monetary terms, from migrants residing outside their home countries to family members back in the source countries. For impoverished nations, remittances serve as a substantial source of funding, competing with international aid. Notably, the definition of remittances by

international organizations varies, with the International Monetary Fund (IMF) focusing on migrants staying over one year in their destination region, while the International Organization for Migration (IOM) broadly associates remittances with financial flows related to migration. The International Labour Organization (ILO) defines remittances as the portion of migrant workers' earnings sent back from their country of origin.

Nigeria stands out as one of the leading recipients of remittances in Sub-Saharan Africa, receiving an estimated \$24 billion in 2020. This substantial inflow of funds holds significant implications for the Nigerian economy, particularly concerning its impact on aggregate demand. Aggregate demand refers to the total value of goods and services that consumers, businesses, and the government are willing to purchase at a given price level. Remittances can influence aggregate demand in various ways. Firstly, they increase the disposable income of recipient households, leading to higher levels of consumption and investment. Additionally, remittances can stimulate economic activity by providing financial support for small businesses and entrepreneurial endeavors.

Economists have debated the impact of remittances on aggregate demand in Nigeria. Some argue that remittances positively affect the economy by boosting purchasing power and fostering growth, while others express concerns about potential negative consequences, such as inflation and dependence on foreign income. Understanding the nuances of how remittances impact aggregate demand in Nigeria

is crucial for policymakers. Analyzing data and trends related to remittances can provide valuable insights, helping make informed decisions on managing the economy and promoting sustainable economic growth.

1.2 Statement of the Problem

In recent decades, remittances have emerged as a critical aspect of development potential, particularly in developing nations. This focus is justified by the remarkable growth observed in remittance flows to low-middle-income countries (LMICs). (World Bank, 2019). Between 1990 and 2010, remittances to LMICs totaled less than US\$334 billion. However, within a mere decade, it is estimated that remittance income to these countries soared to almost US\$574 billion, reflecting an annual growth rate exceeding 40%, equivalent to approximately 4.7% of LMICs' gross national income (World Bank, 2019).

Furthermore, remittances are increasingly acknowledged as a vital tool for households and economies, serving as one of the most stable sources of foreign inflow. Numerous examples underscore the success of this approach. Despite the recognition of the potential benefits remittance inflows can bring to developing countries, there is a lack of detailed evidence at the micro-level, particularly in sub-Saharan Africa (SSA), regarding the typical utilization of these significant inflows by recipient households. Specifically, there is a dearth of information on how remittances impact various aspects such as consumption expenditures, investment

choices, health-seeking behavior and outcomes, educational enrollment and outcomes, migration networks, as well as levels and outcomes of entrepreneurship.

The big question now remains; are migrant remittances good or bad? Should remittances be encouraged or discouraged in a developing country? How does it affect consumption spending and investment? Literature within the realm of foreign capital inflows notes that international workers' remittances influence the consumption habits of recipients' households, acting as an insurance mechanism to smooth consumption in the face of adverse economic shocks (Yang and Choi, 2007; Kannan and Hari, 2002; Lucas and Stark, 1985). Maimbo and Ratha (2005) observed that up to 80% of total remittance transferred is spent on consumption, and the African Development Bank (2008) confirmed a strong correlation between remittances and household consumption.

According to World Development Indicators (2014), the Nigerian economy has been receiving workers' remittances since the 1970s. The increasing influx of international workers' remittances has piqued researchers' interest in understanding their potential influence on private consumption in Nigeria, as evidenced in empirical studies by Yang and Choi (2007) and Maimbo and Ratha (2005). Theoretically, a decrease in the rate of investment in the migrants' country of origin could incentivize increased remittances to capitalize on investment opportunities in their home country, potentially fueling private consumption and investment.

Despite the substantial increase in international workers' remittances, there is a lack of studies exploring the relationship between these remittances, investment, and private consumption in Nigeria. Examining this relationship is crucial, as understanding the impact of international workers' remittances on private consumption and investment provides insights into the economic dynamics and expenditure patterns in the country. If remittances indeed impact private consumption and investment, an increase in the demand for consumer goods may stimulate production, indirectly affecting other macroeconomic variables such as unemployment rates and contributing to overall economic growth.

To address the research problem in existing knowledge, this study aims to answer the following research questions:

- i. Do migrant remittances affect consumption spending?
- ii. What is the impact of migrant remittances on investment spending in Nigeria?

1.3 Objectives of the Study

The broad objective of this study is to examine the impact of migrant remittances on aggregate demand in Nigeria. The specific objectives of the study are to:

- i. assess the impact of migrant remittances on consumption spending in Nigeria;
and
- ii. determine the effect of migrant remittances on Investment spending in Nigeria

1.4 Research Hypotheses

Ho: Migrant remittances has no effect on consumption spending in Nigeria

Ho: Migrants remittances does not affect investment spending in Nigeria.

1.5 Significance of the Study

Examining the empirical relationship between migrants' remittances and their influence on aggregate demand in Nigeria is a crucial and indispensable subject that warrants attention for the country's further advancement.

Primarily, migrant remittances serve as a significant contributor to Nigeria's foreign exchange earnings, playing a pivotal role in the nation's economic landscape. A comprehensive understanding of how remittances shape aggregate demand is essential for policymakers and businesses, facilitating more informed decision-making in the management of these financial inflows.

Secondly, remittances typically originate from individuals working and residing abroad, making them outside the domestic labor force. Evaluating the impact of remittances on aggregate demand becomes instrumental for policymakers and businesses in comprehending how external fund inflows can influence the domestic labor market and the overall economic structure.

Thirdly, the repercussions of remittances on aggregate demand carry implications for economic growth and development in Nigeria. By serving as a source of financial support for businesses and entrepreneurs, remittances can potentially spur increased investment and foster economic growth. A nuanced

understanding of the channels through which remittances shape aggregate demand can unveil opportunities to harness these funds for economic development.

Lastly, delving into the impact of remittances on aggregate demand in Nigeria contributes valuable insights to the broader literature on the economic ramifications of remittances in developing countries. Given that remittances constitute a vital income source for many developing nations, grasping their effects on the economy enables policymakers to formulate strategies that encourage sustainable economic growth and development.

1.6 Scope of the Study

This research work mainly revolves round the issue of migrant's remittances, its trend and attendant impact on aggregate demand. Over time, the country has experienced continuous increase in its inflows from migrants living abroad. The issue of Nigeria's migrants' remittances has received insufficient attention. This opens the country to continuous increase in the departure of Nigerian citizens in search of better living condition. The researcher sourced for data on the relevant variables from the Central Bank of Nigeria (CBN) statistical bulletin (2021), National Bureau of Statistics (NBS, 2021) and the World Bank (WDI, 2021) covering the period between 1990 and 2021 to analyze the issue in question.

1.7 Structure of Study

The remainder of this research work is meticulously structured as follows: Chapter two– which presents the relevant literature review in this work and it cuts

across contextual literature review, theoretical and empirical review. Chapter three borders on the research methodology used herein, it encompasses the theoretical framework and model specification while chapter four presents and discusses the results obtained from the empirical investigation. Chapter five concludes the work and provides recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Literature Review

2.1.1 Aggregate Demand

Aggregate demand signifies the total quantity of goods and services that individuals, households, businesses, and the government are willing and able to purchase within an economy during a specified period. This comprehensive demand encompasses various price levels, reflecting the overall market demand for goods and services.

Aggregate demand is shaped by multiple factors, including consumer spending, business investments, government expenditures on goods and services, and net exports (exports minus imports). Together, these components ascertain the overall demand level in an economy. Consumer spending, a significant element of aggregate demand, is influenced by factors such as disposable income, consumer confidence, and borrowing costs. Conversely, business investment is propelled by considerations like interest rates, technological advancements, and anticipated future profitability.

2.1.2 Migration

Migration can be defined as the organized movement of individuals or animals from one geographical location to another, often involving a shift in their permanent or semi-permanent residence. This phenomenon occurs over a specific

period and may encompass various forms, including voluntary or forced movements, temporary or permanent resettlements, and intra-country or international relocations. Migration is driven by a complex interplay of factors such as economic opportunities, social conditions, political circumstances, and environmental considerations. It significantly impacts both the individuals who undertake the journey and the communities they leave and settle in, contributing to demographic, social, and economic changes in the affected regions.

2.1.3 Remittances

Remittances can be defined as financial transfers or monetary contributions made by individuals residing in one country, typically migrants or expatriates, to recipients in another country, often their family members or close associates. These cross-border transactions serve as a crucial means of providing financial support and sustaining the economic well-being of the recipients in the sender's home country. Remittances can take various forms, including cash transfers, wire transfers, or the provision of goods and services, and are driven by the migrants' desire to contribute to the economic welfare of their families and communities. This financial flow plays a significant role in poverty alleviation, economic stability, and overall development, forming a vital component of international financial transactions.

Remittances encompass the transfer of money or assets from an individual residing in one country to another individual in a different country, typically a family member or friend. Migrants, who have relocated to a new country for employment or

other reasons, often initiate these financial transactions to provide support to their families in their country of origin. Various scholars and experts from diverse fields have provided definitions for remittances. Kihangire and Katarikawe (2008) define remittances as funds returned to migrants' home countries. Other scholars, such as Odozi et al. (2010), Chukwuone (2007), and Quartey (2006), characterize remittances as monetary or gift contributions, often representing a percentage of migrant workers' wages.

In 2009, Magnusson defined remittances as the share of migrant workers' earnings transferred back to their home countries, primarily for the sustenance of their family members. Tewolde (2005) considers remittances as both financial and nonfinancial goods that migrants receive while working abroad and send to their families back home. Ratha (2003) describes remittances as the resources that migrants bring into or take out of a country. Broadly, the International Organization for Migration (IOM, 2006) defines remittances as financial flows associated with migration, specifically cash transfers made by migrants or immigrants residing abroad to a relative back home. The International Labour Organization (ILO, 2000) characterizes remittance as a portion of the money that migrant workers send home from their countries of employment.

2.1.4 Consumption

Consumption is the fundamental economic process of utilizing goods, services, or resources to fulfill human wants and needs. This concept encompasses

the actions of acquiring, using, or discarding goods and services by individuals, households, businesses, or governments.

Engaging in consumption can take various forms, including purchasing, consuming, or utilizing tangible goods like food, clothing, and electronics, as well as intangible services such as education, healthcare, and transportation. In the economic context, consumption holds a crucial role as a central component of aggregate demand, a driving force behind economic growth. Commonly measured through indicators like personal consumption expenditures (PCE) or household consumption expenditure, it provides insights into the overall demand for goods and services within an economy.

Consumption patterns exhibit variability among individuals, societies, and countries, influenced by factors such as income, preferences, cultural norms, and economic conditions. Additionally, the concept of sustainable consumption has gained prominence, emphasizing responsible and efficient resource use to minimize environmental impact and foster long-term well-being.

2.1.5 Investment

Investment refers to the allocation of financial resources, time, or effort into assets, projects, or activities with the expectation of generating income, creating value, or obtaining future benefits. It involves committing resources in the present with the aim of obtaining greater returns or benefits in the future. In the financial context, investment typically involves purchasing financial instruments such as

stocks, bonds, mutual funds, real estate, or other assets with the expectation of earning a positive return on the invested capital. Investors make these financial decisions based on their assessment of potential risks, rewards, and the anticipated performance of the investment.

Investment can also extend beyond financial assets and include investments in physical assets like buildings, machinery, equipment, or infrastructure. These types of investments are commonly made by businesses to enhance production capabilities or improve operational efficiency. The concept of investment is integral to economic growth, as it promotes capital accumulation, technological advancements, and innovation. It plays a crucial role in driving economic development and creating employment opportunities. Investment decisions can be influenced by various factors, such as market conditions, risk tolerance, expected returns, liquidity considerations, and regulatory environments. It is important to note that investing involves risks and that the potential for returns is not guaranteed, as investments can fluctuate in value and may result in losses.

2.1.6 Motivations behind Migrant Remittances

Solimano (2003) delineated and clarified four motives for remittances, as follows:

Firstly, Altruism posits that immigrants contribute to the well-being of their households out of a sense of loyalty and responsibility (Ana, 2006). Altruism involves giving without expecting anything in return, with a notable application in

the African context being the extended family. In the realm of remittances, pure altruism is considered the most plausible reason, where migrant workers view supporting their family members as a means of maximizing their own utility. This concept aligns with the core idea found in remittance literature (Lucas and Stark, 1985).

The second motive is Self-interest, wherein migrants are motivated by the anticipation of acquiring land or other wealth and a desire to return home in the future.

The third motive is Investment opportunities: Migrants may send remittances to invest in business or real estate opportunities in their home country, thereby contributing to job creation and stimulating economic growth in their communities.

Lastly, for Savings: Some migrants may send remittances as a means of saving money in their home country. This approach proves beneficial if they plan to return home in the future or aim to accumulate assets in their country of origin.

2.1.7 Relationship between migrant remittances and aggregate demand.

2.1.7.1 Migrant remittances and consumption.

Migrant remittances have a noteworthy effect on consumption within the recipient households. When migrants send money back to their families in their home country, it often results in an increase in disposable income for the recipients. This additional income, which is not typically subject to the same economic factors affecting local wages, can lead to a rise in consumer spending.

The injection of remittance funds into the household budget tends to boost the purchasing power of recipients. Consequently, these households may increase their expenditures on various goods and services, ranging from basic necessities to non-essential items. This heightened consumption, in turn, contributes positively to aggregate demand in the overall economy.

Remittances play a crucial role in augmenting household income, providing families with additional financial resources and boosting their overall purchasing power. This increase in disposable income has a direct impact on consumption patterns, allowing households to afford a wider range of goods and services.

These financial inflows often serve as a lifeline for recipient households, addressing fundamental needs such as food, shelter, clothing, and healthcare. Remittances act as a critical resource that enables families to access essential goods and services that might otherwise be challenging to afford, directly contributing to an improved quality of life. Beyond addressing basic needs, remittances empower households to engage in non-essential or discretionary spending. This includes investments in leisure activities, entertainment, electronics, travel, and luxury items. The additional income from remittances facilitates an elevated standard of living, allowing families to indulge in a higher level of consumption.

The impact of remittances extends beyond individual households and resonates within local economies. As remittance-receiving households increase their spending, a multiplier effect occurs, stimulating consumption at a broader level. This

heightened demand for goods and services supports local businesses, fostering economic activity and contributing to overall economic growth. Furthermore, remittances serve as a strategic resource for investing in education and human capital development. Families may allocate a portion of these funds to cover educational expenses, including school fees, books, or vocational training. This investment in education not only enhances the skills and knowledge of individuals but also holds the potential to lead to higher future incomes, creating a positive cycle of improved opportunities for consumption and economic advancement

Nigeria Experience

The interplay between migrant remittances and consumption in Nigeria is intricate, encompassing both positive and potentially challenging aspects. While remittances serve as a vital income source for households, aiding in poverty reduction and supporting local economies, overreliance on them may give rise to dependency and economic volatility.

Several key considerations emerge when examining the nexus between migrant remittances and economic development in Nigeria:

Migrant remittances emerge as a crucial income source for numerous Nigerian households, directly contributing to consumption expenditures. These funds, often directed towards essential needs such as food, clothing, healthcare, education, and housing, bolster disposable income and elevate households' consumption levels.

The role of remittances in poverty alleviation and elevating living standards is pivotal in Nigeria. Particularly in areas with limited economic opportunities, families rely on remittances as a lifeline, pulling them out of poverty and enabling a higher standard of living. This positive shift results in increased consumption of various goods and services.

Remittances empower households to diversify their consumption patterns, extending choices beyond basic necessities. The additional income facilitates spending on non-essential items like electronic goods, recreational activities, and luxury items. This diversification stimulates demand across sectors, contributing to broader economic growth.

Education and healthcare sectors in Nigeria benefit from remittances, as families utilize the additional income to invest in better educational opportunities and improved healthcare services. This investment enhances human capital development and contributes to overall consumption.

While migrant remittances positively impact consumption, it is crucial to acknowledge the potential regional disparities they can create in Nigeria. Remittance inflows may be concentrated in specific regions or households, leading to uneven consumption patterns. Some regions may experience more significant consumption growth, while others face limited access to remittances.

In summary, migrant remittances significantly bolster household consumption in Nigeria. They elevate disposable income, alleviate poverty, diversify

consumption, enhance education and healthcare spending, and improve living standards. However, policymakers should address regional imbalances and implement measures for inclusive growth to ensure the equitable distribution of remittance benefits across the country.

2.1.8 Migrant Remittances and Investment

In the Nigerian context, migrant remittances play a vital role in catalyzing investment activities, particularly serving as essential seed capital for entrepreneurial ventures. A significant number of remittance recipients use these funds to initiate or expand small businesses across various sectors, encompassing retail trade, agriculture, manufacturing, and services. The availability of remittance inflows equips individuals with the necessary financial resources to establish and sustain their entrepreneurial pursuits, thereby contributing to increased investment within the economy.

The investment driven by remittances has a direct and positive impact on job creation in Nigeria. As individuals utilize remittance funds to establish or expand businesses, they generate employment opportunities, ranging from skilled to unskilled labor. This, in turn, leads to a reduction in unemployment and underemployment rates, fostering economic growth and cultivating a more productive workforce.

Furthermore, migrant remittances contribute significantly to investment in infrastructure development in Nigeria. Some recipients channel remittance funds into

projects such as housing, real estate, and public infrastructure, including the construction of residential and commercial properties. Such infrastructure investments have spillover effects, promoting economic development and enhancing the overall investment climate.

Remittance funds also find their way into Nigeria's financial markets, as recipients choose to invest a portion in various financial instruments such as stocks, bonds, mutual funds, or savings accounts. These financial market investments serve as capital for businesses and stimulate investment activities across diverse sectors, contributing to the availability of investment capital and fostering economic growth.

In the agricultural sector, which is pivotal to the Nigerian economy, remittance inflows contribute to investment by supporting various agricultural endeavors, including land acquisition, equipment purchase, and the adoption of modern farming techniques. These investments enhance agricultural productivity, increase food production, and uplift the livelihoods of rural communities.

However, it's crucial to acknowledge that the impact of remittances on investment may vary across regions and individuals in Nigeria. Disparities in the distribution and utilization of remittance funds can lead to uneven investment patterns. Additionally, the sustainability and long-term impact of remittance-driven investments hinge on factors such as institutional frameworks, access to credit, and supportive government policies.

In conclusion, migrant remittances in Nigeria play a pivotal role in promoting investment through entrepreneurship, small business development, job creation, infrastructure development, financial market investments, and agricultural ventures. These investments have the potential to propel economic growth, generate employment opportunities, and improve the overall investment climate in the country.

2.1.9 Effects of Migrant Remittances

Migrant remittances wield substantial influence on the components of aggregate demand in both the origin and destination countries. Concerning Consumption, the impact of migrant remittances is twofold. In the sending country, these funds often lead to a reduction in income, subsequently lowering consumption expenditure levels and dampening the demand for goods and services. Conversely, in the receiving country, remittances act as a catalyst for increased consumption. Migrant workers and their families utilize the transferred funds for expenditures on goods and services, providing an additional income source. This heightened income, especially directed towards essential needs like food, housing, healthcare, and education, significantly elevates the standard of living for recipient families. The resulting surge in consumption stimulates local markets and businesses, fostering the growth of small enterprises and entrepreneurship. This, in turn, generates employment opportunities and fuels economic development.

On the flip side, migrant remittances indirectly influence investment dynamics in both the sending and receiving countries. In the receiving country,

remittances become a potential funding source for investment activities. Migrant workers may choose to invest in small businesses or real estate within their home countries, thereby stimulating economic activity and creating job opportunities. In the sending country, remittances contribute to investment by providing additional capital for businesses or infrastructure development. The funds serve as seed capital for entrepreneurial ventures, with migrant workers or their families opting to invest in small businesses, farms, or service enterprises to generate income and employment. This approach acts as a catalyst for economic growth, fostering local economies and reducing unemployment rates.

Moreover, remittances play a role in education and skill development investment. Families may allocate funds from remittances towards children's education, vocational training, or higher education. This investment in human capital enhances the long-term productivity and employability of individuals, thereby contributing to sustained economic growth and development.

2.2 Theoretical Literature Review

2.2.1 Neoclassical Theory of Migration

The neoclassical theory of migration is an economic model designed to elucidate the reasons behind human migration through a lens of rational decision-making. According to this theory, individuals opt to migrate when the anticipated benefits of relocating to a new area surpass the associated costs.

The key assumptions of the neoclassical theory of migration include:

- Individuals are rational decision-makers who carefully weigh the costs and benefits of migration before making a decision.
- Migration is a consequence of disparities in wages and employment opportunities across different locations.
- Factors such as education, skills, and experience influence an individual's capacity to secure employment and earn a higher income, thereby impacting migration decisions.
- The decision to migrate is influenced by the costs associated with the move, encompassing not only the monetary expenses of transportation but also the psychological and social costs of leaving one's home and community.

In line with the neoclassical theory, migration occurs as individuals pursue higher wages and improved employment prospects in new locations. The theory posits that people will only undertake migration if they anticipate earning a higher income in the new location compared to staying in their original one.

Moreover, the neoclassical theory of migration suggests positive economic outcomes for both sending and receiving countries. Migrants may contribute to their home countries by sending remittances, bolstering local economies. Additionally, migrants can address labor shortages in receiving countries, fostering economic growth.

Despite its widespread use, critics argue that the neoclassical theory oversimplifies the intricate social and cultural factors influencing migration decisions

and neglects the role of power and inequality in shaping global migration patterns. Nevertheless, it continues to be a prominent framework for understanding the economic underpinnings of migration decisions.

2.2.2 Altruistic Theory

The altruistic theory of migration is a sociological perspective proposing that individuals may choose to migrate out of altruism, driven by a desire to assist others. According to this theory, migration decisions are influenced by the motivation to support family members or community members facing hardships.

In contrast to economic theories of migration, such as neoclassical theory and the new economics of labor migration theory, which emphasize economic motivations, the altruistic theory acknowledges the significance of altruism in migration choices. However, it does not dismiss the role of economic factors entirely. Individuals migrating for altruistic reasons may still seek better economic opportunities in the receiving country to enhance their ability to support loved ones in the home country. Additionally, broader economic and political factors, such as poverty, conflict, and inequality, can create conditions of need in sending countries, influencing altruistic migration decisions.

From an economic standpoint, remittance inflows aligned with altruistic motives suggest an increase in economic output at the receiving location and a reduction in remittances sent to the immigrant's home country before departure. However, when holding other variables constant, the income of the receiving country should be equivalent to the migrant's income. Conversely, the economic income in the migrant's homeland is linked to remittance inflows, and a substantial income gap between the host nation and the migrant's place of origin may lead to higher

remittance outflows to the home country. Additionally, an increased reliance on income in the host nation by the migrant is expected to result in larger remittance flows to their home country.

The altruistic theory underscores the significance of social and cultural factors in shaping migration decisions, emphasizing that economic factors alone do not provide a comprehensive understanding of migration patterns. Furthermore, it highlights the crucial role of family and community ties in migration decisions, suggesting that policies addressing the well-being of families and communities in sending countries could effectively address some fundamental causes of migration.

2.2.3 The New Economics of Labour Migration Theory

The New Economics of Labour Migration (NELM) theory represents an economic model that extends the neoclassical theory of migration by integrating social and cultural factors into the understanding of migration decisions. Introduced by economists Michael Todaro and Stephen Smith in the 1970s, the NELM theory has gained widespread acceptance as a framework for comprehending migration patterns.

In contrast to the neoclassical theory, the NELM theory posits that migration decisions are not solely driven by economic factors such as wages and employment opportunities. Instead, social and cultural elements like family connections, community networks, and social norms also play crucial roles. According to this

theory, migration decisions are often collective actions taken by households, involving a multifaceted evaluation of economic, social, and cultural considerations.

The NELM theory acknowledges both positive and negative effects of migration on households and communities. While migration can offer improved job prospects, higher incomes, and better living conditions, it may also entail the loss of social networks, support systems, and lead to social and cultural dislocation.

Moreover, the NELM theory proposes that broader structural factors influencing global economic and political systems shape migration decisions. Trade policies, labor market regulations, and the distribution of power and resources within and between countries are cited as potential influences on migration patterns.

In summary, the NELM theory provides a more nuanced and comprehensive framework compared to the neoclassical theory. By incorporating social and cultural factors into the analysis, it offers a more holistic understanding of the intricate decisions made by households and communities when opting for migration, along with the ensuing social and economic impacts on both sending and receiving countries.

2.2.4 Theory of Self-Interest

The theory of self-interest in the context of migrant remittances suggests that individuals who send remittances do so primarily for their own benefit, rather than for the benefit of their families or communities in the sending country. According to this theory, individuals who send remittances do so in order to maintain a connection

to their home country, to build social capital and networks, or to gain a sense of satisfaction from providing for their loved ones.

The theory of self-interest contrasts with other theories of migrant remittances, such as the altruistic theory, which suggests that individuals send remittances primarily for the benefit of their families and communities in the sending country.

However, the theory of self-interest does not necessarily negate the importance of the economic and social benefits that remittances can provide to receiving households and communities. Remittances can serve as an important source of income and support for families in sending countries and can contribute to economic development and poverty reduction.

Overall, the theory of self-interest suggests that individuals who send remittances are motivated by a complex mix of economic, social, and emotional factors, and that policies aimed at promoting and facilitating remittances should take these factors into account in order to be effective.

2.3 Empirical Literature

In order to determine whether migrants' remittances and workers' remittances—will perform differently in relation to economic growth in Nigeria, Margaret and Ajibola (2018) investigated the contributions of foreign remittances to economic growth in Nigeria from 1980 to 2016. They used the Vector error correction modeling (VECM) technique. The findings revealed a one-way causal

relationship between GDP per capita and migrant remittances, but no link was found between worker remittances and GDP per capita.

Remittance inflow and unemployment in Nigeria were the main topics of Godfrey & Godstime's (2020) study. Remittance is viewed as being endogenously influenced by the number of migrants, the nominal exchange rate (using the Naira as the local currency), the rate of inflation, and the income of the migrants. Data from 1981 to 2019 are calibrated for stationarity and structural breakpoints under changing regimes. Despite the fact that the data was found to have been impacted by regime changes and stationary in levels, an Instrumental Variable Regression model was estimated, and it was discovered that remittances considerably and favorably affect unemployment.

Furthermore, Adeseye, A. (2021) investigated how remittances from migrants affected Nigeria's economic growth. Gross domestic product, inflation, imports, and exports were utilized as independent variables, and remittance inflow was employed as the dependent variable. The study used yearly data from worldwide financial statistics and world development statistics that span 29 years, from 1990 to 2018. Descriptive statistics were used to analyze the quantitative data, and multiple linear regressions, including ANOVA, correlation, and coefficient, were used to assess the hypotheses that had been developed. The study's conclusions showed that while there is no substantial association between inflation and remittances, there is a strong

relationship between remittances and Nigeria's gross domestic product, exports, and imports.

On the other hand, studies by Aggarawal and Spatafora (2005) and Barajas, Chami, Fullenkamp, Gapen, and Montiel (2009) did not succeed in demonstrating a positive relationship between remittances and economic growth. Gini (2013) specifically looked at the impact of remittances on the economic growth of Central and Eastern European (CEE) nations from 1996 to 2001. Using balanced panel data, the results showed that remittances had a negative impact on economic growth in four South Asian rising economies from 1997 to 2016. The outcome showed that three of those four countries—namely, Bangladesh, Pakistan, and Sri Lanka—were negatively impacted by remittances.

In a similar vein, a study by Rao and Hassan (2011) on the effect of remittances on economic growth in forty nations between 1960 and 2007 found that remittances had little to no impact on the economies of those countries. Some of the studies also resulted in mixed results. The first empirical estimation approach for remittances: Transaction Costs, Determinants, and Informal Flows, was created by Caroline and Nikol in 2005. They empirically estimate informal remittances for more than 100 countries using historical data on the balance of payments (BOP), migration, transaction costs, and country characteristics, drawing on ideas from the literature on shadow economies. Their results imply that informal remittances amount to about 35-75 percent of official remittances to developing countries. There is significant

regional variation: informal remittances to Sub-Saharan Africa, Eastern Europe, and Central Asia are relatively high, while those to East Asia and the Pacific are relatively low.

Nyamongo et al. (2012) examined the impact of remittances, financial development, and economic growth on a panel of 36 African nations between 1980 and 2009. The study's key conclusions are as follows: (1) During the study period, remittances seem to have been a significant source of growth for these African nations. (2) Remittance volatility appears to have a detrimental impact on the development of African nations. (3) It appears that remittances are a useful addition to financial development. (4) Yet, at least among the nations under consideration, the significance of financial development in promoting economic expansion appears to be low.

Oshota and Badejo (2015) used an error correction modeling approach to look at the relationship between remittances and economic growth in Nigeria from 1981 to 2011. Remittances have a positive effect on Nigeria's economic growth, according to the findings. We discovered that a 1 percent increase in remittances would, over time, result in a 0.19 percent increase in RGDP. Remittances do, however, exhibit a considerable short-term negative association with productivity.

The impact of international remittances on Nigeria's economic performance was evaluated by Okharedia and Osagie (2019) using time series data for the years 1986 to 2018. The World Bank served as the data source for the time series. To

ascertain how the exchange rate mediates the relationship between foreign remittances and economic performance in Nigeria, the Error Correction Model (ECM) technique was used. The paper's empirical analysis led it to the conclusion that for overseas remittances to have a significant impact on Nigeria's economy, the exchange rate must be reduced.

For instance, Iheke, O. R. (2012), in his study, examined the impact of remittances on the Nigerian economy. The study used secondary data spanning the years 1980 to 2008. The study of the data showed that over the previous two decades, remittance inflow has increased. Also, the positive and significant elements influencing output were remittances, per capita income, investments, and time, while the consumer price index had a large negative impact on output. Ahmad (2015) investigated the effects of remittances from workers on the Jordanian economy. Jordan's growth is calculated using the Ordinary Least Squares method. The result indicates that remittances from employees benefit the economy of Jordan during the time being taken into account.

Moreover, Olusuyi, Egun, and colleagues (2017) used the generalized method of moment (GMM) estimate technique to examine the dynamic influence of remittance on economic growth within the Nigerian context. The outcome supported the notion that remittances contribute favorably to economic expansion. Particularly, an increase in remittances of one unit increased the GDP by roughly 0.7817 units.

Asmau Abdullahi (2020), however, got negative results from his study. He investigated the relationships between the growth of entrepreneurship in Nigeria and remittances sent home by foreign migrants. The study uses a Vector Autoregressive (VAR) approach to first use data from the World Bank African Development Indicators to trace the links and complementarities of entrepreneurship development to variations in remittance inflow. Nonetheless, the analysis discovers a loose connection between remittances and the growth of entrepreneurship in Nigeria.

The focus of Okeke, I. C.'s (2022) study was on how international remittances affected Nigeria's unemployment rate. The unit root test was run on the data set before creating a model of the unemployment rate. The two-stage least squares (2SLS) approach was used to determine the effect of remittances on the unemployment rate in Nigeria. The results show that international remittances have a negative impact on unemployment and that there is a unidirectional causal relationship between international migrant remittances and unemployment without feedback.

One of the mixed results that were obtained from the microlevel data was obtained by Sutradhar S. R. (2020). By using balanced panel data from 1977 to 2016, Sutradhar, S. R. (2020), investigated the effect of workers' remittances on the economic growth of four South Asian rising nations. To calculate the effect of remittances, models with pooled OLS, fixed effects, random effects, and dummy variable interactions are utilized. Remittances have a detrimental impact on

economic growth in Bangladesh, Pakistan, and Sri Lanka, according to empirical regression research. On the other hand, remittances contribute to India's economic expansion. Remittances and economic growth are jointly significant and negatively correlated in four nations, according to this study.

2.4 Study Gap

Prior to this research work, several researchers and authors had investigated the issue in question, thus, the literature is replete with different empirical results across studies. The literature contains studies on the effect of migrant remittances on the economy and economic development. Given the inadequate number of studies in the context of aggregate demand in Nigeria, the researcher intends to fill this gap by providing research evidence for the effects of migrant remittances on aggregate demand in Nigeria.

CHAPTER THREE

THEORETICAL FRAMEWORK AND METHODOLOGY

3.1 Theoretical Framework

Established theoretical frameworks strongly suggest that worker remittances can exert influence on both the money supply and the real interest rate, subsequently contributing to economic growth. This impact stems from the direct financing of heightened capital accumulation, surpassing what would be feasible through reliance solely on domestic income sources for investment, as highlighted by Sowemimo and Adegboye (2015).

The theoretical foundation guiding this study aligns with the Keynesian absolute income theory of consumption, emphasizing the role of current disposable income in shaping household and societal consumption behaviors. According to Keynes, consumption expenditure is predominantly determined by the absolute level of current income, expressed as:

$$C = f(Y^d)$$

Where:

C represents consumption

Y^d represents disposable income

In the context of this study, remittances, in conjunction with other earned income and transfers, contribute to individuals' current income. Upon receipt, remittances become part of the recipient's current income, prompting an immediate

increase in their consumption expenditure. Moreover, if the recipients of migrant remittances are dependents, such as retired-aged parents or unemployed relatives, the transferred income (remittance) assumes the role of their current and absolute income, given that their earned income is nonexistent.

In this context, remittances, along with other forms of earned income and transfers, contribute to the current income of individuals. When remittances are received, they become part of the recipient's current income, leading to an increase in their consumption expenditure at that particular point in time. Additionally, if the beneficiaries of migrant remittances are dependents, such as retired-aged parents or jobless relatives, the transferred income (remittance) becomes their current and absolute income since their earned income is zero.

The flexible accelerator theory will be adopted in considering the effects of migrant remittances on Investment. This theory posits that there exists a positive correlation between the difference in desired capital stock and the actual capital stock, and the level of investment in the economy. In other words, when there is a significant gap between the desired amount of capital for investment and the current amount available, an increase in investment is observed. This connection is particularly evident in developing countries, where households tend to fulfill their domestic financial needs before considering any residual funds for investment. Thus, when international remittances exceed the domestic demand, there is a surplus of funds available for investment.

In this context, private domestic investment is viewed as a function of international remittances and can be represented by the equation:

$$PDI = f(IMR)$$

Where:

PDI represents private domestic investment

IMR represents international migrant remittances

Essentially, this suggests that the level of private domestic investment is influenced by the inflow of international remittances, and an increase in remittances is likely to result in a greater amount of capital being invested in the economy. Therefore, within the theoretical framework of the Keynesian absolute income theory of consumption and the flexible accelerator theory, international workers' remittances are anticipated to affect the level of current income for recipient households. Consequently, this increase in income is expected to impact both consumption and investment decisions, highlighting the potential dual influence of remittances on these economic variables. For this research purpose

$$CON = f(MGR, PGR, RGDP, EXCR) \dots\dots\dots (1)$$

$$INV = f(MGR, PGR, RGDP, INTR) \dots\dots\dots (2)$$

Where

CON represents consumption

INV represents investment

MGR represents migrant remittances

PGR represents Population growth rate

RGDP represents real gross domestic product

EXCR represents exchange rate

INTR represents interest rate

3.2 Methodology

3.2.1 Model Specification

The empirical models for evaluating the effect of migrant remittances on aggregate demand as given as follows:

$$\ln \text{CON}_t = \alpha + \beta_1 \ln \text{MGR}_t + \beta_2 \ln \text{PGR}_t + \beta_3 \ln \text{RGDP}_t + \beta_4 \ln \text{EXCR}_t + \varepsilon_t \dots \dots \dots (3)$$

$$\ln \text{INV}_t = \gamma + \delta_1 \ln \text{MGR}_t + \delta_2 \ln \text{PGR}_t + \delta_3 \ln \text{RGDP}_t + \delta_4 \ln \text{INTR}_t + v_t \dots \dots \dots (4)$$

Finally, the major estimation technique for this study is the error correction mechanism. Hence the ECM for 3 and 4 is specified as

$$\Delta \text{CON} = \alpha_0 + \beta_1 \Delta \text{MGR}_{t-1} + \beta_2 \Delta \text{PGR}_{t-1} + \beta_3 \Delta \text{RGDP}_{t-1} + \beta_4 \Delta \text{EXCR}_{t-1} + \gamma \text{ECM}_{t-1} + \varepsilon \dots \dots \dots (5)$$

$$\Delta \text{INV} = \alpha_0 + \delta_1 \Delta \text{MGR}_{t-1} + \delta_2 \Delta \text{PGR}_{t-1} + \delta_3 \Delta \text{RGDP}_{t-1} + \delta_4 \Delta \text{INTR}_{t-1} + \gamma \text{ECM}_{t-1} + v \dots \dots \dots (6)$$

Economic or A priori expectations

Here are the apriori expectations for each variable:

Consumption (CON):

- **Migrant Remittances (MGR):** Positive expectation. An increase in migrant remittances is expected to lead to higher consumption as remittances contribute to individuals' disposable income. i.e $\beta_1 > 0$
- **Population Growth Rate (PGR):** Ambiguous expectation. The impact on consumption depends on other contextual factors. Higher population growth may increase overall demand but could also strain resources. i.e $\beta_2 < 0$ or can be < 0
- **Real Gross Domestic Product (RGDP):** Positive expectation. A growing economy tends to positively influence consumption levels as people generally have higher incomes. Higher real GDP suggests overall economic growth and increased income levels, which are likely to positively impact consumption. Therefore, the expectation is that an increase in real GDP will lead to higher consumption. i.e $\beta_3 > 0$
- **Exchange Rate (EXCR):** The impact depends on the nature of the economy. A weaker exchange rate might encourage domestic consumption, but it could also increase the cost of imported goods. i.e $\beta_4 < 0$ or can be < 0

Investment (INV):

- **Migrant Remittances (MGR):** Positive expectation. An increase in migrant remittances can provide additional funds for investment activities, contributing to economic growth. i.e $\delta_1 > 0$

- **Population Growth Rate (PGR):** Ambiguous expectation. The impact on investment depends on other factors. Higher population growth may create opportunities but could also strain resources. i.e $\delta_2 > 0$ or < 0
- **Real Gross Domestic Product (RGDP):** Positive expectation. A growing economy tends to attract more investment opportunities. i.e $\delta_3 > 0$
- **Interest Rate (INTR):** Ambiguous expectation. The impact depends on the nature of the economy. Lower interest rates might encourage investment, but they could also affect returns. i.e $\delta_4 > 0$ or < 0

3.2.2 Estimation Methodology

Before conducting estimations, the analysis began with descriptive statistics. Subsequently, unit root tests and cointegration tests were performed.

3.2.2.1 Unit Root Test:

The initial step involved assessing the stationarity of variables and determining their order of integration. The Augmented Dickey-Fuller (ADF) test, a widely-used method for testing unit roots in time series data, was employed. This test determines whether a series is stationary or non-stationary. A series is considered integrated of order I(1) if differencing is needed once to achieve stationarity.

3.2.2.2 Cointegration Test

The subsequent step aimed to identify the presence of cointegration, indicating a long-term relationship between variables. Cointegration analysis, applicable to non-stationary time series variables, was conducted using the Johansen

and Juselius maximum-likelihood test procedure. This test determines the number of cointegration vectors and assesses whether variables exhibit a constant difference over time, indicating a long-run relationship.

3.2.2.3 Error Correction Model (ECM)

Upon establishing the presence of cointegration, an Error Correction Model (ECM) was applied to address short-run disequilibrium. The ECM models both short-run and long-run adjustments concurrently, offering insights into immediate and long-term relationships between variables. The ECM assumes that if variables are co-integrated, any deviation from the long-run equilibrium will be corrected in the short run. By employing these methodologies, the study aimed to comprehensively understand the relationships between variables, considering both short-run dynamics and long-run equilibrium. The unit root test identified the order of integration, the cointegration test examined long-term relationships, and the ECM corrected for short-run imbalances, enhancing the robustness of the data analysis.

3.3 Data Sources

Data on consumption, investment, exchange rate, and real gross domestic product will be extracted from the Central Bank of Nigeria (CBN) statistical bulletin. Information on migrant remittances, population growth rate, and interest rate will be sourced from the World Development Indicators.

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Descriptive Statistics

Descriptive statistics provide valuable insights into the characteristics of the variables being analyzed and include the mean (average), median (middle value), maximum (highest value), minimum (lowest value), standard deviation (variation from the mean), skewness (symmetry or asymmetry), kurtosis (peakedness or flatness), and the Jarque-Bera statistic.

The mean gives us the typical value of the data, while the median represents the middle value in the dataset. The maximum shows the highest data point, and the standard deviation indicates the amount of variation in the data around the mean. Skewness measures how symmetrical or asymmetrical the distribution is, with positively skewed distributions having longer tails on the right, and negatively skewed distributions having longer tails on the left. Kurtosis assesses the shape of the distribution, where a value of 3 indicates a standard shape, higher values indicate a more peaked distribution, and lower values indicate a flatter distribution.

Table 4.1 Descriptive Statistics

	CON	EXCR	INTR	INV	MGR	PGR	RGDP
Mean	170.2035	129.3248	3.199465	3.077742	10.48423	2.575161	42855.5
Median	114.14	128.65	5.790567	2.01	14.64	2.56	38777.01
Maximum	427.57	358.81	18.18	8.84	24.31	2.68	72094.09
Minimum	13.63	8.04	-31.4526	0.3	0.01	2.49	21680.2
Std. Dev.	148.4071	97.16521	10.45916	2.648214	9.771728	0.069612	19388.17
Skewness	0.376258	0.685857	-1.36906	0.864371	0.044291	0.195755	0.304131
Kurtosis	1.523139	2.839494	5.303467	2.487574	1.148486	1.553002	1.468608
Jarque-Bera	3.548726	2.463676	16.53749	4.199372	4.438104	2.902483	3.50706
Probability	0.169591	0.291756	0.000256	0.122495	0.108712	0.234279	0.173162
Sum	5276.31	4009.07	99.18341	95.41	325.011	79.83	1328520
Sum Sq. Dev.	660739.7	283232.4	3281.82	210.3911	2864.6	0.145374	1.13E+10
Observations	31	31	31	31	31	31	31

Source: Authors Computation using Eviews 10

From the results obtained in the table above, it can be observed that the mean of the variables within the 31 period under consideration are given as \$170.2035 billion, N129.3248/\$, 3.1995%, \$3.0777 billion, \$10.4842 billion, 2.5751%, N42,855.5 million respectively for CON, EXCR, INTR, INV, MGR, PGR, RGDP. The median, which can also be said to be the middle value for CON (Consumption) was \$114.14 billion. Exchange rate (EXCR) showed a median value of N128.65/\$, while Interest rate (INTR) has a median value of 5.79%. Investment (INV) had a median of \$2.01 billion. Real gross domestic Product (RGDP) had a median value of N38,777.01 million. The median for migrant remittances (MGR) in Nigeria showed a value of \$14.64 billion. Lastly, population growth rate was observed to have a value of 2.56%.

The maximum value of Consumption observed over the period of study was \$427.57 billion, while N358.81/\$ was the highest amount for Exchange rate. Interest rate showed a peak value of 18.18%. Over the period, Investment peaked at \$8.84 billion while Real gross domestic product peaked at N72,094.09 million. The maximum value for migrant remittances in Nigeria was \$24.31 billion, population growth rate peaked at 2.68%. Conversely, the minimum level for Consumption (CON) in Nigeria within the period covered by this research was \$13.63 billion, while Exchange rate showed a minimum of N8.04/\$. The least Interest rate was observed to be 31.45% while the least value for RGDP stood at N21,680.20 million. Total investment in Nigeria had a least value of \$0.3billion. The minimum value for migrant remittances in Nigeria was observed to be \$0.01 billion and lastly for population growth rate was observed to be 2.49%.

The standard deviation which is the deviation from the sample mean of each variable are given as \$148.4071 billion, N97.1652/\$, 10.4592%, \$2.6482 billion, \$9.7717 billion, 0.0696%, N19388.17 million for CON, EXCR, INTR, INV, MGR, PGR, RGDP respectively. All the variables are observed to be positively skewed, with Interest rate being slightly negatively skewed

The kurtosis co-efficient of Interest rate in Nigeria was observed to be 5.30 showing a Leptokurtic distribution. Consumption, Exchange Rate, Investment, Migrant remittances, Population growth rate and Real gross domestic product exhibited a

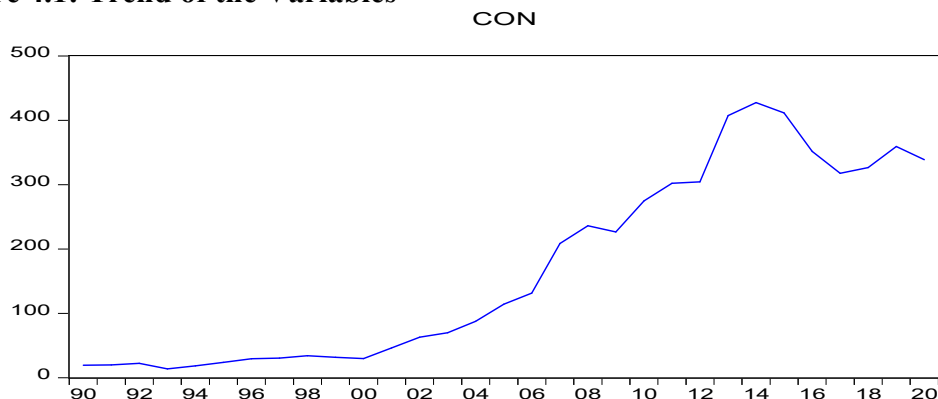
platykurtic distribution with its kurtosis coefficient 1.52, 2.89, 2.49, 1.15, 1.55, 1.47 respectively. This implies that majority of their value below the sample mean.

The Jarque-berra statistic which measures the degree of normality a distribution showed that all the values are normally distributed with the coefficient 3.55, 2.46, 16.54, 4.20, 4.44, 2.90, 3.51 for CON, EXCR, INTR, INV, MGR, PGR, RGDP respectively.

4.1.2 Trend Analysis of the Variables

A trend is the overall direction of a variable of interest over time. It is the most consistent element of a distribution across time. The graphical trend of the respective variables used in this research work are given below

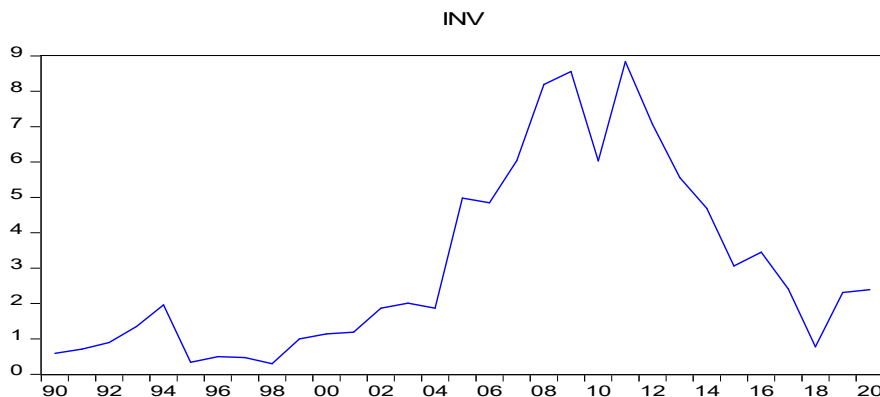
Figure 4.1: Trend of the Variables



Source: Authors Computation using Eviews 10

From 1990 to 2020, Nigeria's total consumption shows an overall upward trend with fluctuations along the way. During the early years, from 1990 to 1999, the total consumption increases steadily with some variations in growth rates. The trend accelerates in the 2000s, with a significant jump in 2001, reaching \$46.09 billion.

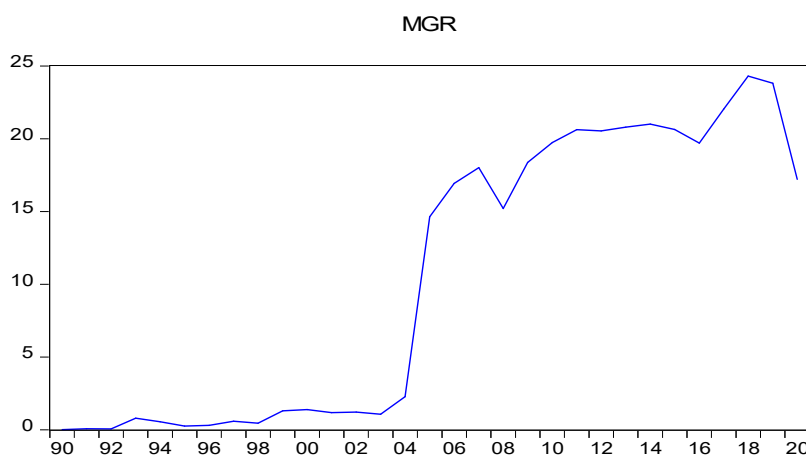
Between 2001 and 2013, the total consumption experiences rapid growth, more than doubling from \$46.09 billion to \$407.18 billion. These years represent a period of robust economic expansion and increased consumer spending in Nigeria. From 2014 to 2017, there is a relatively stable phase with some minor fluctuations, but the growth rate slows down compared to the previous decade. However, from 2017 to 2020, there seems to be a declining trend in total consumption. It drops from \$317.62 billion in 2017 to \$338.67 billion in 2020.



Source: Authors Computation using Eviews 10

From 1990 to 1999, Nigeria's total investment experienced fluctuations with a generally increasing trend. The investment increased from \$0.59 billion in 1990 to \$1.00 billion in 1999. A significant jump in total investment occurred from 2000 to 2008, with the investment rising from \$1.14 billion in 2000 to \$8.19 billion in 2008. This period saw substantial growth in investment. During the global financial crisis of 2008-2009, there was a slight dip in investment in 2009, but it quickly recovered and continued to increase from 2010 to 2013. From 2014 to 2017, Nigeria's total

investment experienced a declining trend, with investment dropping from \$4.69 billion in 2014 to \$2.41 billion in 2017. In 2018, there was a significant drop in investment, reaching only \$0.78 billion. This low investment year could be attributed to various economic factors and policy decisions. In the last two years (2019 and 2020), there seems to be a moderate recovery in investment, rising to \$2.31 billion in 2019 and \$2.39 billion in 2020.



Source: Authors Computation using Eviews 10

From 1990 to the mid-2000s, Nigeria's migrant remittances remained relatively low and stable, ranging from \$0.01 billion to \$2.27 billion. There was a notable increase from 2004 to 2007, where remittances surged from \$2.27 billion to \$18.01 billion. A significant jump occurred in 2005 when remittances increased to \$14.64 billion, followed by a continued upward trend through 2014, reaching \$21 billion in 2014. After 2014, there appears to be some fluctuations in the amount of remittances, but the general trend remained relatively high compared to the earlier

years. The highest recorded remittance amount was \$24.31 billion in 2018. In 2019, there was a slight decrease in remittances to \$23.81 billion, and in 2020, it dropped further to \$17.21 billion. This decline in 2020 could potentially be attributed to the impact of the COVID-19 pandemic, which affected global economic conditions and led to reduced remittances worldwide. Overall, Nigeria's migrant remittances have shown an upward trend from the mid-2000s to the late 2010s, with some fluctuations and a slight decline in recent years.

4.2 Correlation Analysis

Correlation is a statistical measure or coefficient which indicates the direction and magnitude of the relationship existing between two or more variables of interest. The analysis of correlation is an important statistical tool that measures magnitude and direction of the relationship between two or more variables. Correlation analysis is a useful tool for pre-test analysis; however, it does not show causality. The correlation among the relevant variables used in this research work is given in the table 4.2 below

Table 4.2a. Correlation Matrix

	LNCON	LNEXCR	LNMGGR	LNPGR	LNRGDP
LNCON	1				
LNEXCR	0.869926	1			
LNMGGR	0.908452	0.905867	1		
LNPGR	0.824692	0.555395	0.694717	1	
LNRGDP	0.983562	0.868588	0.891397	0.78502	1

Source: Authors Computation using Eviews 10

From table 4.2a above, the correlation matrix provides insight into the relationships between consumption (LNCON) and other variables: migrant remittances (LNMGR), population growth rate (LNPGR), real gross domestic product (LNRGDP), and exchange rate (LNEXCR).

Firstly, LNCON exhibits a strong positive correlation with LNEXCR, with a correlation coefficient of 0.8699. This suggests a robust relationship between consumption and exchange rate. As the exchange rate increases, consumption tends to increase as well, and vice versa.

Secondly, LNCON shows a very strong positive correlation with LNMGR, having a correlation coefficient of 0.9085. This indicates a pronounced relationship between consumption and migrant remittances. As migrant remittances increase, consumption tends to increase as well, and vice versa.

Thirdly, the correlation between LNCON and LNPGR is strong, with a coefficient of 0.8247. This implies a significant relationship between consumption and population growth rate. As the population growth rate increases, consumption tends to increase as well, and vice versa.

Lastly, LNCON displays an extremely strong positive correlation with LNRGDP, having a correlation coefficient of 0.9836. This suggests an exceptionally strong relationship between consumption and real gross domestic product. As real GDP increases, consumption tends to increase as well, and vice versa.

These interpretations highlight the positive associations between LNCON and the independent variables (LNEXCR, LNMGR, LNPGR, LNRGDP) of the correlation matrix. However, it's essential to note that correlation does not imply causation, necessitating further analysis to establish causal relationships between these variables.

Table 4.2b

	LNINV	INTR	LNMGR	LNPGR	LNRGDP
LNINV	1				
INTR	0.287166	1			
LNMGR	0.774837	0.305393	1		
LNPGR	0.829263	0.440484	0.694717	1	
LNRGDP	0.693876	0.409909	0.891397	0.78502	1

Source: Authors Computation using Eviews 10

From table 4.2b above, the correlation matrix illustrates the relationships between investment (LNINV) and other variables: interest rate (INTR), migrant remittances (LNMGR), population growth rate (LNPGR), and real gross domestic product (LNRGDP).

Firstly, LNINV displays a weak positive correlation with INTR, with a correlation coefficient of 0.2872. This suggests a slight positive relationship between investment and interest rates. As interest rates increase, investment tends to increase marginally, and vice versa.

Secondly, LNINV exhibits a moderate positive correlation with LNMGR, having a correlation coefficient of 0.7748. This indicates a meaningful relationship

between investment and migrant remittances. As migrant remittances increase, investment tends to increase, and vice versa, although the strength of this relationship is not as strong as some other variables.

Thirdly, the correlation between LNINV and LNPGR is moderate, with a coefficient of 0.8293. This implies a significant relationship between investment and population growth rate. As the population growth rate increases, investment tends to increase, and vice versa.

Lastly, LNINV displays a moderate positive correlation with LNRGDP, having a correlation coefficient of 0.6939. This suggests a meaningful relationship between investment and real gross domestic product. As real GDP increases, investment tends to increase, and vice versa, though again not as strongly correlated as some other variables.

4.3 Unit root test

In order to carry out the co-integration test, it is necessary to first ascertain the stationarity of the variables. Therefore, this study employs the use of the Augmented Dickey Fuller test to check for the stationarity of the variables employed in the model. In carrying out a unit root test, the order of integration is important as it helps in determining long run relationships among variables. Therefore, the null hypothesis that the variable has a unit root is tested and if the absolute values of the test statistics are greater than the critical values, the null hypothesis is rejected. This implies that the variable is stationary. If the absolute values of the test statistics are

however less than the critical value, we fail to reject the null hypothesis. This implies the presence of a unit root and it shows that the variable is non-stationary. The unit root tests as well as the order of integration of the variables at level, are shown in the table below.

Table 4.3.1: Unit Root Test result

VARIABLES	LEVEL		FIRST DIFFERENCE		ORDER OF INTEGRATION	REMARK
	ADF TEST STATISTIC	ADF CRIT. VAL. 5%	ADF TEST STATISTIC	ADF CRIT. VAL. 5%		
lnCON	-1.018071	-3.568379	-4.782812	-3.574244	I(1)	Stationary
lnINV	-2.001392	-3.587527	-4.458319	-3.580623	I(1)	Stationary
lnEXCR	-2.224313	-3.568379	-5.152662	-3.574244	I(1)	Stationary
lnMGR	-2.993421	-3.568379	-6.648152	-3.574244	I(1)	Stationary
lnPGR	-1.816286	-3.580623	-4.321578	-3.574244	I(1)	Stationary
lnRGDP	-1.462250	-3.587527	-4.500356	-3.587527	I(1)	Stationary
INTR	-2.136968	-2.976263	-4.782812	-3.574244	(1)	Stationary

Source: Author's computation using eviews 10

The unit root test results indicate that the variables in the analysis are stationary in their level forms and integrated of order 1, providing a solid foundation for further econometric modeling and analysis.

4.3.2 Co-integration Test

Having performed the unit root tests, the next test to be carried out is the co-integration test which tests if the two or more non-stationary time series are stationary over time and move in the same direction in the long run. It can therefore be seen as the statistical implication of the existence of a long run relationship between economic variables. This test make use of two statistics for the decision rule. These are the Trace statistic and the Max-Eigen Value. For the first, if the Trace

statistic is greater than the critical value at the given level of significance it implies that the variables are co-integrated. However, if the Trace statistic is less than the critical value at the given level of significance, we conclude that the variables are not co-integrated. The same decision rule applies when comparing the Max-Eigen value with the critical values.

Table 4.3.2 Johansen co-integration test (Trace)

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.900541	217.4258	125.6154	0.0000
At most 1 *	0.749552	150.4934	95.75366	0.0000
At most 2 *	0.722945	110.3427	69.81889	0.0000
At most 3 *	0.644782	73.12008	47.85613	0.0000
At most 4 *	0.544201	43.10441	29.79707	0.0009
At most 5 *	0.441266	20.31901	15.49471	0.0087
At most 6	0.111813	3.438618	3.841466	0.0637

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Source: Author's compilation using Eviews 10.0

From Table 4.3.2, it can be seen that the trace test indicates that there is 6 co-integrating equation at the 0.05 significance level implying a long run relationship among the variables utilized in this study.

Table 4.3.2b: Johansen co-integration test (Maximum Eigenvalue)
 Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.900541	66.93240	46.23142	0.0001
At most 1 *	0.749552	40.15064	40.07757	0.0491
At most 2 *	0.722945	37.22266	33.87687	0.0192
At most 3 *	0.644782	30.01567	27.58434	0.0239
At most 4 *	0.544201	22.78541	21.13162	0.0290
At most 5 *	0.441266	16.88039	14.26460	0.0189
At most 6	0.111813	3.438618	3.841466	0.0637

Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Source: Author's Computation on Eviews10

Based on the Johansen cointegration test (Maximum Eigenvalue), the analysis concludes that there are six cointegrating relationships among the variables at the 0.05 significance level. This implies a long-term relationship exists among the variables, which is an essential consideration for modeling and forecasting purposes.

4.4 Error Correction Model.

To determine the error correction model which is also referred to as the short run model, the variables need to be in differenced in their stationary form. The error correction terms, which are the residuals of the long run equation, are then incorporated into the model. The error correction term is however to be lagged one period. The results are shown in the table below:

Table 4.4: ECM Regression Result Summary

Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.046216	0.047393	0.975175	0.3392
D(LNEXCR)	0.001661	0.094963	0.017493	0.9862
D(LNMGR)	-0.07152	0.033674	-2.12398	0.0442
D(LNPGR)	11.93838	4.573467	2.610358	0.0153
D(LNRGDP)	1.825426	0.856515	2.131224	0.0435
ECM(-1)	-0.54293	0.163204	-3.32669	0.0028
R-squared	0.644585	Mean dependent var		0.095428
Adjusted R-squared	0.570541	S.D. dependent var		0.19112
S.E. of regression	0.125247	Akaike info criterion		-1.1402
Sum squared resid	0.376483	Schwarz criterion		-0.85996
Log likelihood	23.10306	Hannan-Quinn criter.		-1.05055
F-statistic	8.705355	Durbin-Watson stat		1.831075
Prob(F-statistic)	0.000081			

Source: Author's Computation on Eviews10

The Table above shows the error correction model results. The coefficient of the error correction term (ECM) is negative and the error correction term is statistically significant at the 5% significance level. From the result we can conclude that it takes imports approximately a year and a month to adjust to economic shocks. It also shows that 54% of the discrepancies between the long run and short run model are corrected or removed in a year. From the result obtained, the co-efficient of determination showed a value of 0.6446 which indicates that approximately 64% of the total variation in D(LNCON) is explained by variation in the explanatory

variables, that is, $D(LNEXCR)$, $D(LNMGR)$, $D(LNPGR)$ and $D(LNRGDP)$. Its counterpart, the adjusted co-efficient determination was observed to be 0.5705, indicating that 57.05% of the total growth in $D(LNCON)$ in Nigeria between 1990 and 2020 is attributable to growth in the explanatory variables. Assessing the individual significance of the co-efficient estimates, the t-statistics was observed to be 0.9751, 0.0175, -2.124, 2.6103, 2.1312, -3.3267 respectively for C, $LNEXCR$, $LMGR$, $LNPGR$, $LNRGDP$ and $ECM(-1)$ respectively. This result indicates that while the co-efficients of $LMGR$, $LNPGR$, $LNRGDP$ and $ECM_{(-1)}$ are statistically significant at 5% significance level, the co-efficient of $lnEXCR$ and intercept were however statistically insignificant at 5% level. The p-values of the coefficients were found to be 0.3392, 0.9862, 0.0442, 0.0153, 0.0435, 0.0028 for C, $LNEXCR$, $LMGR$, $LNPGR$, $LNRGDP$ and $ECM(-1)$ respectively. From impact analysis, it was observed that if all the explanatory variables are held constant at zero (0), $D(LnCON)$ will increase by approximately 0.046%. A positive relationship was observed between Exchange rate ($lnEXCR$) and $LnCON$ such that a 1% rise in exchange rate will cause an increase in consumption by 0.0016%. This result was however statistically insignificant at 5% level. Migrant remittance has a negative relationship with total consumption in the current period under study. This is however not in line with a priori expectation and it implies that a 1% increase in migrant remittance leads to 0.0715% decrease in consumption. The results also show that migrant remittance is a statistically significant factor that affects consumption at 5% level of

significance. Population growth rate showed a positive relationship with total consumption, such that a 1% rise in population growth rate in Nigeria will lead to approximately 11.94% increase in the value of total consumption. This result was however statistically significant at 5% level. Lastly, the co-efficient of RGDP showed a positive relationship with consumption value. From the result, it showed that a 1% increase in RGDP will cause the value of consumption to increase by 1.83%. This result was however statistically significant at 5% level and in line with a priori expectation. The F-statistic had a value of 8.7053 and probability value of 0.0000 which indicates that the Global significance of model is statistically acceptable at 1% level. The Durbin-Watson statistic was observed to be approximately 2, which indicates the absence of auto-correlation.

Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.10901	0.156276	-0.69756	0.4922
D(INTR)	-0.00436	0.00897	-0.48629	0.6312
D(LNMGR)	0.372479	0.118657	3.139111	0.0044
D(PGR)	8.374311	6.935064	1.207532	0.239
D(LNRGDP)	1.372573	3.010526	0.455924	0.6525
ECM1(-1)	-0.78694	0.229267	-3.4324	0.0022
R-squared	0.479631	Mean dependent var		0.046631
Adjusted R-squared	0.37122	S.D. dependent var		0.578979
S.E. of regression	0.459105	Akaike info criterion		1.45778
Sum squared resid	5.058656	Schwarz criterion		1.73802
Log likelihood	-15.8667	Hannan-Quinn criter.		1.547431
F-statistic	4.424219	Durbin-Watson stat		1.971102
Prob(F-statistic)	0.005366			

Source: Author's Computation on Eviews10

The Table above shows the error correction model results. The coefficient of the error correction term (ECM) is negative and the error correction term is statistically significant at the 5% significance level. From the result we can conclude that it takes imports approximately a year and 3 months to adjust to economic shocks. It also shows that 79% of the discrepancies between the long run and short run model are corrected or removed in a year.

From the result obtained, the co-efficient of determination showed a value of 0.4796 which indicates that approximately 48% of the total variation in D(LNINV) is explained by variation in the explanatory variables, that is, D(LNINTR), D(LNMGR), D(LNPGR) and D(LNRGDP). Its counterpart, the adjusted co-efficient determination was observed to be 0.3712, indicating that 37.12% of the total growth in D(LNINV) in Nigeria between 1990 and 2020 is attributable to growth in the explanatory variables.

Assessing the individual significance of the co-efficient estimates, the t-statistics was observed to be -0.6975, -0.4862, 3.1391, 1.2075, 0.4559, -3.4324 respectively for C, LNINTR, LMGR, LNPGR, LNRGDP and ECM(-1) respectively. This result indicates that while the co-]efficients of LMGR, LNPGR, and ECM₍₋₁₎ are statistically significant at 5% significance level, the co-efficient of LNINTR, LNRGDP and intercept were however statistically insignificant at 5% level. The p-

values of the coefficients were found to be 0.4922, 0.6312, 0.0044, 0.239, 0.6525 for C, LNINTR, LMGR, LNPGR, LNRGDP and ECM(-1) respectively.

From impact analysis, it was observed that if all the explanatory variables are held constant at zero (0), $D(\ln INV)$ will decrease by approximately 0.11%. A negative relationship was observed between Interest rate ($\ln INTR$) and $\ln INV$ such that a 1% rise in interest rate will cause a decrease in investment by 0.0043%. This result was however found to be in line with a priori expectations but statistically insignificant at 5% level.

Migrant remittance has a positive relationship with total investment in the current period under study. This is however in line with a priori expectation and it implies that a 1 percent increase in migrant remittance leads to 0.37 percent increase in investment. The results also show that migrant remittance is a statistically significant factor that affects investment at 5% level of significance.

Population growth rate showed a positive relationship with total investment, such that a 1% rise in population growth rate in Nigeria will lead to approximately 8.37% increase in the value of total investment. This result was however statistically significant at 5% level and in line with a priori expectations.

Lastly, the coefficient of RGDP showed a positive relationship with investment value. From the result, it showed that a 1% increase in RGDP will cause the value of investment to increase by 1.37%. This result was however not statistically significant at 5% level and in line with a priori expectation.

The F-statistic had a value of 4.4242 and probability value of 0.0054 which indicates that the Global significance of model is statistically acceptable at 1% level. The Durbin-Watson statistic was observed to be approximately 2, which indicates the absence of auto-correlation.

4.5 Diagnostic Tests

Table 4.5 Presentation of diagnostic tests

Variable	Model 1 coefficients	Model 2 Coefficients
Breusch-Pagan-Godfrey Prob	0.1228	0.0530
Breusch-Godfrey Serial Correlation LM Test:	0.6588	0.1895
Jarque-Bera Prob.	0.662073	0.586364

Source: Author's computation using Eviews 10.

Discussion of Findings

From table 4.5 above, the p-value for the Breusch-Pagan-Godfrey test is 0.1228. This suggests that in Model 1, there is no statistically significant evidence of heteroscedasticity in the model residuals. The residuals' variance appears to be stable across the range of measured values, as the p-value is greater than the typical significance level of 0.05. In Model 2, the p-value for the Breusch-Pagan-Godfrey test is 0.053. This indicates that there is also no statistically significant evidence of heteroscedasticity in Model 2's residuals. Similar to Model 1, the residuals' variance seems to be stable across the range of measured values.

For Model 1, the p-value for the Breusch-Godfrey Serial Correlation LM Test is 0.6588. This suggests that there is no statistically significant evidence of residual

autocorrelation above a given lag order in Model 1. The model appears to capture the patterns of serial correlation in the residuals adequately. In Model 2, the p-value for the Breusch-Godfrey Serial Correlation LM Test is 0.1895. Similar to Model 1, this indicates that there is no statistically significant evidence of residual autocorrelation above a given lag order in Model 2. The model seems to handle serial correlation patterns in the residuals well.

The Jarque-Bera test yields a p-value of 0.6621 for Model 1. This suggests that the residuals in Model 1 are normally distributed. The normality assumption of the model does not appear to be seriously violated. For Model 2, the p-value from the Jarque-Bera test is 0.5864. This indicates that the residuals in Model 2 are also normally distributed. The normality assumptions for Model 2 do not seem to be seriously broken.

4.6 Policy Implications

From the above results, some key policy implications can be identified as they relate aggregate demand in Nigeria. If adequate attention is paid to these issues, significant improvements can be achieved in the commercial sector and the general governance process in Nigeria. Although the relationship between the exchange rate and consumption was found to be statistically insignificant, policymakers should continue to monitor exchange rate fluctuations. Sudden or extreme currency depreciation can have adverse effects on consumer purchasing power and overall economic stability. Implementing policies to stabilize the exchange rate and reduce

currency volatility can help maintain consumer confidence and support domestic demand. The unexpected negative relationship between migrant remittances and consumption warrants further investigation. Policymakers should conduct in-depth research to understand the underlying factors contributing to this phenomenon. While promoting policies to enhance the efficiency and impact of remittances, such as reducing transaction costs, it's essential to assess how remittances are being utilized within households and communities to better align policies with development goals.

The positive relationship between population growth and consumption highlights the potential benefits of a growing population for domestic demand. Policymakers should focus on harnessing this demographic advantage by investing in education and healthcare to ensure that a young and growing population is healthy, well-educated, and economically productive. Policies that encourage job creation and entrepreneurship can help maximize the positive impact of population growth on consumption. The positive and statistically significant relationship between Real GDP and consumption emphasizes the importance of economic growth for increased consumer spending. Policymakers should prioritize initiatives that support economic growth, such as infrastructure development, industrialization, and investment in key sectors. Additionally, measures to improve income distribution can ensure that the benefits of economic growth translate into higher consumption levels for a broader segment of the population. The negative relationship between interest rates and

investment, although statistically insignificant, suggests that policymakers should carefully manage interest rates to avoid deterring investment. This includes considering the potential impact on borrowing costs for businesses. Encouraging a favorable interest rate environment and improving access to credit for businesses, particularly small and medium-sized enterprises (SMEs), can stimulate investment and foster economic growth.

The positive and statistically significant relationship between migrant remittances and investment underscores the importance of remittances as a source of capital for investment. Policymakers should explore ways to channel remittances effectively into productive investments. Initiatives such as financial literacy programs and access to formal financial services for remittance recipients can help individuals make informed investment decisions

The positive relationship between population growth and investment indicates that a growing population can stimulate investment activity. Policymakers should consider policies that support a dynamic and skilled workforce, infrastructure development, and business-friendly regulations to leverage the potential of a youthful population for increased investment

While the relationship between Real GDP and investment was not statistically significant, promoting sustained economic growth remains essential. Policies aimed at diversifying the economy, improving the ease of doing business,

and attracting both domestic and foreign investment can foster a conducive environment for increased investment.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The above presentation gives a detailed empirical investigation of the impact of Migrant remittances on aggregate demand in Nigeria. The study covered the period 1990 to 2020. This period was selected due to the availability of data. The variables employed in the work includes Exchange rate (EXCR), Migrant remittances (MGR), Population growth rate (PGR), Interest rate (INTR), Real gross domestic product (RGDP).

The regression analysis reveals a positive relationship between the exchange rate ($\ln EXCR$) and consumption ($\ln CON$), suggesting that an increase in the exchange rate corresponds to a slight increase in consumption. However, the observed increase in consumption (0.0016%) per 1% rise in the exchange rate is statistically insignificant at the 5% level. This implies that while there might be a correlation between exchange rate and consumption, the relationship is not strong enough to be considered as a significant predictor of consumption behavior.

Surprisingly, the analysis shows a negative relationship between migrant remittances and consumption. This means that an increase in migrant remittances leads to a decrease in consumption. The magnitude of this effect is substantial, with a 1% increase in remittances corresponding to a 0.0715% decrease in consumption. Despite this counterintuitive finding, the impact of migrant remittances on

consumption is statistically significant at the 5% level. This suggests that even though the relationship goes against expectations, there might be other factors at play that warrant further investigation.

The analysis also reveals a positive relationship between the population growth rate and consumption. This suggests that as the population grows, there is an associated increase in consumption. The effect is substantial, with a 1% rise in the population growth rate leading to an approximately 11.94% increase in consumption. Moreover, this relationship is statistically significant at the 5% level. The positive relationship between population growth and consumption aligns with the expectation that a larger population could drive higher consumer demand.

The analysis demonstrates a positive and statistically significant relationship between RGDP and consumption. This indicates that as the RGDP increases, consumption also increases. The magnitude of this effect is noteworthy, with a 1% increase in RGDP leading to a 1.83% increase in consumption. This aligns with economic theory and supports the idea that economic growth contributes to increased consumer spending.

Moving on, the analysis indicates a negative relationship between the interest rate (LnINTR) and investment (LnINV). This implies that when interest rates rise, investment decreases. Although this finding aligns with expectations, the effect size is relatively small, with a 1% increase in interest rates corresponding to a decrease in investment by 0.0043%. However, the relationship is statistically insignificant at the

5% level. This suggests that other factors might have a stronger influence on investment decisions.

The analysis shows a positive relationship between migrant remittances and investment, which aligns with expectations. An increase in migrant remittances corresponds to an increase in investment, with a 1% increase in remittances leading to a 0.37% increase in investment. This relationship is statistically significant at the 5% level, indicating that migrant remittances play a significant role in driving investment in Nigeria.

Similar to consumption, the analysis reveals a positive relationship between the population growth rate and investment. A 1% rise in the population growth rate leads to an approximately 8.37% increase in investment. This relationship is statistically significant at the 5% level, suggesting that a growing population is associated with increased investment activity.

The results further demonstrate a positive relationship between RGDP and investment, which aligns with expectations. However, unlike the consumption relationship, the effect of RGDP on investment is not statistically significant at the 5% level. This implies that while there might be a correlation between economic growth and investment, other factors could be influencing investment decisions more prominently.

5.2 Policy Recommendations

Based on the findings and policy implications discussed earlier, the following specific policy recommendations are proposed to address the impact of migrant remittances on aggregate demand in Nigeria:

- i. Given the positive yet statistically insignificant relationship between the exchange rate and consumption, policymakers should maintain a stable exchange rate regime. This includes interventions in the foreign exchange market when necessary to mitigate extreme fluctuations.
- ii. To address the unexpected negative relationship between migrant remittances and consumption, policymakers should focus on enhancing the efficiency of remittance channels. Reducing transaction costs, improving accessibility to financial services, and promoting financial literacy among recipients can make remittances more impactful.
- iii. To maximize the positive relationship between population growth and consumption, Nigeria should invest in its growing workforce. This includes improving education and healthcare systems to ensure a healthy and skilled labor force. Policies that stimulate job creation and entrepreneurship can channel the energy and potential of a youthful population into productive economic activities.
- iv. Recognizing the significant impact of Real GDP on consumption, policymakers should prioritize initiatives that support economic growth.

These may include investments in infrastructure, industrialization, and strategic sectors of the economy. Addressing income inequality can help ensure that economic growth translates into increased consumption for a broader segment of the population.

- v. To address the negative relationship between interest rates and investment, policymakers should carefully manage interest rates to avoid deterring investment. A favorable interest rate environment should be maintained, especially for small and medium-sized enterprises (SMEs). Encouraging competition among financial institutions can also lead to lower lending rates and improved access to credit for businesses.
- vi. Building on the positive relationship between migrant remittances and investment, policymakers should explore mechanisms to direct remittances into productive investments. This can include establishing investment support programs for remittance recipients and facilitating access to investment opportunities.
- vii. To harness the potential of a growing population for investment, policies should focus on developing the skills and employability of youth. Vocational training programs, apprenticeships, and initiatives to improve digital literacy can prepare young Nigerians for the workforce. Encouraging entrepreneurship among young people can also create opportunities for self-employment and investment.

viii. Recognizing that economic diversification can positively impact both consumption and investment, policymakers should prioritize efforts to diversify Nigeria's economy. This includes reducing overreliance on oil exports and promoting growth in sectors such as manufacturing, agriculture, and technology. Incentives for businesses operating in non-oil sectors can stimulate investment and employment.

5.3 Conclusion

The analysis of the impact of migrant remittances on aggregate demand in Nigeria provides valuable insights into the intricate dynamics of the country's economy. This investigation, spanning three decades from 1990 to 2020, sheds light on the relationships between key economic variables, namely migrant remittances (MGR), consumption (CON), investment (INV), population growth rate (PGR), interest rate (INTR), exchange rate (EXCR), and real gross domestic product (RGDP).

One of the noteworthy findings is the unexpected negative relationship between migrant remittances and consumption. This counterintuitive discovery implies that as remittances increase, consumption decreases. While this may defy conventional wisdom, it emphasizes the importance of delving deeper into the factors influencing consumer behavior in the context of remittances. Policymakers should consider exploring why increased remittances don't necessarily translate into higher consumption and whether structural issues or cultural factors are at play.

Conversely, the positive relationship between population growth rate and consumption is not only intuitive but also statistically significant. This finding underscores the demographic dividend that Nigeria's youthful population presents. With the right investments in education, healthcare, and job creation, this growing population can be a powerful driver of economic growth and increased consumer demand.

Moreover, the positive correlation between real GDP and consumption reaffirms the well-established economic theory that economic growth stimulates consumption. This underscores the importance of policies that support sustainable economic growth and development in Nigeria.

The analysis also highlights the role of migrant remittances in driving investment. This positive relationship, coupled with its statistical significance, indicates that remittances are a significant source of capital for investment in Nigeria. Policymakers should consider mechanisms to channel these funds into productive investments that can further boost economic development.

In conclusion, the impact of migrant remittances on aggregate demand in Nigeria is a multifaceted issue. While some relationships between economic variables align with expectations, others present surprises. This complexity underscores the need for a nuanced and holistic approach to economic policy in Nigeria. Policymakers must consider the interplay of factors like exchange rates, interest rates, population growth, and economic diversification when crafting

strategies to promote sustainable economic development and improve the living standards of Nigerians. Furthermore, ongoing data collection and analysis are essential to adapt policies in response to evolving economic conditions and ensure a prosperous future for the nation.

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APPENDIX

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.951639	Prob. F(5,24)	0.1228
Obs*R-squared	8.671847	Prob. Chi-Square(5)	0.1229
Scaled explained SS	3.387503	Prob. Chi-Square(5)	0.6405

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 08/03/23 Time: 07:10

Sample: 1991 2020

Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.012841	0.004946	2.596188	0.0158
D(LNEXCR)	-0.011365	0.009910	-1.146780	0.2628
D(LNMGR)	0.010265	0.003514	2.920950	0.0075
D(LNPGR)	-0.087848	0.477290	-0.184057	0.8555
D(LNRGDP)	-0.036588	0.089387	-0.409328	0.6859
ECM(-1)	0.002230	0.017032	0.130953	0.8969
R-squared	0.289062	Mean dependent var	0.012549	
Adjusted R-squared	0.140949	S.D. dependent var	0.014102	
S.E. of regression	0.013071	Akaike info criterion	-5.660009	
Sum squared resid	0.004100	Schwarz criterion	-5.379769	
Log likelihood	90.90013	Hannan-Quinn criter.	-5.570358	
F-statistic	1.951639	Durbin-Watson stat	2.012104	
Prob(F-statistic)	0.122814			

Source: Author's Computation on Eviews1

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.576722	Prob. F(5,24)	0.0530
Obs*R-squared	10.47913	Prob. Chi-Square(5)	0.0627
Scaled explained SS	8.242552	Prob. Chi-Square(5)	0.1434

Test Equation:
 Dependent Variable: RESID^2
 Method: Least Squares
 Date: 08/03/23 Time: 07:26
 Sample: 1991 2020
 Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.319094	0.081158	3.931759	0.0006
D(INTR)	-0.002535	0.004658	-0.544182	0.5913
D(LNMGR)	-0.150565	0.061622	-2.443373	0.0223
D(PGR)	-1.197699	3.601550	-0.332551	0.7424
D(LNRGDP)	-2.876025	1.563441	-1.839548	0.0782
ECM1(-1)	0.095879	0.119064	0.805275	0.4286
R-squared	0.349304	Mean dependent var	0.168622	
Adjusted R-squared	0.213743	S.D. dependent var	0.268886	
S.E. of regression	0.238425	Akaike info criterion	0.147329	
Sum squared resid	1.364310	Schwarz criterion	0.427568	
Log likelihood	3.790072	Hannan-Quinn criter.	0.236980	
F-statistic	2.576722	Durbin-Watson stat	1.761033	
Prob(F-statistic)	0.052991			

Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.425418	Prob. F(2,22)	0.6588
Obs*R-squared	1.117030	Prob. Chi-Square(2)	0.5721

Test Equation:
 Dependent Variable: RESID
 Method: Least Squares
 Date: 08/03/23 Time: 07:12
 Sample: 1991 2020
 Included observations: 30
 Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004309	0.048849	0.088207	0.9305
D(LNEXCR)	0.014541	0.098777	0.147211	0.8843
D(LNMGR)	0.005500	0.035022	0.157037	0.8766
D(LNPGR)	0.684021	4.899332	0.139615	0.8902
D(LNRGDP)	-0.196923	0.908315	-0.216801	0.8304
ECM(-1)	0.017727	0.239121	0.074134	0.9416
RESID(-1)	0.006428	0.313543	0.020500	0.9838
RESID(-2)	-0.215193	0.239538	-0.898368	0.3787
R-squared	0.037234	Mean dependent var	-4.63E-19	
Adjusted R-squared	-0.269100	S.D. dependent var	0.113939	
S.E. of regression	0.128358	Akaike info criterion	-1.044816	
Sum squared resid	0.362464	Schwarz criterion	-0.671163	
Log likelihood	23.67224	Hannan-Quinn criter.	-0.925281	
F-statistic	0.121548	Durbin-Watson stat	1.857284	
Prob(F-statistic)	0.995929			

Source: Author's Computation on Eviews10

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.795738	Prob. F(2,22)	0.1895
Obs*R-squared	4.210162	Prob. Chi-Square(2)	0.1218

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 08/03/23 Time: 07:28

Sample: 1991 2020

Included observations: 30

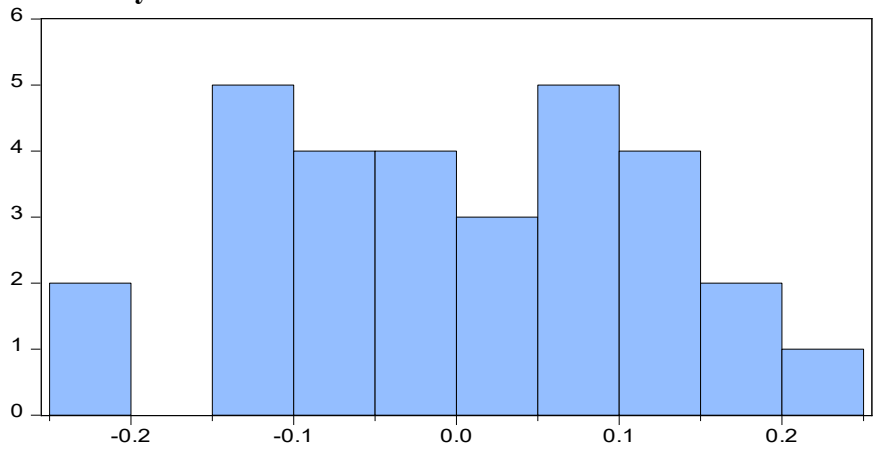
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.032056	0.157632	0.203357	0.8407
D(INTR)	-8.14E-05	0.008689	-0.009364	0.9926
D(LNMGR)	-0.075461	0.123258	-0.612217	0.5467
D(PGR)	0.830494	6.755573	0.122935	0.9033
D(LNRGDP)	-1.055213	3.069480	-0.343776	0.7343
ECM1(-1)	1.974416	1.113694	1.772854	0.0901

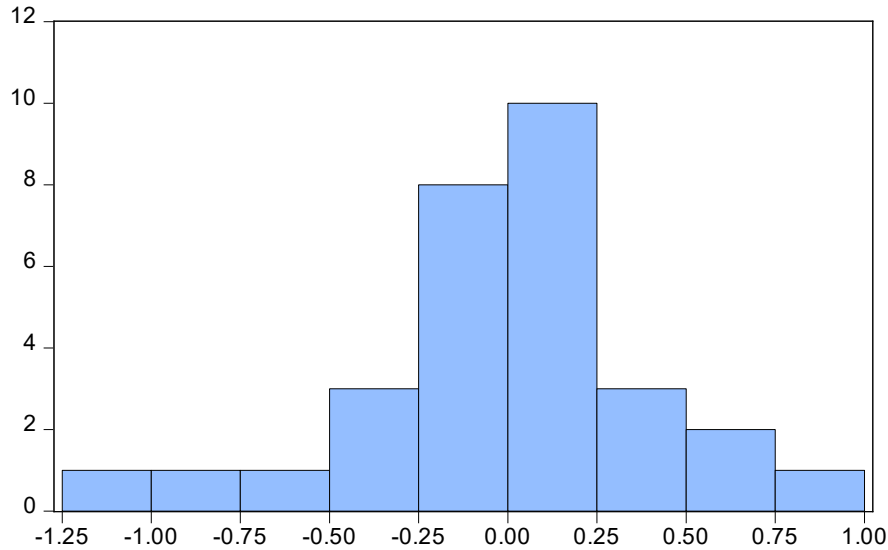
RESID(-1)	-2.122101	1.172085	-1.810535	0.0839
RESID(-2)	-0.551376	0.329077	-1.675523	0.1080

R-squared	0.140339	Mean dependent var	-2.22E-17
Adjusted R-squared	-0.133190	S.D. dependent var	0.417656
S.E. of regression	0.444600	Akaike info criterion	1.439897
Sum squared resid	4.348730	Schwarz criterion	1.813550
Log likelihood	-13.59845	Hannan-Quinn criter.	1.559432
F-statistic	0.513068	Durbin-Watson stat	1.975508
Prob(F-statistic)	0.814882		

Normality Test



Series: Residuals	
Sample 1991 2020	
Observations 30	
Mean	-4.63e-19
Median	-0.000980
Maximum	0.202563
Minimum	-0.219682
Std. Dev.	0.113939
Skewness	-0.114607
Kurtosis	2.220726
Jarque-Bera	0.824759
Probability	0.662073



Research Data

Year	CON	INV	MGR	PGR	RGDP	EXCR	INTR
1990	\$19.34	0.59	0.01	2.58	21680.2	8.04	17.4662
1991	\$19.71	0.71	0.065	2.55	21757.9	9.91	0.99085
1992	\$22.22	0.9	0.056	2.52	22765.6	17.3	-14.987
1993	\$13.63	1.35	0.79	2.5	22302.2	22.07	-7.0525
1994	\$18.23	1.96	0.55	2.49	21897.5	22	-15.92
1995	\$23.78	0.34	0.25	2.49	21881.6	21.9	-31.453
1996	\$29.41	0.5	0.3	2.49	22799.7	21.88	-5.2608
1997	\$30.32	0.47	0.59	2.49	23469.3	21.89	12.1266
1998	\$34.10	0.3	0.45	2.49	24075.2	21.89	11.4847
1999	\$31.73	1	1.3	2.5	24215.2	92.34	6.04725
2000	\$29.75	1.14	1.39	2.5	25430.4	101.7	-1.1409
2001	\$46.09	1.19	1.17	2.51	26935.3	111.23	12.1387
2002	\$62.93	1.87	1.21	2.52	31064.3	120.58	3.02354
2003	\$69.71	2.01	1.06	2.54	33346.6	129.22	9.93571
2004	\$87.66	1.87	2.27	2.56	36431.4	132.89	-2.6048
2005	\$114.14	4.98	14.64	2.59	38777	131.27	-1.5937
2006	\$131.44	4.85	16.93	2.61	41126.7	128.65	-5.628
2007	\$208.43	6.04	18.01	2.63	43837.4	125.81	9.18717
2008	\$236.14	8.19	15.2	2.65	46802.8	118.57	6.68491
2009	\$226.42	8.56	18.37	2.66	50564.2	148.88	18.18
2010	\$274.73	6.03	19.74	2.67	55469.4	150.3	1.06774
2011	\$302.13	8.84	20.62	2.68	58180.4	153.86	5.68558

2012	\$304.38	7.07	20.54	2.68	60670.1	157.5	6.22481
2013	\$407.18	5.56	20.8	2.68	63942.9	157.31	11.2016
2014	\$427.57	4.69	21	2.67	67977.5	158.55	11.3562
2015	\$411.40	3.06	20.63	2.65	69780.7	192.44	13.5962
2016	\$351.72	3.45	19.7	2.63	68652.4	253.49	6.68623
2017	\$317.62	2.41	22.04	2.61	69205.7	305.79	5.79057
2018	\$326.49	0.78	24.31	2.59	70586.6	306.08	6.05598
2019	\$359.24	2.31	23.81	2.56	72094.1	306.92	4.52219
2020	\$338.67	2.39	17.21	2.54	70800.5	358.81	5.37128

Consumption, Investment and Migrant remittances measured in \$ billion and gotten from World development indicators and CEIC data. RGDP measured in Million naira gotten from CBN statistical bulletin.