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Analysis of the Effects of FDI and Remittance on Economic Growth: Empirical Evidence from Nigeria

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Abstract

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1. Introduction

The crucial impact of FDI and remittances on Gross Domestic Product (GDP) growth is underscored by their ability to boost growth, improve productivity, and alleviate poverty especially in developing countries. These external financial inflows are intended to drive economic growth, create job opportunities, and boost human capital development. The dynamics of their influence, conversely, regarding GDP, are multidimensional, which vary and depend on economic environments and policy contexts, as well as other exogenous factors. Over the last twenty–five years, there has been a considerable reorganization, such as foreign financial flows to numerous developing

Foreign direct investment (FDI) and remittances are two major sources of capital formation and their impact on economic growth has received significant attention in the literature. However, the impact of FDI and remittances on growth is mixed for their ability to boost growth, improve productivity, and alleviate poverty especially in developing countries, including Nigeria. Thus, this study investigates the effects of foreign direct investment (FDI) and remittances on economic growth (GDP) in Nigeria. Secondary data were obtained from the World Bank database spanned from 1981 to 2021. ARDL technique was applied to investigate the association among the variables. The findings indicate that both FDI and remittances have a statistical significance effect on GDP. This suggests that FDI and remittance inflows contribute to Nigeria's economic growth. The impactful effects of the regressors signal important policy implications suggested in this study.

> nations, particularly through the promotion of FDI as well as the growing significance of Simultaneously, remittances. additional elements of global capital flow have dropped and become less relevant, such as overseas assistance, investments in equities, as well as loans in a portfolio. Even though wealthier nations can use capital flows to finance investment and consumption, these flows are very motivating, so improving living standards, promoting economic growth, and potentially raising well-being in the underdeveloped Furthermore, because a crucial world. component of economic growth is the holding such as monetary as well as tangible possessions to absorb technological advances

and produce resources dependence on outside funding is beneficial to cover the difference between savings and investment in capitalconstrained economies. Globally, the capital inflows are also thought to drive technical advancement and financial transformation, and as well, it contributes to the GDP and efficiency nations of with adequate infrastructure and human capital. They are specifically important for developing countries due to their low technical process and levels of household savings. Identifying the driving force behind growth is one of the most difficult issues in modern economic growth. Money invested is a tool to improve one's standard of living. As stated by Kwarba et al (2016), investment is among the major contributors to GDP in developing economies. As a result, FDI might spur GDP. However, the extent the FDI genuinely contributes to Nigeria's economy still remains controversial. This hinders a thorough understanding of the effectiveness of FDI as a growth-led factor in Nigeria.

Accordingly, remittances from Nigerians living overseas form Nigeria's net income follow the income generation from the petrodollar. For instance, remittances in 2011 in Nigeria rose to \$10.7 billion from \$1.4 billion in 2001, representing a 76.7% in a decade and its contribution to GDP in 2011 was 5% but fell to 4% and 3% in 2013 and 2016, respectively. Notwithstanding, remittances is a vital source of income for the majority in the country. However, the impact of remittances on the overall economy remains inadequately explored.

The significance of FDI to GDP growth has been represented in a multitude of large contributions empirical from various academics in the past. However, the findings on the effects of FDI and remittances on GDP are either inconclusive or mixed. Several research on the nexus between remittances and GDP exist but their outcomes are mixed. More so, many of these studies modelled the link between foreign direct investment, GDP, remittances, and economic growth in linear forms. However, this may be incorrect if a divergence trend exists among the variables

that previous studies have not taken into consideration. As a result, this work investigates the effects of FDI and remittances on GDP, focusing on Nigeria, and whether nonlinear relationships exist among the variables. The primary object of this research is to analyze the effects of FDI and remittances on GDP in Nigeria. This study, as one of its kinds, attempts to make clarity on the relationship between FDI, remittance and GDP and provides an insight to the significance of remittances and FDI towards economic growth.

2. Literature review

2.1 Conceptual review

Remittances and FDI are both major resources for external finance for developing nations like Nigeria. They have the potential to possess a substantial influence on the nation's GDP and contribute to its growth. Foreign direct investment (FDI) may bring new technology, information, and skills to the host nation, resulting in the development of new sectors and the extension of current ones. This can create job possibilities and boost the country's labour productivity. FDI can also result in the transfer of money and foreign exchange, which can then be utilized to invest in other areas of the economy. Remittances, on the other hand, are typically sent by migrants to family and friends back home. Remittances are an important source of income for developing-country homes, helping to alleviate poverty and improve living conditions. Remittances are a significant source of foreign cash in Nigeria, and they have been continuously rising over the years in the past.

Imports of Services as well as goods play a pivotal role in the global GDP, facilitating trade, fostering competition, and contributing to GDP and development. Understanding the concept of imports, their determinants and measurement through constant 2015 US dollars is crucial for policymakers, business leaders, and economists alike. Trade policies that promote open and fair exchange could make trading-partners' countries to reap the rewards of a dynamic and interconnected global economy.

In the intricate tapestry of global commerce, exports of goods and services stand to be a testament of a nation's economic openness and integration into the world economy. This metric, expressed as a proportion of the GDP, quantifies the proportion of a nation's domestically produced Products and services that are sold on foreign markets. It serves as a vital indicator of a nation's ability to compete internationally, generate foreign exchange earnings, and stimulating economic growth.

Exports, in essence, represent goods or services produced within a country's borders and sold to consumers or businesses in other countries. These outbound commodities ranged from raw materials and agricultural produce to manufactured goods, technology, and intangible services, traverse geographical boundaries, connecting economies and fostering, global interdependence. Measuring Exports as a proportion of GDP: Gauging Economic Transparency. To assess the relative export orientation of a nation, economists express exports. As a proportion of GDP, this metric provides a standardized measure of a country's participation in global trade, allowing for meaningful comparisons across countries with varying economic sizes and structures. A higher percentage of exports to GDP generally indicates a greater degree of export-led growth and dependence on foreign markets.

2.2 Theoretical Framework

The growth model developed by Rostow serves as the theoretical foundation for the influence on GDP growth of FDI and remittances. According to this model, remittances, FDI, as well as other private capital investments are important sources of foreign exchange revenues. Remittances are less volatile and procyclical, making them a more predictable source of revenue for households and agricultural productivity. Remittances assist individuals in financing their consumption, spending, and investments, and recipients' remittances can be spent on investments instead of consumption. FDI is critical to Nigeria's GDP growth. However, the effects of FDI on Nigerian GDP are uncertain, and further research is needed to determine the extent of the effect. The bureaucratic character of the economic environment, over-reliance on crude oil, lack of development and execution of suitable remittances programmers, Political insecurity and bribery have all been recognized as important issues acting against remittances' positive impacts in Nigeria. As a result, before remittance inflows may favourably affect economic growth, they must be put in the productive industry. More research is needed to define the between FDI, remittances and Nigerian GDP. However, FDI and remittances are important sources of foreign revenue for Nigeria. Remittances are a source of foreign cash, direct enterprise, assistance, and private capital expenditure. Remittances are the second main source of foreign inflows into Sub-Saharan Africa, (SSA) following FDI. According to the World Bank. Nigeria was sixth Among the best ten remittances receivers Around the globe in 2015, with \$20.8 billion, accounting for 4.4% of Nigeria's economic growth and between 2011 and 2015, the GDP grew at an average rate of 6.8%.

3.3 Empirical Review

A body of studies has provided empirical investigation of FDI, remittances and GDP relationship particularly in developing countries using an array of methods. For instance, Danmola & Abba (2013) investigated on nexus between remittances and GDP in Nigeria and discovered that remittances are highly connected to GDP in Nigeria. Adigun & Ologunwa (2017) discovered that remittances are associated with economic growth because they assist individuals fund their consumption, spending, and investments. According to their findings, recipients of remittances should spend more than what they consume to have a beneficial impact on the domestic GDP. FDI is an additional major source of foreign income for Nigeria. However, the nexus between FDI and GDP is complex in the country. According to Alabi (2019), FDI has a positive impact on

Nigeria's GDP. However, Bird & Choi (2020) discovered that FDI has a detrimental impact on Nigerian GDP. Sethi et al. (2019) employed panel data method to analysis the impact of remittances on Sri Lanka's GDP. They found that remittances have a huge effect on Sri Lanka's GDP and concluded that transfer from migrants improves family income and, as a result, the amount of domestic spending.

Alalaya (2010) employed a cointegrationbased autoregressive distributed lag (ARDL) model is used to analyze the economic situation of Jordan. instance from 1990 to 2008 to analyze the link between foreign direct investment and economic growth. The findings point to unidirectional causality. Coon & Neumann (2015), on the other hand, analyzed the link between remittances and FDI in 118 nations in development from 1980 to 2010. discovered that a 10% rise in foreign direct investment (FDI) flows correlates to a 3.6% rise in remittances. The findings suggest that migrant remittances and FDI are mutually beneficial. With a substantial infusion of foreign direct investment giving growth financing to sending nations, remittances are increasing. a significant influx of migrants from other countries. Remittances boost FDI by giving appropriate information and decreasing uncertainty. Sothan (2018), for example, used the linear regression model to examine the effect of foreign aid on Cambodian GDP from 1980 to 2014. Utilizing the linear ARDL model. He found that negative link between FDI and GDP. He found that there is a positive correlation between GDP and remittances.

Nguyen (2017) has used the ARDL framework model to test the impact of FDI, both short- and long-run, on Vietnam's GDP expansion from 1986 to 2015. The findings result in significant and favourable long-term benefits and inconsequential short-run connections. In a recent study conducted by Ukhtiyani & Indartono (2020),they investigated the relationship between government development aid and migrant and GDP growth, focused remittances Indonesian migrant workers in Malaysia. They

employed qualitative study and interview for data collection. Their findings indicate that migrants' funds are used for basic consumption which in turn promote GDP. Furthermore, Indonesia is distinguished by a lack of functional facilities, which inhibits international capitalists.

Blonigen & Piger (2011) examined whether a correlation exists between FDI and GDP growth. They found that classic gravity variables such as cultural considerations and distance factors per capita economic growth, regional trade and the relative endowment of labour agreements as FDI factors influence GDP. Other characteristics include international trade operationalization, commerce facilitation and simplicity of doing commerce in the domestic occupational, primarily infrastructure, and financial institution. Almfraji & Almsafir (2014) examined FDI- GDP relationship growth, data spanned from 1994-2012 and analyzed using panel technique. Their results revealed that FDI influences GDP growth, significantly and positively. Conversely, in other cases, other studies found that the connection is insignificant and negative. Blonigen & Piger (2011) examined the FDI-GDP relationship and found that complementary factors such as social capital and financial depth play a central role in the relationship. Furthermore, the nexus between FDI and GDP growth is heavily influenced by interacting indices such as financial market development, enough shared capital, local and foreign trade, free occupation procedures, and good governance, among other factors. Malik (2020) explored the effect of national income, FDI, and the price of oil on both carbon and economic growth. The research used ARDL and Granger causality techniques on data spanning 1971-2014. Their analysis shows that both short- and long-run increases in carbon emissions are associated with economic development and FDI. This is in line with the discovery concluded by Yue (2016), who studied the influence on GDP of FDI for 104 cities in China. The research identified variations in the efficiency of green growth across different cities. They affirmed that FDI improves economic development in urban areas of China. Moreover, when the efficiency of green development was analyzed in terms of economic and environmental impact and concluded that foreign enterprise advances China's economy.

Nevertheless, the impact of FDI differs across different nations. FDI enhances environmental sustainability in emissionintensive regions, mostly by fostering efficiency in the local economy. FDI increases the economy and environmental both performance in areas with no emissions, while also enhancing green efficiency. Okereke, Duniya and Lateef (2019) examined the impact of FDI inflows on Pakistan's energy production. They used data from 1990 to 2017 and employed the VECM (Vector Error Correction Model) for their analysis. The researchers discovered that the energy sector had the greatest advantages from FDI inflows. The research found a clear and reciprocal cause-and-effect link between economic development and energy production. The longrun outcome also demonstrated a causal connection between the factors. Suggestions were put up to uphold the minimum debt threshold and prevent development dependent on loans. Implementing such a system might effectively regulate energy limitations and foster growth in the economy.

Wu et al. (2020) studied the FDI-GDP causal relationship, focused on China. They found that there was a curvilinear relationship between FDI and GDP, with a negative connection. The analysis indicates that foreign companies contribute significantly to the local income of China. They further discovered that considerably displaces government FDI expenditure. Liang, Shah and Bifei (2021) examined the FDI- GDP growth relation and obtained data spanning 2000 to 2019. They applied both the fixed-effect technique and instrumental technique to test the hypothesis of no relationship between FDI and GDP growth. Their conclusion reflected that an augmentation of 10% in the inflow of FDI would enhance the GDP growth of rising nations.

Azam and Feng (2021) inspected the impact on GDP growth in emerging nations of FDI. The analysis included 37 developing nations characterized by lower and middle-toupper incomes. The researchers used crosssectional data collected between 1985-2018 and employed the ARDL framework. As their results show, FDI has a significant effect on the GDP of less developed countries. At the same time, it has a detrimental effect on developed economies. Lateef et. al. (2021) investigates the influence on GDP of carbon emissions in the context of FDI in the Asian economy. Their study also examined the correlation between growth, and carbon emissions, and Azam & Feng (2021)employed mathematical modelling to examine the influence of foreign assistance on the economic growth of emerging nations. According to the research, different types of foreign help have different beneficial effects on the economic progress of developing nations.

To summarize, the research showed that FDI-carbon dioxide emissions about GDP are intricate and contingent upon several elements. While several studies have shown a favourable correlation between Foreign Direct Investment (FDI) and GDP growth, others have identified a negative or inconsequential correlation. Similarly, several research discovered a nonlinear link between foreign direct investment, remittances, and GDP growth.

Ibrahim & Acquaah (2021) analyzed FDI-GDP growth and financial growth in Africa. They used a panel data set including 45 nations and gathered data spanned 1980-2016, using the Granger non-causality approach. Their panel's result revealed that FDI and GDP are related but it is trivial depending on growth factors. Concurrently, they revealed a connection between growth in the banking sector, economic development over the research period, and foreign direct investment. They discovered that an increase in GDP reduces GDP growth by 1.21%.

Fayissa & Nsiah (2010) observed the correlation between remittances and GDP growth in 36 African nations. They used data

from developing nations spanning 1980 to 2004. Their research demonstrated that remittances influence the GDP growth of selected African nations. Javid et al. (2012) examined the impact on GDP and alleviation of poverty of remittances and applied the RDL method to data spanned 1973- 2010. The researchers discovered that remittances had a substantial impact on economic development, as shown by their results. The results also showed that remittances had a substantial effect on the alleviation of poverty. Salahuddin and Gow (2015) explored the GDP growthremittances relationship under cross-sectional dependency. The econometrics methods used were the panel unit root test and Pooled (PMG) framework. As they inferred, remittances have an impact on GDP. The research further discovered that short-term fluctuations in economic development are rectified by 0.037% in the long term, as verified through the significance of the error term. Comes in 2018 examined the correlation among FDI, remittances, and GDP growth in seven Central and Eastern European nations with a GDP per capita below US\$ 25000. The research revealed a favourable impact. Throughout the study period, the presence of FDI, remittances, economic progress and was noted. Nevertheless, it is observed that FDI influences GDP growth.

Imran et al. (2021) conducted a study using panel data from 1994 - 2017 to investigate the relationship between remittance and economic development in South Asian nations. The econometrics investigation included panel fixed-effect and random-effect models, and the better model was detected by the Hausman specification test. They found remittances to have a significant effect on the GDP development of South Asian nations. The relationship between exports, employment creation, and economic growth is both direct and influential. In contrast, inflation has an inverse correlation with economic progress. According to their study, it is recommended that the government create a strategy to lower expenses associated with the sending remittances to discourage the use of unofficial methods for transferring remittances. This is important as remittances in supporting economic development and employment play a crucial role.

Adeseve (2021) examines remittances growth correlation in Nigeria from 1990-2018, adding to the existing discourse on the topic of remittances and economic growth. Analyzed about remittances, were secondary data inflation, imports, exports, and GDP. The quantitative analysis revealed that remittance had a favourable and substantial impact on GDP, exports and imports for the research. Controlling for other factors, inflation had little impact on remittances. The report recommended that officials in the nation use remittances as a means to stimulate economic development, among other strategies.

The empirical data on the link between the variables is inconclusive. However, there is an accepted belief that the FDI-growth relationship, as well as the remittance-growth relationship, is linear. This is grounded on the use of conventional linear econometric modelling and typical cointegration tests. Nevertheless, Enders & Siklos (2001) caution that relying on such an assumption may yield misleading results. This is because a model based on this assumption may be improperly constructed if the relationships are non-linear. Consequently, incorrect policy recommendations may arise if economic growth responds differently to high and low levels of FDI and remittances. Furthermore, it has been acknowledged that the major macroeconomic indicators display inconsistent adjustment throughout business cycles. Hence, it is feasible to accommodate an asymmetrical (non-linear) correlation between foreign direct investment (FDI), remittances, and economic development. However, there are many studies. The study conducted by Lateef et al. (2021) revealed a favorable correlation between foreign direct investment (FDI) and economic development while indicating that carbon emissions had detrimental effects on the economy. Azam & Feng (2021) discovered that foreign help has a favourable influence on the economic development of developing nations, while the magnitude of this benefit differs according to the specific form of aid. Research has shown that the correlation between remittances and growth in GDP is not linear and is contingent upon the degree of development of the nation receiving the funds. Separate research discovered that the correlation between remittances and GDP development is not a straight line, and that, the impact on GDP growth of remittance decreases if the number of remittances grows. The research also discovered that FDI might alleviate the adverse effects of carbon emissions on economic development. Previous studies have explored the connections between FDI remittances and GDP growth in Nigeria, however, these analyses were conducted in a distinct study.

In Fagerheim's (2015) study, the impact of remittance on the GDP growth of member countries of the Organization of Southeast Asian Nations (ASEAN) from 1980-2012 was examined using the OLS technique and instrument variable two-step minimum squares (IV 2SLS) approaches. The OLS finding remained valid in the absence of heterogeneity. Based on the findings, remittances have a heterogeneous impact on economic development. Adeyi (2015) used Granger causality within the Vector Autoregressive (VAR) framework to examine the relationship between remittances and economic development in Nigeria and Sri Lanka from 1985 to 2014. The research revealed a unidirectional correlation between remittances influx and Nigerian GDP development, whereas a bidirectional correlation was seen between remittances and growth in the economy in Sri Lanka.

Consequently, the research recommended using remittances for fostering the growth of small and medium-sized enterprises, while also establishing a conducive macroeconomic environment. Animwaa (2015) employed a linear regression model to analyze the impact of remittance on the economic development of several West African nations between 2000 and 2010. The research found a positive correlation between remittances influx and Nigeria's and Senegal's GDP, but a negative correlation was seen in Cameroon and Cape Verde. Based on the study, remittance inflows must be allocated to productive sectors to effectively stimulate economic development. Adeagbo & Ayansola (2014) analyzed the influence of remittances on Nigeria's GDP growth. They compared the effects of remittances on the GDP growth of other countries with the impact of remittances in Nigeria. Their investigation revealed the bureaucratic nature of the economic environment, excessive dependence on crude oil, a deficiency in conceptualization, and the inadequate implementation of suitable remittance systems.

The level of political uncertainty and corruption significantly may hinder the positive advantages of remittance on GDP growth in Nigeria. In a study conducted by Tsaurai (2017), the author examined the correlation between local remittances from persons and GDP growth in Israel from 1975 -2011, using a tri-variate causation framework. Their results revealed a substantial and enduring connection between economic growth, the development of the banking sector, and remittances. However, the influence of individual remittances on GDP growth. banking sector growth, and remittances over the long term was shown to be insignificant. There is no immediate cause-and-effect link between the components. In their research, Oluyemi, Dominic and Lady (2015) tested the impact on GDP growth of remittances, focusing on Nigerian Diasporas in Ghana. They collected original data by administering a survey specifically tailored for 326 participants from Ghana. The analysis of the research was conducted using both non-parametric evaluations and linear regression. The research indicates that the financial transfers made by Nigerians living in Ghana, known as remittances, have a substantial impact on the country's economic development.

Consequently, the research advised the construction of sufficient infrastructure to attract larger volumes of remittances for the whole country. Ibenyenwa et.al (2015)

conducted a study on remittance expenditure patterns and their impact on human growth and development in Sub-Saharan Africa from 2000 to 2010. They found that only a small portion of remittances were used for investments, which had a negligible effect on human development outcomes. It fulfils several goals. Datta and Sarkar (2014) used an ARDL (Autoregressive Distributed Lag) model framework to examine the connection between remittance and economic development in Bangladesh from 1975 to 2011. The research revealed a persistent correlation between remittances and GDP over an extended time, but no immediate cause-and-effect link.

Bichaka et al. (2008) found that remittances enhance economic development in nations with inadequate financial systems, enabling them to overcome limitations in available funds. The investigation was conducted throughout 37 African states. Gupta et al. (2007) concluded that remittances did not serve as a solution or replacement for a longterm and locally coordinated development strategy to tackle the challenges encountered by low-income countries. Yilmaz and Sezgin (2015) conducted a study from 1996 to 2013 to examine the relationship between the increase in real GDP per capita, the amount of personal remittances received, and the inflow of foreign direct investment in European Union countries undergoing transition. The countries included in the study were Bulgaria, Croatia, the Czech Republic, Poland, Hungary, and Romania. The author noted the absence of any correlation between the two. Loto and Alao (2016) found remittances enhance that economic development in countries with inadequate financial systems, aiding in the resolution of liquidity limitations. The investigation was conducted throughout 37 African states. Gupta et al. (2007) found that remittances did not provide a solution or replacement for a longterm and locally coordinated development effort aimed at addressing the challenges faced by low-income countries. Baraja et al. (2009) argue that remittances may bolster economic augmenting development by capital accumulation. According to Nyamongo et al.

(2012), those who get remittances see it as a replacement for income from work and as a result, they have more leisure time. This, in turn, has a detrimental impact on economic activity.

inflow has three Capital distinct components: remittances, portfolio investments, and FDI. The impact of remittances varies according to how the receivers use them. This action is unauthorized. Engage in a very profitable investment venture. Remittances used for expenditure may have a detrimental impact on economic development because the receiver views them as a replacement for money earned via employment, leading to increased leisure time and a negative influence on economic activity. Moreover, the appreciation of currency may have a detrimental impact on the economy since it reduces the competitive edge of a country, leading to a decline in exports and an increase in imports. Remittances are a kind of financial resource that flows into a nation. A thorough examination of both the direct and indirect effects of remittance on economic development is necessary. The conventional neoclassical growth model may analyze this. This research identified alternate methods for financing investment and addressing liquidity limitations.

Bichaka et al. (2008) found that remittances help the economy of nations with underdeveloped financial systems by providing Remittances have a statistically significant effect on both the present level of a country's GDP and its pace of economic growth. Remittances are often seen as payments made to compensate family members who have lost skilled employment as a result of relocation. According to Stahl and Arnold (1986), using remittances for expenditure might enhance growth due to the possible multipliers.

Remittances are influenced by investment opportunities in the sender's nation of origin, as well as humanitarian or insurance motives. A significant number of migrants invest their money in their home country, primarily in small enterprises, real estate, or other valuable assets. Remittances are often driven by profitseeking motives, increasing in response to improvements in the economic conditions of the sender's home country. Several scholars have proposed predicting the precise impact on GDP of remittances in Sub-Saharan African (SSA) countries.

In their research, Meyer and Shera (2017) employed a panel data set including six countries that receive significant amounts of remittances to examine the impact of remittances on economic development. From 1999 to 2013, the nations that were covered in this time were Albania, Bulgaria, Macedonia, Romania, Moldova, and Bosnia and Herzegovina. The study's results suggest that remittances have a favourable impact on economic growth, and this advantage increases as the proportion of remittances to GDP increases. In a study conducted by Animwaa, (2015), the impact of remittances on the economic development of four West African countries (Cameroon, Cape Verde, Nigeria, and Senegal) was examined over the period between 2000 and 2010.

The study revealed that remittances to Nigeria and Senegal had a beneficial effect on economic development, but remittances to Cape Verde and Cameroon had a detrimental effect on economic growth. The research conducted by Kanu & Ozurumba (2013) provided evidence supporting the correlation between remittances and economic development. With an emphasis on Sub-Saharan African nations, including Nigeria, South Africa, and Ghana. As their results showed, migrant remittances had a positive effect on the economies. Considering the causal connection between remittances and economic development, it was seen that remittances stimulated economic growth in both Ghana and South Africa. However, the study reveals that the impact was more pronounced in South Africa compared to Ghana. In Nigeria, the study conducted by Mohamed, Singh and Liew (2013) did not demonstrate the effects of remittances. Their research focused on examining the influence of the growth of remittances in Tunisia. As their findings indicate, remittances have a negative direct impact on GDP, whereas education inclusion has a positive indirect impact. However, it was observed that economic growth is the cause of remittances, according to the Granger causality test. Oluyemi et al. (2015) assessed the financial contributions made by Nigerian Diasporas in Ghana to Nigeria to promote economic growth.

The research obtained primary data with a population size of 326 individuals in Ghana. They employed chi-square and linear estimators, to establish the significance of remittances from Nigerian Diasporas in Ghana economic development. Nigeria's for Moreover. the results indicated that remittances have significantly facilitated investment and savings in Nigeria. In research undertaken by Nurudeen, Wafure and Auta (2011), an empirical analysis was performed on the relationship between remittances and economic development, using data from Bangladesh, India, and Sri Lanka. The study found that an increase in remittances does not result in economic development in India. In contrast, Sri Lanka demonstrates a reciprocal relationship between remittances and GDP growth, suggesting that growth in the economy and remittances mutually affect each other.

In a study conducted by Abedelbagi et al. (2016), the author investigated the relationship between emigration, remittances, trade openness, and GDP development in Africa using GMM. As the results indicated, emigrants had a statistically significant negative effect on regional GDP development, whilst remittances from migrants had a statistically significant positive impact on regional economic growth throughout the specified period. Ultimately, the research demonstrated that trade significantly and positively impacts the economic growth of the continent.

Multiple studies investigating the correlation between FDI and growth in the economy have yielded conflicting outcomes. Türkcan et.al (2008) used a panel dataset of 23 OECD countries spanned 1975-2004 to assess the inherent connection between the two variables. The researchers use the generalized

methods of moments (GMM) to estimate a simultaneous equation system consisting of two equations, where economic growth and FDI are treated as endogenous variables. It was shown that there is a strong relationship between FDI and growth, with each variable being a substantial predictor of the other. Additionally, export growth is also a significant indicator of FDI and growth. As their research indicates, there is a reciprocal of FDI-GDP nexus. Karimi & Zulkornain (2009) investigated the causal relationship between FDI and GDP growth using the Toda-Yamamoto causality test, data spanned from 1970- 2005. They found no substantial evidence of a two-way causal relationship but instead revealed a lasting correlation suggesting that FDI indirectly affects Malaysia's economic development. In their study, Chakraborty & Nunnenkamp (2008) analyze the widely accepted notion that the surge in FDI in India after the economic reforms has significantly contributed to its economic progress. The research conducted Granger causality tests using specific to an industry FDI and output data inside a panel cointegration framework. The results demonstrate significant variations in the effects on the growth of FDI across different sectors. While there is no direct correlation and only transient effects of FDI on output in the primary sector, there is an observed positive relationship between FDI stocks and production in the manufacturing sector. This relationship is also evident in the services sector. FDI has facilitated growth in the production sector by promoting sectorial spillovers and inefficiencies in the hospitality sector.

Dupasquer & Osakwe (2006) found that African nations that many obstacles to attracting substantial foreign direct investment These include inadequate (FDI) flows. corporate governance, volatile political as well as economic policies, insufficient unfavourable regulatorv infrastructure, frameworks, and intense global competition. These findings substantiate the conclusions. Ogunkola and Jerome (2004) analyzed the magnitude, orientation, and potential of foreign direct investment in Nigeria. The authors attribute Nigeria's limited foreign direct investment (FDI) to deficiencies in the country's legislative system about corporate law, insolvency, and labour law, as well as institutional instability. Ayanwale (2007) conducted a study on non-extractive FDI-GDP growth correlation. As the author identified, many characteristics that motivate FDI in observed, including the market size, development of infrastructure, and political stability.

FDI inflows into Nigeria may be attributed to several factors, including the country's political system, real national income, inflation, interest rate, credit rating, and debt payment. In his examination of the drivers of FDI in Nigeria, Anyanwu (2011) emphasized that changes in domestic investment, changes in local production or market size. implementation of homogeneity policy, and changes in economic openness are significant factors that predict FDI. Furthermore, he said that the annulment of the indigenization program in 1995 facilitated the increase of foreign direct investment into Nigeria. He emphasized the need to implement measures to enhance the nation's economic development to attract more FDI. Adelegan (2000) utilizes the idea of apparently unrelated regression (SURE) to examine the impact of foreign direct investment (FDI) the economic on development of Nigeria. The study reveals that FDI has a positive effect on consumption and imports but is negatively correlated with gross domestic investment. Akinlo (2003) found no significant correlation between foreign capital and economic development in Nigeria. Adeniyi, Ajide and Salisu (2015) examined the causal in FDI-GDP relation, and the environment by using the ARDL method on annual data spanned 1970-2006. The findings suggest that there is no enduring correlation between foreign direct investment (FDI) and economic development. There exists a significant and enduring cause-and-effect link between the quality of the environment and the influx of FDI. An examination of the causal

relationship between FDI and economic growth in Nigeria during both pre-crisis and post-crisis eras.

Onakoya (2012) used Granger causality analysis to examine the period of deregulation. The results demonstrate a one-way causality relationship between economic growth (GDP) and FDI in the pre-deregulation period (1970-1985), yet no connection between the two in the post-deregulation era (1986-2007).

The literature analyzed indicates that the results of the FDI-GDP association are inconclusive and varies significantly. More so, the impact of FDI and migrants' remittances on the GDP, particularly in Sub-Saharan Africa, is considered to be insufficiently researched while array of methods applied to investigate the relationship between these variables underscore the need for more research. Thus, it is essential to conduct a comprehensive investigation in this area of research which this study intends to carry out and contributes to the existing knowledge.

3. Methodology

The data of the variables are extracted from the World Development Indicators (WDI) databank. FDI is measured as the net inflows (% of GDP). Remittances (REM) is the repatriation of dividends and personal remittances of the citizens in diaspora, is measured as annual amount received (current US\$) from diaspora. The GDP is an acronym for Gross Domestic Product, used to represent economic growth. It measures the value of all goods and services generated in the country throughout a year, measured in (constant 2015 US\$). Import (IMP) and Export (EXP) are measured in constant 2015 US\$. The data collected spanned between the periods 1981 to 2021. Nigeria is chosen based on two factors. Firstly, the economy is largest in west Africa and has shown significant improvement and commitment to allowing foreign investors into the country as shown by World Bank reports (2020). Secondly, there data availability for Nigeria.

3.1 Model Specification - ARDL model

We specify the linear relationship among the variables in a function below:

$$GDP = f(FDI, REM, EXP, IMP)$$
 1

where GDP denotes the gross domestic product already defined above. FDI means foreign direct investment, REM stands for remittances. EXP means export to another country and IMP denotes importation from another country. Econometrically, this function is represented by natural logarithm as shown below:

$$lngdp_{it} = \beta_0 + \beta_1 lnfd_{it} + \beta_2 lnrem_{it} + \beta_3 lnexp + \beta_4 lnimp + \mu_{it}$$

In the scrutiny of the long-run and short-run relationship between variables in this study, Autoregressive Distributed Lag (ARDL), developed by Pasaran (2001) was used. The model is appropriate relative to other methods when variables are stationary at either I (0), I (1), or a joint of both. There are two processes in the ARDL framework: long-run framework

and short-run framework. The procedure involves estimating the long-run coefficients using the outcomes of the ARDL estimate to detect whether there exists a long-run linkage between the parameters. The ARDL equation is built based on the first equation is shown as follows:

$$\Delta lnGDP_t = \theta_0 + \sum_{i=1}^{q} \rho_1 \Delta lnGDP_i + \sum_{i=1}^{f} \rho_2 \Delta lnFDI_i + \sum_{i=1}^{f} \rho_3 \Delta lnIMP_i + \sum_{i=1}^{f} \rho_4 \Delta lnEXP_i + \sum_{i=1}^{f} \delta_1 lnGDP_{2i} + \sum_{i=1}^{f} \delta_2 lnFDI_{2i} + \delta_3 lnIMP_{2i} + \delta_4 lnEXP_{2i} + \omega ECT_i + \varepsilon_i \quad 3$$

3.2 Error Correction Model (ECM)

The equation of co-integration computes the long run; therefore, we first observe the stationarity or co-integration of the variable before estimating the model. The value between -1 and 0 is the point at which the coefficient error correction term should be situated, and it must be negative. The negative sign represents the extent or speed of adjustment or degree of correction.

We check the accuracy of the model to make precision, and we also check the model fit using diagnostic tests such as heteroscedasticity, serial autocorrelation, and residual normality. For instance, if residual values are greater than their expected values, it signals the presence of autocorrelation in the data. As a result, we may rule out the null hypothesis and determine that the model exhibits heteroscedasticity.

4. Results

4.1 Descriptive Statistics

Table 1 displays descriptive statistics of the variables of interest in this study, including FDI, REM, GDP, IMP) and EXP. The mean and median values of GDP per capita are the

largest, followed by export, import, personal remittances and FDI. It provides a measure of central tendency. For instance, the median values for FDI, REM, GDP, IMP and EXP, are 0.084, 0.515, 25.971, 2.563, and 2.999, respectively. Suggesting that half of the observations for all the variables fall below this value and the other half above it. The max. and min. values of the data indicate the highest and lowest magnitude observed for each variable, respectively. For instance, the maximum value for FDI, REM, GDP, IMP, and EXP are 1.756, 2.120, 26.974, 3.127, and 3.584, and the minimum values are -4.621, -5.321, 25.464, and 1.658, respectively. The standard deviation measures the dispersion or variability of the values around the mean. A higher standard deviation indicates greater variability. However, variances of FDI, GDP, EXP and IMP have the second, third-, fourth, and fifth, respectively, are large, indicating that the variables may be quite distinct from the actual. Skewness, a measure of the asymmetry of the distribution of values, as expected is around zero.

	FDI	REM	GDP	IMP	EXP
Mean	-0.023	-0.441	26.177	2.460	2.806
Median	0.084	0.515	25.971	2.563	2.999
Maximum	1.756	2.120	26.974	3.127	3.584
Minimum	-4.621	-5.321	25.464	1.108	1.658
Std. Dev.	1.094	2.527	0.533	0.510	0.527
Skewness	-1.752	-0.839	0.268	-1.071	-0.687
Kurtosis	8.758	2.085	1.501	3.650	2.360
Jarque–Bera	77.645	6.246	4.330	8.569	3.931
Probability	0.000	0.044	0.114	0.013	0.140
Sum	-0.943	-18.107	1073.29	100.88	115.08
Sum Sq. Dev	47.918	255.63	11.364	10.438	11.137
Observation	41	41	41	41	41

Table 1 Descriptive Statistics

Positive skewness of GDP suggests a longer right tail, indicating the presence of relatively larger values on the right side of the distribution, but relatively close to zero. Kurtosis values quantify the steepness or flatness of the distribution of values. Higher kurtosis values (e.g., for FDI, IMP, EXP,

and REM) indicate more extreme values or heavier tails. The Jarque-Bera test checks if the distribution of values deviates significantly from a normal distribution. The test is based on skewness and kurtosis values. The lower the probability value of skewness and kurtosis values, around 0 and 3 respectively, the higher the likelihood of the data being normally distributed. Also, Jarque-Bera is significant at the 1% significant level, indicating that the dataset is normally distributed.



4.2 Unit root tests

Five variables are being tested using unit root tests: InFDI, InREM, InGDP, LNIMP, and InEXP. The tests are conducted at both level and first difference. The unit root tests reveal that all five variables have a unit root at the level. This implies, as shown in Figure 2 below, that the variables have a trend, but it is not stationary. In other words, the variables have a propensity to wander and do not have a steady mean or variation over time. Also, the ADF and PP tests unit root at the level show that the variables are not stationary. This suggests that variables should be differentiated before being utilized for investigation. This is to ensure that the variables remain stationary, with a consistent meaning and variation across time.

Taking the first difference, Table 2, the variables are stationary.

4.3 Correlation Matrix

The correlation matrix, Table 4, shows that there are several positive and negative correlations between the variables. LNGDP and LNREM, for example, have a very high positive association, but LNGDP and LNFDI have a small negative correlation. The correlation matrix is useful for determining correlations between variables. The significant positive correlation between LNGDP and LNREM, for example, indicates that these two variables tend to move in the same direction, indicating that while LNGDP rises, LNREM rises as well, and vice versa.



Table 2:	Unit Root	Test with	Intercep	t & Trend
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		ADF	PP		
Variable	Level	First Difference	Level	First Difference	
InFDI	-1.3778	-5.768*	-1.378	-7.794*	
InREM	-1.659	-7.066*	-1.593	-7.087*	
InGDP	-1.887	-3.888**	-3.055	-3.749**	
lnIMP	-2.409	-7.041*	-2.418	-9.516*	
InEXP	-2.060	-8.680*	-1.831	-14.640*	
Note: * and ** represent significant at 1% and 5% levels, respectively					

Note: * and ** represent significant at 1% and 5% levels, respectively.

Table 3: Correlation statistics					
	LNGDP	LNFDI	LNEXP	LNIMP	LNREM
LNGDP	1.00				
LNFDI	-0.142	1.00			
LNEXP	0.182	0.575	1.00		
LNIMP	0.475	0.288	0.778	1.00	
LNREM	0.804	0.190	0.511	0.717	1.00

Outliers can also be identified using the correlation matrix. The poor negative correlation between LNGDP and LNFDI, for example, shows that these two variables may not be connected. This might be because of an

outlier in the data. Overall, the correlation coefficient between LNGDP and LNREM is 0.804. This is a significant positive correlation, indicating that these two variables may tend to move together. When LNGDP rises, LNREM tends to rise as well, and vice versa. LNGDP and LNFDI have a -0.142 correlation. This is a weak negative correlation, implying that the two variables are unrelated. This might be because of a data outlier. LNEXP and LNIMP correlate 0.778. This is a significant positive correlation, indicating that these two variables tend to move together. When LNEXP rises, LNIMP rises as well, and vice versa.

4.4 ARDL Bound Test

We check whether cointegration exists between the variables of interest using the bound test. This is to examine the presence of long-run nexus among the variables. We selected the unrestricted constant and no trend for fixed regressors specification and the hypothesis of no cointegration was tested. In Table 4 below, the calculated F-stat is 6.46 above the upper bound (I(1)) and lower bound (I(0)).

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic K	6.464 4	10% 5% 1%	2.45 2.86 3.74	3.52 4.01 5.06

Table 4 ARDL Bound Test: Null Hypothesis: No levels relationship

The critical values, at a 1% significance level for I (1) and I (0), are 3.74 and 5.06, respectively. Hence, the cointegrating relationship between the variables, shown by the F-stat value is statistically significant at 1%, implies that the hypothesis of no level's relationship among the variables under the study can be rejected, meaning that GDP is cointegrated with FDI, remittance, import and export variables.

4.4 ARDL Result

The ARDL technique is an appropriate model because the variables' stationarity happened at order 1(1). The LNREM without lag significantly and positively influences GDP. At lag 1, DLNREM affects GDP significantly but hurts GDP. At lag 2, DLREM influenced the GDP insignificant and negatively impacted. FDI without lag and at lag 1 significantly influenced GDP positively and negatively, respectively. DIMP without lag is not significant but has a positive impact on GDP. IMP at lag 1, affects significantly but negatively influenced GDP. At lag 1 and 4 LEXP significantly impact the GDP positively and negatively, respectively. The R squared is 99% and the dF value is 18.08 (p = .000) which means it is significant. The Durbin- Watson test is good at 2.81 indicating that there is no serial correlation problem in the model.

In Table 5, the result offers vital evidence of the positive connection between personal remittances and economic growth as the data reveals that every 1% rise in remittance will lead to a 51.39% increase in economic growth. The result reveals that economic growth, foreign direct investment, and import have a negative relationship in the long run, as the data show that for every 1% increase in foreign direct investment and import, economic growth will decrease by 0.28 and 1.277% respectively. Moreover, a 1% rise in exports may, on average, lead to an increase in economic growth of 1.056%. Also, the result shows that a 1% rise in personal remittance will cause Economic growth in Nigeria to rise by 0.514%. Hence, FDI and IMP influence economic growth significantly and negatively while REM and EXP significantly and positively affect the GDP.

Variables	Coeff.	S.E	t-stat	p-value
LGDP(-1)	0.898***	0.119	7.56	0.000
LGDP(-2)	0.348*	0.182	1.907	0.077
LGDP(-3)	-0.295**	0.123	-2.404	0.031
LREM	0.023***	0.007	3.187	0.007
LREM(-1)	-0.026***	0.007	-3.456	0.004
LREM(-2)	-0.004	0.007	-0.543	0.595
LREM(-3)	0.013*	0.006	2.064	0.058
LREM(-4)	0.019**	0.006	2.819	0.014
LFDI	-0.008***	0.004	-1.945	0.072
LFDI(-1)	0.020**	0.007	2.691	0.018
LFDI(-2)	0.011	0.008	1.276	0.223
LFDI(-3)	0.002	0.006	0.328	0.747
LFDI(-4)	-0.039***	0.007	-5.441	0.000
LIMP	0.017	0.018	0.916	0.375
LIMP(-1)	-0.021	0.016	-1.321	0.208
LIMP(-2)	-0.059***	0.017	-3.485	0.004
LE_XP	0.006	0.013	0.418	0.682
LE_XP(-1)	0.041***	0.013	3.226	0.006
LE_XP(-2)	0.017	0.013	1.267	0.226
LE_XP(-3)	0.034**	0.014	2.446	0.028
LE_XP(-4)	-0.045***	0.014	-3.239	0.006
CON	1.338**	0.498	2.684	0.018
<i>R</i> ²	0.99	F-stat. 1808.4 [0	.000]	
\bar{R}^2	0.99	DW-statistic	2.8132	

Table 5: ARDL Short Run Result

Note: ***; **; and* reflect 1%, 5%, and 10% levels of the significance used in this study.

Table 6. ARDL Long-run Result

Variable	Coeff.	S.E	t-stat	p-value
LREM	0.514***	0.092	5.568	0.000
LFDI	-0.280	0.222	-1.261	0.228
LIMP	-1.278**	0.545	-2.34	0.034
LE_XP	1.056	0.769	1.373	0.191
CON	27.191***	1.235	22.007	0.000

The error correction model (ECM) on the result is presented in Table 7 The ECM model indicates a statistical significance and relationship between the variables. The dLGDP_1 coefficient is -0.053, with a standard error (S.E) of 0.119, t-value and p-value are

given as -0.444 and 0.662, respectively, showing that the variable does not have a significant impact on the economic growth of Nigeria. The dLGDP_2 coefficients are 0.295, with an S.E of 0.123, given the t-value as 2.405, and p-value as 0.027. This variable is statistically significant and has a positive

impact on GDP. The dLREM coefficient is 0.023, with an S.E of 0.007, given the computed t-value as 3.187, and its p-value as 0.005. This variable is statistically significant and positively affects economic growth in Nigeria.

Table 7. ECM Result

Variable	Coeff.	S.E	t-stat	p-value
dLGDP_1	-0.053	0.119	-0.444	0.662
dLGDP_2	0.295**	0.123	2.405	0.027
dLREM	0.023***	0.007	3.187	0.005
dLREM_1	-0.028***	0.005	-5.163	0.000
dLREM_2	-0.032***	0.005	-5.798	0.000
dLREM_3	-0.019**	0.007	-2.819	0.011
dLFDI	-0.008*	0.004	-1.945	0.068
dLFDI_1	0.026**	0.01	2.551	0.020
dLFDI_2	0.037***	0.008	4.794	0.000
dLFDI_3	0.039***	0.007	5.441	0.000
dLIMP	0.017	0.018	0.916	0.372
dLIMP_1	0.059***	0.017	3.486	0.003
dLE_XP	0.006	0.013	0.419	0.681
dLE_XP_1	-0.005	0.02	-0.302	0.766
dLE_XP_2	0.011	0.015	0.725	0.478
dLE_XP_3	0.045***	0.014	3.239	0.005
CON	1.338**	0.499	2.684	0.015
ECM(-1)	-0.049**	0.017	-2.897	0.010
R^2	0.92993		AIC	94.0963
\overline{R}^2	0.82482		SBC	6.6776
-	10.000		DW-	0.0100
F-stat.	10.9292		statistic	2.8132

Note: X_{SC} , X_{HET} , X_{NORM} , and X_{RAMSEY} are serial correlation LM, heteroscedasticity, and normality. ***; **; and* reflect 1%, 5%, and 10% levels of the significance used in this study.

The dLREM_1 coefficient is -0.028, with an S.E of 0.005, given the t-value and p-value as - 5.163 and 0.000, corresponding that the dLREM_1 has a significant negative impact on economic growth in Nigeria. The dLREM_2 coefficient is -0.032 (t-statistic = -5.798, p-value = 0.000.) statistically significant and negatively affects economic growth in Nigeria.

the dLREM_3 coefficient is -0.019 (S.E = 0.007, t-statistic = -2.819, the p-value is 0.011), showing that the variable has a significant negative impact on economic growth in Nigeria. the FDI coefficient is -0.008 (S.E = 0.004, t-value = -1.945, p-value = 0.068), this variable does not have a statistically significant impact on economic growth in Nigeria. the

dLFDI_1 coefficient is 0.026 (S.E = 0.01, t-value = 2.551, p-value = 0.020, this variable is statistically significant and has a positive impact on economic growth in Nigeria. the dLFDI_2 coefficient is 0.037 (S.E = 0.008, t-value = 4.794, p-value = 0.000), indicating that the variable is statistically significant and positively affects economic growth in Nigeria. the dLFDI_3 coefficient is 0.039 (S.E = 0.007,

t-value = 5.441, p-value = 0.000), meaning that the variable is statistically significant and positively affects economic growth in Nigeria. The dLIMP coefficient is computed as 0.017 (S.E = 0.018, t-value = 0.916, p-value = 0.372), reflecting that dLIMP does not have a statistically significant influence on economic growth in Nigeria.

Table 8. Diagnostic tests

		t-statistics	p-value
Serial Correlation	(X_{SC})	1.239	[0.355]
Heteroscedasticity	(X_{HET})	0.742	[0.585]
Normality	(X _{NORM})	0.7531	[3.786]

Notes: X_{SC} = Lagrange multiplier test of residual serial correlation. X_{NORM} = Based on a test of skewness and kurtosis of residuals. $X_{HET.}$ = Based on the regression of squared residuals on squared fitted values.

We verify the appropriateness of the estimated ECT model by testing the model using diagnostic adequacy tests. These include the Jarque-Bera test on normality (X_{norm}) , Ramsey Reset LM test (X_{RASEY}) for functional form, correlation LM Serial test (X_{SC}) for autocorrelation, and Breusch-Pagan heteroscedasticity test (X_{HET}) . These are presented in the lower panel of Table 5. The model passed all diagnostic tests suggesting error normality, absence of autocorrelation and parameter stability. \overline{R}^2 (82%) is adequate for model fit. Accordingly, the inflow model is adequately specified.

The "F-statistic" measures the overall significance of the model, with a value of 10.9292 and a p-value of 0.000. The AIC (Akaike Information Criterion) value is 94.0963. The values in brackets represent the values in the square brackets, which could be the heteroscedasticity test (X_{HET}) and the normality test (X_{NORM}).



Figure 3. CUM-SUM test

The CUSUM test remains between the 5% critical bounds, which shows that the model is structurally stable. As shown in Figure 6.3, our model predicts that optimal GDP is invariant to the FDI, instead HG chooses to reap the benefits of higher oil prices through a higher tax 20 rate without having to lower its LC requirement. This adjustment lets the HG enjoy higher welfare as oil price goes up (Figure 4). Besides, since the gap between the curves in Figure 6.3 widens as FDI increases, we can conclude that the increase in FDI, is an increase in economic growth.

4.5 Discussion

The FDI is significant in both the short run and run long, however, it has negative signs. This could be a result of instability of the economy and weak economic infrastructure. These factors such as political instability, policy uncertainty, and fluctuations in commodity prices could create risks and uncertainties for foreign investors, leading to a reluctance to commit capital in the short term. More so, inadequate economic infrastructure, including transportation networks, energy supply, and communication systems, could increase operating costs for businesses and hinder the realization of short-term benefits from FDI. This finding is in line with. Adarkwa (2015) who discovered that remittance inflows were positively connected to economic development in Nigeria and Senegal, negatively. Nigeria's economy has experienced periods of volatility due to fluctuating oil prices, political instability, and insecurity in certain regions. Such instability can deter foreign investors who seek predictability and stability for their investments. Another challenge is the slow growth-led sectors in Nigeria. Nigeria faces significant infrastructure deficits, including inadequate power supply, transportation networks, and logistical challenges. Poor infrastructure increases the cost of doing business and reduces the attractiveness of investing in the country.

Nonetheless, FDI has the potential to contribute to the development of domestic industries, leading to increased production capacities, technological capabilities, and competitiveness in global markets. It supports the trade openness of a country through training programs, knowledge transfer, and enhancement, which can improve skill productivity and spur innovation and entrepreneurship in the long term. Nigeria's economy relies heavily on oil exports, which exposes it to the volatility of global oil markets. This dependence can make the country less attractive for investment diversification, especially when oil prices are low. Based on this finding, economic diversification may become necessary for developing countries like Nigeria by facilitating the development of nonoil sectors, reducing dependence on volatile commodity markets, and fostering sustainable economic growth over the long run.

However, in the context where the magnitude of FDI's impact is relatively small as in this case, despite its potential positive effects, this implies that Nigeria may face challenges in effectively absorbing and utilizing FDI due to constraints such as institutional weaknesses, regulatory bottlenecks, and a lack of skilled labour, which can limit the transformative impact of FDI over the long term. In addition, structural barriers such as inadequate infrastructure, bureaucratic inefficiencies, and regulatory hurdles may impede the full realization of FDI's potential benefits, leading to a mismatch between expectations and actual outcomes in the long run. This finding is consistent and in line with. Sothan (2018), for example, used the linear regression model to examine the effect of foreign aid on Cambodian GDP from 1980 to 2014. Utilizing the linear ARDL model. He found that negative link between FDI and GDP. He found that there is a positive correlation between GDP and remittances regulatory environment in Nigeria might be perceived as cumbersome or unpredictable by Complex bureaucratic investors. foreign processes, ambiguous regulations, and inconsistent enforcement of laws can deter investment.

Remittances can be seen as a relatively stable source of income compared to other

forms of investment. Even during economic downturns, supporting family members back home may remain a priority for many Nigerians living abroad. It exhibits a lag in response to economic changes compared to other financial flows. During economic downturns, Nigerians abroad may initially prioritize stabilizing their financial situations before increasing remittance levels to their families back home. Remittances are often driven by familial ties, social obligations, and cultural norms. Despite economic challenges, Nigerians living abroad may feel a strong sense of responsibility to support their families, leading to a sustained level of remittance inflows over time. Remittances are often used to invest in education, healthcare, and smallscale businesses, and consumption contributes the economic growth in Nigeria. The variable appears to remain positive because there are familial ties, cultural obligations, and a relatively stable nature of remittance flows compared to other investments that influence the economic growth of Nigeria. One could submit that Nigerians abroad prioritize supporting their families back home, contributing to sustained levels of remittance inflows. This finding is consistent and in line with (Javaid (2017) investigated the influence external capital inflows, including of remittances, foreign direct investment (FDI), and official development assistance (ODA), on the economic development of Pakistan. from 1973 to 2014. Results indicate that ODA and FDI have an impact on Pakistan's GDP. While FDI is significant in both the short run and long run due to its potential to stimulate economic activity, promote technological transfer, and enhance competitiveness, its impact may be limited initially by economic instability, weak infrastructure, and structural barriers to growth. Addressing these challenges is crucial for maximizing the positive contribution of FDI to Nigeria's economic development over the long term.

5. Conclusion

This study examines the effects of FDI and remittances on GDP in Nigeria. Based on the

findings, it was affirmed that both FDI and remittances play crucial roles in stimulating economic growth in Nigeria. The positive coefficients of remittances and FDI were found to be associated with GDP growth, indicating that the factors contribute to the growth in the country. These findings confirm the importance of foreign investments and diaspora remittances in fostering economic growth in Nigeria.

More importantly, the findings of this study highlight the significant role of FDI and remittances in driving economic growth in Nigeria, particularly in the manufacturing industry. Policymakers, stakeholders, and investors should recognize the importance of these factors and implement measures to attract and maximize their positive impacts. By creating a conducive environment for investments and facilitating efficient remittance flows, Nigeria can harness the full potential of FDI and remittances for sustained economic growth and development.

Taking into consideration the findings of this study, several recommendations can be made to further enhance the positive effects of FDI and remittances on economic growth in Nigeria:

First, Encourage and attract more foreign direct investment: Policy measures should be implemented to create a favorable and attractive investment climate that encourages more foreign direct investment. This can include providing tax incentives, improving infrastructure, streamlining bureaucratic procedures, and ensuring a stable and transparent regulatory environment. Second, facilitate efficient remittance inflows. Efforts should be made to streamline and simplify the process of remittance inflows, reducing transaction costs and improving access to financial services. This can be achieved through the development of digital payment systems and collaborations with financial institutions. Third, promote technology transfer and knowledge spillover: Policies should be aimed at encouraging technology transfer and knowledge spillover from foreign investors to local industries. This can be achieved through collaborations, partnerships, and capacity-building initiatives that promote skills development and knowledge exchange. Lastly, strengthen the manufacturing industry: To fully harness the potential of FDI and remittances, there is a need to focus on strengthening the manufacturing industry. This can be achieved through targeted investments in infrastructure, research and development, and the promotion of local industries to enhance competitiveness.

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