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The Effect of Migrants Remittance on Economy Growth in Nigeria: An Empirical Study

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Abstract

Remittance inflows have been increasing significantly in Nigeria over the past decades. They are becoming one of the most constant sources of economic growth and development. This research work examined migrants' remittance and economic growth in Nigeria. Remittance inflow was used as dependent variable and gross domestic products, inflation, imports and exports were independent variables. In this study, secondary data were utilized. The study employs annual data obtained from world development and international financial statistics which covers the period of 29 years (1990-2018). Quantitative data collected were evaluated through descriptive statistics; and the hypotheses formulated were tested with the use of multiple linear regressions which includes ANOVA, Correlation, and Coefficient. And this was done with the aid of SPSS version 21. From the findings of the study and the tested hypotheses, it was discovered that significant relationship exists between remittance and gross domestic product, exports and imports in Nigeria while inflation has no significant relationship with remittance. The study therefore proffers some recommendations towards utilizing influx of remittance for economic growth in Nigeria.

Keywords

Remittance, GDP, Inflation, Exports, Imports, Immigration and Economic Growth

1. Introduction

Human migration is a strong dynamic component of the globalized world. All around the world, the figure of international migrants arrived at about 272 million in 2019, an expansion of 51 million since 2010. As of now, international migrants represent 3.5% of the world's total populace, equated to 2.8% in 2000

(United Nations, 2019). Therefore, it is not surprising that human mobility becomes more and more important and inevitable, because it affects the socio-economic life of the sending and receiving nations. Remittances transferred by migrant workers, represent a huge percentage of countries' foreign exchange earnings and GDP growth, contribute significantly to the economic improvement of migrant families (Muhammad et al., 2019). IMF stressed that remittances represent the income of migrants' households in overseas which occur primarily from the temporary or permanent movement of men and women to these nations. Remittances include cash and non-cash items that were transferred through formal channels, such as transfer from financial institution or informal channels through friends or items transported throughout borders. The significance of remittances lies inside the position they play on receiving economies, as they aid the poor households to fulfill their primary needs, finance monetary and non-monetary investments, motivate new businesses, finance education, pay off money owed and, additionally promote increase of the economic system (IMF, 2014). The economic growth has been expressed as an increase in the market price adapted to the inflation of goods and services a nation created over time (Essien, 2012).

Remittance remains a vital element of the economic growth. The World Bank has estimated that nearly $160 billion is transferred annually through official channels, which in some countries is almost an equivalent amount of money received through developmental aid or foreign direct investment. The amount of cash transferred by migrants to emerging economies is nearly thrice than foreign development aids, which is crucial in development of economic and human well-being in beneficiary countries (World Bank, 2018). The World Bank estimated that international remittances grew 10% to $689 billion in 2017 to $633 billion in 2018, and growing nations acquired 77% or $528 billion in whole inflows. Philippines, China, Egypt, India and Mexico are amongst the largest recipients of remittances in the world and together represent around 36% of the total inflow. Egypt and Nigeria received the greatest remittance inflows to Africa in 2018. In 2017, Nigeria led the continent in phrases of remittance revenue, however dropped to 2nd region in behind Egypt in 2018. There are two fundamental motives behind this growth. The first was global economy growth, specifically in OECD countries with high-income. The World Bank Migration and Development Report attribute multiplied international remittances to the growth of Russia economy, United States, and the Europe. Secondly, there has been an increase in price of oil, which has improved the economy oil-producing countries around the world (World Bank, 2018).

Furthermore, there are contradictory results on theoretical and empirical studies regarding the role of remittances on economic growth. The positive effect of remittances on economic growth relies upon on how the receiving homes use their remittances. If remittances are used for investments on human capital, such as healthcare, funding acquisition and education, on the long-term, this

will positively have an effect on economic growth. The bond between remittances, economic growth and socio-economic development in emerging countries has become a stimulating topic for researchers (Fagerheim, 2015; Jongwanich, 2017; Sayantan, 2017). Jongwanich (2017) stressed that remittances positively impacted economic growth by helping in reducing of credit boundaries on household income, as they potentially stimulate commercial activity and personal investment. Fagerheim (2015) and Sayantan (2017) stressed that remittances seem to improve economic growth in countries that adopt an open policy and have better financial institutions and markets to use for productive investments to encourage economic growth. These open economies tend to allow the free flow of capital and labor, which are crucial factors in stimulating economic growth.

On the opposite hand, remittances can prolong the growth of an economy if these remittances are mainly used for consumption instead of investments. Remittances can also indirectly influence labor dynamism by encouraging some families who receive remittances to work less. This will decrease not only the labour force, but also the economic growth (Chami et al., 2015). When this happens, the recipients who are phase of the energetic force of labour will robotically emerge as greater dependent, reliant on the remittance of migrant to survive. Inflows of remittances lead to huge appreciation of the homeland currency; it can also damage the country's economy due to the fact it discourages exports and, therefore, reduces opposition between corporations in beneficiary country (Lopez et al., 2017). In addition, a huge and prolonged influx of remittances could result to the infection of the "Dutch disease" problem in a developing economy through reduced international competitiveness. The constant influx and quantity of remittances can boost the demand in the national currency (Amuedo-dorants & Pozo, 2014).

As of 2017, the range of global migrants in the world was nearly 258 million (3.4% of the world population), according to assessments conducted by the United Nations Population Division. From the United Nations, in 2017 there have been 1.3 million Nigerian migrants, representing 0.6% of the total population. Although the endorsed records do not consist of people who are born by Nigerian parents in the diaspora, and therefore has the citizenship of their nations of origin. The influx of remittances has increased slightly over the past six years, except in 2016, when it declined by around 7%. As of 2017, there were 17 million Nigerians in the diaspora according to the federal government. This amount has grown significantly over the years and is steadily increasing, which implies that the value of remittance revenues in Nigeria will continue to grow. Influx of global remittances has increased progressively in Nigeria in recent decades. These remittances are the means of foreign exchange earnings, foreign direct investment, aid and other private capital investment. Therefore, remittances are likely to be a reasonably outrageous source of foreign income (United Nations, 2019). The study examined migrants' remittance and economic growth in Nigeria. The specific objectives of the study are to:

1) Examine the relationship between remittance and gross domestic product in Nigeria.

2) Examine the relationship between remittance and inflation in Nigeria.

3) Examine the relationship between remittance and imports in Nigeria.

4) Examine the relationship between remittance and exports in Nigeria.

Significance of the Study

The results would be useful for migrants, social workers, families and non-governmental organizations interested in migrant remittances. It will provide them with vital information on how the money sent could be channeled towards more urgent and investment needs that could lead to a more substantial development result in the domestic and economic spheres. The results of the study would also provide useful information to various government agencies and ministries with a mandate to manage migration policies and development needs within the country. This would help solve the current situation where information on international migration and the results of remittances to migrant families cannot be easily identified and quantified in the country.

In addition, the study will be beneficial for policy makers, as it would provide information on the accurate choice of development strategies. In particular, the information would have an impact on the formulation and implementation of programs and policies relating to remittances and their direct and indirect contributions to economic growth and development. Finally, the research would add to the existing literature on migration, remittances and economic growth. Likewise, it would serve as a basis for future researchers and students. This would add to the current body of knowledge and lead to further research on the subject of the study.

2. Review of Literature

Migration is one of the worthy factors of human history, long before the political frontier came into existence; we travel across the earth. Human migration is the movement of individuals from one place to another with the intention of settling permanently or temporarily in a destination. The first academic contribution to migration could be traced in two Ravenstein journals (1885, 1889), on "migration laws". He saw migration as an indispensable part of development and stressed that fundamental motives of migration have been economic. Skeldon (1997) also presumed that migration forms have been influenced by two factors such as distance and population density (Skeldon, 1997). From this view, people move from low-income areas to high-income areas and from densely populated areas to sparsely populated areas. The universal idea of migratory movements has moved towards a spatial economic equilibrium. Numerous demographers, geographers and economists have emphasized the fundamental postulation of push-pull theories as basis of migration (Castles & Miller, 2003; De Haas, 2008).

Lee's migration patterns created in 1966 describe the push and pull factors of

migration, which are fundamentally reasons for emigration and immigration. A determining cause is the unfavorable conditions in the area where someone lives and was the reason why they left. Push factors include conflict, drought, famine or extreme religious activity and conflict. Low economic activity and lack of job opportunities are also essential factors for migration. Other important factors are discriminatory and racial abuse, political intolerance and persecution of people who question the established order. The pull factor is a component that attracts someone to an area. The component ought to be economic, cultural or environmental. These elements are referred to as local utility that attracts people. The unwavering growth opportunities for good jobs and better livelihood often attract individuals to move to different regions. Occasionally people have thoughts and insights about places that are definitely not true, which can be attractive reasons for the individual to migrate. As individual aged and step down on work, they look for warm, quiet areas and welcoming locations to spend retirement after persistence life and reserves. These perfect locations are additionally fascinating pull elements (Lee, 1966).

Remittances can be understood as money or goods migrants transferred to loved ones in their homeland and there is a recognized association among migration and development. The transferred remittance is more than official aid received for the development of home economy. Global estimates of funds transferred are beyond what are commonly assumed to be remittances, as the statistical explanation used to gather information about remittances is broader (IMF, 2014). Furthermore, these estimates do not cover informal transfers. Remittances can also be social in nature, such as the ideas, behavior, identities, social capital and knowledge that migrants acquire during their stay in another part of the country or abroad, which can be transferred to their home community, as this is likely to upsurge the percentage in real gross domestic product or real GDP (World Bank, 2017). Grossman and Helpman (2011), refer to economic growth as the ability to increase its production capacity by becoming more capable of producing additional units of goods and services of a nation. This economic growth is broadly stressed as an indicator for the economic policies. Economic growth can be measured by various economic indicators, such as inflation (INF), gross domestic product (GDP), opening trade, money supply (SM), interest rate (IR), etc.

In theory, remittances can stimulate the growth of an economic through various channels such as facilitating the development of the financial market, acting as a financial source for commercial activities, insurance against shocks, financing of household expenses, financing of family formation, capital and the external financial gap (Ramirez, 2013). Over the years, there have been rational arguments on the grounds of the economic growth in developing economies and also why some nations have robust economic growth compared to others. Joseph and Oswald (2014) while examining the relationship between remittances and economic growth in Ghana. In this study they use Granger's causality test and cointegration under the auto-regression vector (VAR). The results revealed that

remittances significantly associated with economic growth in Ghana. They observed that remittances caused marginal economic growth, but economic growth did not result to remittances. They also recognized that remittances have been of great help in supporting the well-being of migrant families. Danmola and Abba (2013) examine remittances and economic growth in Nigeria. In the study, they adopted the error correction model. The result revealed that remittances significantly linked with economic growth in Nigeria. They concluded that funds should be transferred through the official channels and used for investment purposes to stimulate the growth and development in the country

Muhammad et al. (2019) studied the effect of migrant remittances on economic growth in Pakistan between 1976 and 2016 using the autoregressive distributed delay (ARDL). The ARDL method was used to analyze the effect of workers' remittances on the Pakistani economy. The survey results revealed that foreign direct investment, remittance inflow and gross domestic products have a significant effect on Pakistan's long-term economic growth, while consumption and inflation have a negative effect on economic growth from Pakistan in the long term. They recommended that policy makers should motivate migrants to transfer funds through appropriate networks and engage on profitable investments that will stimulate economic growth. Adigun and Ologunwa (2017) examined the effect of remittances on economic growth in Nigeria during the period 1980-2015. The result reveals that remittance is correlated with economic growth as it helps individual finances consumption, spending and investments. Their study suggested that receivers of remittances should spend more on investment than consumption to impact the home economy. Sebil and Abdulazeez (2018) investigated the impact of remittances on Nigeria's economic growth during the period 1981-2011. The influx of remittances was used as an indicator of dependent variables, while trade openness, foreign aid, foreign direct investment and were economic growth indicators. The outcome stressed that remittance absolutely affect Nigeria's economic growth. They stressed that the government should engaged more effective policies that improve the remittance transfer channel, aid flows and foreign direct investment as a growth strategy.

Various theoretical models were constructed on diverse viewpoints, levels and agreements have been proposed to migration, remittance and economic growth. There is no single universal accepted theory to this study. Hence, Neo-classical theory, The New Economics of Migration (NELM) theory, Altruistic Theory and Self-interest theory were used at explaining theoretical basis for proper understanding of the study.

2.1. Neoclassical Theory of Migration

Neoclassical theory was the first theoretical basis formulated to describe labor migration. Several researchers have contributed to creating the neoclassical theory of migration (Todaro, 1969; Harris & Todaro, 1970; Massey, 1993; Arango, 2000; Faist, 2004). Neoclassical theory observes migration as end result of geographic differences between supply and demand of labour. These differences

exist globally. Neoclassical theory expressed that international migration arises due to variances in wage levels between countries and labor markets. According to this theory, labor migration would stop if wage discrepancies were eliminated. The principle suggests that wage variations between regions are the foremost cause for labor migration. Neoclassical theory proposes that global migration was tied to the demand and supply of labor in the world. Nations with labor shortages and excessive demand will have high wages that will attract immigrants from countries with excess workforce. The main premise of the neoclassical theory of migration is directed by the push factors that push the person to leave their place of origin and by the pull factors that lead them to move to destination country. Neoclassical theory concluded that the main causes of migration are different wages and access to work (Sjaastad, 1962; Todaro, 1976).

The neoclassical theory of migration was divided into two main classes, such as macroeconomic and microeconomic aspects. At the macro level, neoclassical economic theory states that the sole purpose of migration is the exceptional imbalance in the supply of labor, the demand for labor, which leads to wage discrepancies in different countries. The macro level principle suggests that labor changes are due to differentials of wages, from low wage regions to regions with excessive wages, and that capital will go in the opposite direction. Migration will progressively decrease the workforce at the destination of the sending end. Countries with low wages have a much wider range of people, and as a result the large labour supply results to low wages. High-wage nations have surprisingly greater capital, which is often the reason why capital will shift to high-wage nations with low wages and manpower. When this movement occurs, wages go to a shared level. In the long term, based on neoclassical theory, migration flow will be minimized due to the fact that income convergences will decrease inducements to migrate (De Haas, 2008; Fagerheim, 2015).

At the micro level, the neoclassical principle of migration considers migrants as a person with coherent actions, with the purpose of going deep into the thought of cost-benefit migration. When there is free choice and full access to information, they move to the areas where they can be most creative, that is, the region where they can earn the highest wages. This significant mobility is based on the precise abilities a man or woman possesses and, moreover, on the unique structure of the labor markets. The micro point of view of neoclassical explains migration through a cost-benefit exploration, as human beings desire to maximize their non-public income. People think about their net-return on migration before than making a choice. If the threat of getting a job and expected income in remote places extends beyond the rate of migration and the acceptance of opportunities, the individual may also find it extremely good to migrate. But because of the desire of individual at the micro level, different individuals have clear expectations on migration (Massey, 1993; de Haas, 2008). According to the neoclassical view of migration, the workforce is moving from places with low global wages to countries with especially excessive wages due to wage variation between countries. Remittances provide a means of poverty reduction and de-

velopment of economy when immigrants send remittances to their homeland. On the other hand, this type of migration to distant places could damage the development and growth when the homeland loses relatively skilled workers, known as Brain Drain. Therefore, human capital losses can adversely affect growth of the economy, as indicated in the principles of neoclassical (Fagerheim, 2015).

2.2. The New Economics of Labor Migration Theory

The New Economics of Labor Migration theory emerged in the 1990s as a fundamental response to previous migration theories, especially neoclassical ones. New Economics of Labor Migration, which presumably sought to correct to each of the structural emphasis of the historical-structural point of view and the theoretical insufficiencies of the neoclassical theoretical framework (Stark, 1991; Massey, 1993; Taylor, 1999; Taylor & Martin, 2001; de Haas, 2008). The essence of this principle is that migration selection is no longer a character choice. It is a collective selection made by migrant families. Migration choices are made to maximize household income, as well as to reduce the dangers and alleviate the constraints associated with market failures. Remittances can serve as an insurance plan for future risks, as the home depends on unique sources of income. Remittances are also considered as financing capital when there is no access to credit facilities in the homeland (Massey, 1993; Taylor & Martin, 2001; de Haas, 2008). The idea of the New Economics Labor Migration system relating to Oded Stark's work is considered a criticism of the micro model of the neoclassical principle which conceptualises migration as a decision of character. According to Stark (1991), migration can be a device used by households to maximize profits and it represents a significant source of income. By sending your loved one away from home, a family gets a loan that they will pay until migrants record their earnings later. They believed that if humans migrate to increase their income, they must send remittances to their homes (Taylor, 1999). NELM theory adapts to the Nigerian situation in which a family gather resources to send a member out of the country with a declared agreement and expectation to remit to their homes (Massey, 1993). Stark and Lucas (1988) stressed that there's a specific and contractual agreement between each family members and the migrant before migration occur.

Taylor (1999) expressed migration from the family perspective. According to him, when people migrate, they are no longer breaking ties with their homeland. In this case, the family tries to maximize utility rather than the individual. Migration can have considerable consequences on the financial activities of families. Families who send migrants regularly receive remittances from these migrants. As indicated by Taylor et al. (2001), migrants are generally connected to their homeland and, following their "return home" approach, they transfer monetary incentives to finance and improve the well-being of those left behind. This is possible through the remittances they send to their loved ones. Another

factor raised with the help of NELM advocates is that the wage gap is no longer a viable situation for opting for migration due to the fact that global migration no longer gives up when wage changes disappear. The principle shows that migration comes from open market disasters. According to the NELM theory, unproductive, badly positioned or malfunctioning economy are the prerequisites for labor migration (Taylor & Martin, 2001).

New Economy for Labor Migration notion states that as a result of market catastrophes in the homelands, individual migrates to an independent job region, embracing sort of agreements with an abandoned family. As a result, remittances are transferred home when the house is in shock. Nevertheless, the family also supports migrants by financing migration costs during the duration of unemployment. However, remittances increase when family earnings decreases or a shock occurs, or when the migrant's level of risk increases. Risk reaction within the foreign country should not be correlated in such a way that it will adequately affect this co-insurance agreement. This deal decreases uncertainty for all family members. Although harsh economic circumstances may also be an explanation of migration, the family region must have a specific phase of development for family investments to be effective. As a result, fewer or more remittances are sent to underdeveloped communities

2.3. Altruistic Theory

Altruism has been used to explain the motivating factor of remittances for past decades by different scholars (Becker, 1981; Stark, 1995; Rapoport & Docquier, 2006; Carling, 2008). Mostly, altruistic remittance principles claim that migrants act to improve the well-being of each member of their family and this now does not mean that migrants are no longer involved to care for themselves, however they purposively reacts to the needs of their families. In general, self-sacrifice to individuals at home is identified as an essential drive to transferred remittance (Johnson & Whitelaw, 1974; Lucas & Stark, 1985). Altruistic behavior model allows the migrant's self-sacrifice move to the degree of welfare or consumption of the homeland (Becker, 1974). Pure altruism is giving without reference to the reward or benefits of recognition and desire. Remittances are transferred out of affection and responsibility towards the household, the neighborhood or the country. The main reason why people migrate to other countries has been mentioned in the literature on poverty due to deficiency in homeland. According to the altruistic model, sending remittances produces delight for migrants due to the fact that it represents an aid for the social well-being of the family, the community or the homeland (Becker, 1981). This idea believes that the migrant feels obligated to transfer remittances from his destination to his home because of his attachment and love for his family. It is possible that this is due to the reality that the migrant started his journey from the prevalence of poverty in his country and, therefore, tries to alleviate poverty by supporting family consumption and expenditure. Remittances are said to increase over time if reason is purely al-

truistic (Stark, 1995; Rapoport & Docquier, 2006; Carling, 2008).

According to the altruistic perspectives, remittance inflows would mean that economic production will increase in the receiving destination, less remittance are expected to be transferred to the migrant to his move. On the other hand, the recipient's economic incomes in the homeland are related with remittance inflows to the recipient homeland; however, the receiving country's income should be equal to improving the migrant's income when other factors remain constant. In general, a large difference in income between the host country and the migrant homeland would lead to greater inflows of remittances to the latter country. From a comparable argument, a rise in income dependency on the migrant in the foreign country is expected to result in a greater flow of remittances to his homeland basically due to altruism (John, 2016).

From a macroeconomic point of view, the altruistic principle emphasizes that remittances are higher when there are undesirable shocks and strong market resistances in low-income countries, creating motives for individuals to migrate to established countries in search of work with better earnings. With the strong legacy left by a migrant and his lineages, the idea of pure altruism stresses that the migrant will transfer more moneys to his family frequently during severe economic complications in his homeland and will decrease the same the frequency of the funds transferred during the economic boom. The consequences will decrease the real capital income, episodes inflation, instability of exchange rate and restrictions in labor-exporting countries, the migrant is expected to transfer more funds home more frequently and this will increase growth in real GDP of his homeland than the growth rate of income within the destination country, this will spike a notable impact on influx of remittances to developing countries (McCracken et al., 2017).

2.4. Theory of Self-Interest

The self-interest model totally disagrees with the idea of altruism, as the perspective emphasized on three reasons associated with remittance, basically on selfish motives (Becker, 1981; Stark, 1995). The first reason is the aspiration of inheritance that is the desire to acquire property in the homeland. With this enthusiasm, the funds are transferred with the purpose of securing investments, which the migrant will inherit when he returns to homeland. Second motive is associated exchange motivation with the purpose to make investments in the homeland, with the cash transferred; the family is expected to preserve the property until the return of the migrant. It is presumed that there is level of trust and confidence between migrants and the members of their family, in order to acquire, maintain and monitor the properties on their behalf. The last intent of facilitating the transfer of migrant's funds to their homes is to main social assets, that is, connections with household and friends are unbroken (Lucas & Stark, 1985). In addition, they also send remittances to buy goods in their place of origin. As a result, remittances will increase with the wealth and income of families, the

chance of inheriting, the wealth and income of the migrant, will decrease with risk aversion (Rosenzweig & Stark, 1989).

However, there is a goal of self-interest for which the sender may have desire to inheritance, he finance the investment while his households manage it while he is expected returns and take over the investment in the future. It is based on this fact that migrants frequently transferred remittances to their homes and these remittances upsurge the growth of household wealth and income. In this sense, the household unit is regarded as an entity in which its members aim to reach strategic contracts for both parties between the remittance transactions, and this also have macroeconomic implications in other aspects. In addition, an investment relationship is presumed to occur when inflows of remittance are positively correlated with the interest rate variance, such as the inflows difference between local and foreign interest rates. This also indicates that there are more attractive opportunities for commercial investment in the homeland than the country the migrant resides. In this scenario, remittances are driven by earnings, and income considerations play a dominant role. In other words, a progressive signal would show that the returns on monetary assets in the receipt nations on remittances is higher than the host country, which makes sending more remittances more attractive to migrants, due to the egocentric goal for the investment in their homelands (John, 2016).

Consequently, a progressive sign implies that remittances respond similarly to other resourceful flows of capital, if they can assume the same market risks in both countries. Likewise, if a country's actual exchange rate depreciates against a foreign currency, the country faces economic difficulties, leading to a greater flow of remittances due to altruistic reasons. Lucas and Stark (1985) affirmed that migrants' self-interest can be associated with the level for remittances transferred home. In this context, migrants transferred cash in order for them to make investments or inherit assets in homeland so that they return home with dignity. When there is turndown in economic system of the domestic country; migrants are most possibly to remit fewer seeing that the state of affairs will have a poor effect on each investible and inheritable asset. There is more probable to amplify the capacities of remittances transferred if the home economy is currently experiencing a positive spell. However, lower the rate of unemployment in the destination country is expected to amplify remittance inflows to migrant's home economy (Mandelman & Zlate, 2012).

3. Methodology

Secondary data were mainly used for this study. It covers the period of 29 years (1990-2018) and was obtained from World Bank, International Financial Statistics (IFS), United Nations Conference for Trade and Development (UNCTAD) and International Monetary Fund database (IMF). Thus, multiple regressions which include descriptive statistics, Correlation matrix, Coefficient and Regression Analysis were applied.

4. Model Specification

The main purpose of this study is to examine migrants' remittance and economic growth in Nigeria. In specifying the model for this study, the following alphabets were used to denote the respective variables.

$$X = f(y)$$

where;

x = dependent variable

y = independent variable

And,

X = Remittance

x_1 = Remittance (Rem)

Y = Economic growth

y_1 = Gross Domestic product (GDP)

y_2 = Inflation (INF)

y_3 = Import (IMP)

y_4 = Export (EXP)

Functional Relationship

$$\text{REM} = f(\text{GDP, INF, IMP, EXP}) \cdots \mu$$

Universe Model

$$Y(y_1 + y_2 + y_3 + y_4) = f(x_1)$$

$$Y(\text{GDP, INF, IMP, EXP}) = f(\text{REM})$$

$$Y = \alpha_0 + \alpha_1\text{GDP} + \alpha_2\text{INF} + \alpha_3\text{IMP} + \alpha_4\text{EXP} \cdots *$$

Apriori Expectation

It is expected that remittance will have positive relationship on economic growth

Coefficient	Expected signs
β_1	Positive
β_2	Positive
β_3	Positive
β_4	Positive

Therefore, $\beta_1 \beta_2 \beta_3 \beta_4 > 0$

5. Empirical Results and Analysis

This section focuses on the analysis and explanation of data used to examine the migrants' remittance and economic growth in Nigeria. The dependable variable is Remittance (REM) while the independent variables are Gross domestic product (GDP), Inflation (INF), Imports (IMP), Exports (EXP). We used secondary data from the period 1990-2018 and the total number of observations is 29. The choice of this period is based on data availability. Multiple regressions were used in testing the hypotheses. The findings from this study enabled the researcher in

achieving the study's objectives and arriving at a suitable conclusion (Table 1).

Descriptive Statistics

The description of the data collected for the study is presented and discussed. The summary of the descriptive statistics of the data collected is presented in **Table 2**.

Table 1. Variables of the study.

Year	GDP (US$ Million)	Inflation	Import (US$ Million)	Export (US$ Million)	Remittance (US$ Million)
1990	19,305,633.16	7.4	5626.65	13,596.33	10
1991	19,199,060.32	13.0	8986.10	12,264.40	66
1992	19,620,190.34	44.6	8275.40	11,886.10	56
1993	19,927,993.25	57.2	5536.90	9908.50	793
1994	19,979,123.44	57.0	7438.00	9415.10	550
1995	20,353,202.25	72.8	7911.80	11,724.50	804
1996	21,177,920.91	29.3	6931.90	16,153.10	947
1997	21,789,097.84	8.5	10,329.90	15,212.70	1920
1998	22,332,866.90	10.0	10,001.50	9728.50	1570
1999	22,449,409.72	6.6	9038.50	12,677.30	1300
2000	23,688,280.33	6.9	8721.30	19,141.30	1390
2001	25,267,542.02	18.9	10,910.30	18,007.10	1170
2002	28,957,710.24	12.9	7554.00	15,108.00	1210
2003	31,709,447.39	14.0	12,681.30	20,201.50	1060
2004	35,020,549.08	15.0	13,927.40	30,911.70	2270
2005	37,474,949.16	17.9	17,701.87	42,277.00	14,640
2006	39,995,504.55	8.2	22,221.99	45,403.19	16,932
2007	42,922,407.93	5.4	33,461.87	61,465.68	18,014
2008	46,012,515.31	11.6	40,041.54	81,294.23	19,203
2009	49,856,099.08	11.5	33,838.05	49,731.28	18,368
2010	54,612,264.18	13.7	44,221.07	86,533.40	19,745
2011	57,511,041.77	10.8	65,319.66	123,369.78	20,617
2012	59,929,893.04	12.2	35,702.91	142,548.31	20,543
2013	63,218,721.73	8.5	44,598.39	90,555.25	20,797
2014	67,152,785.84	8.1	46,504.75	103,099.98	20,999
2015	69,023,929.94	9.0	34,891.41	50,216.23	20,626
2016	67,931,235.93	15.7	35,532.30	33,302.28	19,698
2017	68,490,980.34	16.5	30,554.02	44,447.14	22,037
2018	69,799,941.95	12.1	43,007.00	62,395.86	24,311

Source: IMF 2020; World Bank 2020; IFS 2020; UNCTAD 2020.

Table 2. Descriptive statistics.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
GDP	29	19,199,060.32	69,799,941.95	39,472,768.8945	19,017,687.17850	0.439	−1.443
Inflation	29	5.4	72.8	18.460	17.1558	2.132	3.716
Imports	29	5536.90	65,319.66	22,809.2338	16,660.69501	0.740	−0.466
Exports	29	9415.10	142,548.31	42,847.4393	37,156.12865	1.227	0.734
Remittance	29	10	24,311	10,056.76	9674.207	0.147	−2.006
Valid N (listwise)	29						

Table 2 above shows our measure of GDP, Inflation, Imports, Exports and remittance with respective average value of 39,472,768.8945, 18.460, 22,809.2338, 42,847.4393 and 10,056.76 with standard deviation of 19,017,687.17850, 17.1558, 16,660.69501, 37,156.12865 and 9674.207 respectively, their minimum value were 19,199,060.32, 5.4, 5536.90, 9415.10 and 10 while their respective maximum values are 69,799,941.95, 72.8, 65,319.66, 142,548.31, and 24,311. The standard deviation of 19,017,687.17850 (GDP), 17.1558 (Inflation), 16,660.69501 (Imports), 37,156.12865 (Exports) and 9674.207 (Remittance) signifies that the data deviate from the mean value from both sides by 39,472,768.8945, 18.460, 22,809.2338, 42,847.4393 and 10,056.76 respectively, implying that there is a low dispersion of the data from the mean because the standard deviation is lower than the mean. Similarly, the value of the kurtosis −1.443 (GDP), 3.716 (Inflation), −466 (Imports), 0.734 (Exports) and −2.006 (Remittances) does not support as most of the values are lower than mean; hence the data meet a Gausian distribution assumption. On the other hand, the coefficient of Skewness 0.439 (GDP), 2.132 (Inflation) 0.740 (Imports), 1.227 (Exports), and 0.147 (Remittances) implies that the data is positively skewed thus; the data does not meet the symmetrical distribution.

Test of Hypotheses

The multiple regression result for hypothesis one

H_o: There is positive significant relationship between remittance and gross domestic product in Nigeria

H_i: There is a significant relationship between remittance and gross domestic product in Nigeria

Dependent variable: Remittance

Independent variable: GDP

Correlation Coefficient in Table 3 r^2 between GDP and Remittance is 0.943* (significant at 1% level). This means that there is strong correlation between both variables at 0.001 level of significant. The result indicates that GDP and Remittance are positively correlated. This implies that the higher the GDP, the greater the remittance. However, the correlation between GDP and remittances is strong considering the fact that the absolute rate of correlation coefficients was

Table 3. Correlations.

		Remittance	GDP
Pearson Correlation	Remittance	1.000	0.943
	GDP	0.943	1.000
Sig. (1-tailed)	Remittance	.	0.000
	GDP	0.000	.
N	Remittance	29	29
	GDP	29	29

**Correlation is significant at the 0.005 level (1-tailed).

greater than 0.5. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted.

Table 4 below reveals the ANOVA test for the regression of GDP from Remittance. The table shows that calculated Value of 216.035 is high than critical value of 0.000^b at 0.05 levels of significance and degree of freedom of 1 to 28. This validates that GDP can be elucidated by Remittance.

Table 5 below reveals the model summary for the regression of Gross Domestic Product from Remittance. It indicates that Remittance account for about 88.9% of the variability in Gross Domestic Product. The R Square adjusted frequency of 88.5% shows similarly that this relationship is very solid for explanative functions.

Table 6 below reveals the coefficients test for the regression of GDP from Remittance. The results exhibit GDP related values such as standardized coefficients 0.943, t-value 14.698, p-value 0.000 with a significant level of 5%. This implies that a rise in inflows of remittance will bring about 94.3% improvements in Nigeria's GDP during the period of study. This is indicative of a strong positive relationship between GDP and Remittance. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted. The VIF values of one of the explanatory variables are to be more than 10; therefore there is occurrence of multicollinearity problem amongst the criterion variables

The multiple regression result for hypothesis two

H_o: There is no significant relationship between remittance and inflation in Nigeria

H_i: There is a significant relationship between remittance and inflation in Nigeria

Dependent variable: Remittance

Independent variable: Inflation

Correlation Coefficient in Table 7 r^2 between Inflation and Remittance is −410* (significant at 1% level). This means that there is weak correlation between both variables at 0.001 level of significant. The result indicates that Inflation and Remittance are negatively correlated. However, the correlation between inflation and remittances is low considering the fact that the absolute rate of correlation coefficients was lower than 0.5. Thus, the null hypothesis is accepted.

Table 4. ANOVA[a].

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	2,329,399,345.147	1	2,329,399,345.147	216.035	0.000[b]
1	Residual	291,128,292.163	27	10,782,529.339		
	Total	2,620,527,637.310	28			

[a]Dependent Variable: Remittance; [b]Predictors: (Constant), GDP.

Table 5. Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.943[a]	0.889	0.885	3283.676

[a]Predictors: (Constant), GDP.

Table 6. Coefficients[a].

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	−8874.647	1425.060		−6.228	0.000		
	GDP	0.000	0.000	0.943	14.698	0.000	1.000	1.000

[a]Dependent Variable: Remittance.

Table 7. Correlations.

		Remittance	Inflation
Pearson Correlation	Remittance	1.000	−0.410
	Inflation	−0.410	1.000
Sig. (1-tailed)	Remittance	.	0.014
	Inflation	0.014	.
N	Remittance	29	29
	Inflation	29	29

**Correlation is significant at the 0.005 level (1-tailed).

Table 8 below reveals the ANOVA test for the regression of Inflation from Remittance. The table shows that calculated Value of 5.450 is high than critical value of 0.027[b] at 0.05 levels of significance and degree of freedom of 1 to 28. This validates that Inflation can be elucidated by Remittance.

Table 9 below reveals the model summary for the regression of Inflation from remittance. It indicates that Remittance account for about 16.8% of the variability in Exports. The Adjusted R Square value of 13.7% suggests similarly that this relationship is very low for predictive functions.

Table 10 below reveals the coefficients test for the regression of Inflation from Remittance. The results exhibit Inflation related values such as standardized coefficients −0.410, t-value −2.335, p-value 0.027 with a significant level of 5%.

Table 8. ANOVA[a].

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	440,137,062.960	1	440,137,062.960	5.450	0.027[b]
1	Residual	2,180,390,574.351	27	80,755,206.457		
	Total	2,620,527,637.310	28			

[a]Dependent Variable: Remittance; [b]Predictors: (Constant), Inflation.

Table 9. Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.410[a]	0.168	0.137	8986.390

[a]Predictors: (Constant), Inflation.

Table 10. Coefficients[a].

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	14,322.906	2474.662		5.788	0.000		
	Inflation	−231.103	98.991	−0.410	−2.335	0.027	1.000	1.000

[a]Dependent Variable: Remittance.

This implies that a rise in inflows of remittance will bring about 4.1% improvements in Nigeria's Imports during the period of study. This is indicative of a negative relationship between Inflation and Remittance. Thus, the null hypothesis is accepted. The VIF values of one of the criterion variables are to be more than 10; therefore there is occurrence of multicollinearity problem amongst the explanatory variables

The multiple regression result for hypothesis three

H_o: There is no significant relationship between remittance and import in Nigeria

H_1: There is a significant relationship between remittance and import in Nigeria

Dependent variable: Remittance

Independent variable: Imports

Correlation Coefficient in Table 11, r^2 between Imports and Remittance is 0.913* (significant at 1% level). This means that there is strong correlation between both variables at 0.001 level of significant. The result indicates that Imports and Remittance are positively correlated. This implies that the higher the Imports the higher the Remittance. However, the correlation between imports and remittances is strong considering the fact that the absolute rate of correlation coefficients was greater than 0.5. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted.

Table 12 below reveals the ANOVA test for the regression of Imports

Table 11. Correlations.

		Remittance	Imports
Pearson Correlation	Remittance	1.000	0.913
	Imports	0.913	1.000
Sig. (1-tailed)	Remittance	.	0.000
	Imports	0.000	.
N	Remittance	29	29
	Imports	29	29

**Correlation is significant at the 0.005 level (1-tailed).

Table 12. ANOVA[a].

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,185,178,940.663	1	2,185,178,940.663	135.523	0.000[b]
	Residual	435,348,696.647	27	16,124,025.802		
	Total	2,620,527,637.310	28			

[a]Dependent Variable: Remittance; [b]Predictors: (Constant), Imports.

from Remittance. The table shows that calculated Value of 135.523 is high than critical value of 0.000[b] at 0.05 levels of significance and degree of freedom of 1 to 28. This validates that Imports can be elucidated by Remittance.

Table 13 below reveals the model summary for the regression of Imports from Remittance. It indicates that Remittance account for about 83.4% of the variability in Imports. The Adjusted R Square value of 82.8% indicates further that this relationship is very strong for predictive purposes.

Table 14 below reveals the coefficients test for the regression of Imports from Remittance. The results exhibit Imports related values such as standardized coefficients 0.913, t-value 11.641, p-value 0.000 with a significant level of 5%. This implies that a rise in inflows of remittance will bring about 91.3% improvements in Nigeria's Imports during the period of study. This is indicative of a strong positive relationship between Exports and Remittance. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted. The VIF values of one of the explanatory variables are to be more than 10; therefore there is occurrence of multicollinearity problem amongst the criterion variables

The multiple regression result for hypothesis four

H_o: There is no significant relationship between remittance and export in Nigeria

H_1: There is a significant relationship between remittance and export in Nigeria

Dependent variable: Remittance

Independent variable: Exports

Correlation Coefficient in Table 15, r^2 between Exports and Remittance is 0.810* (significant at 1% level). This means that there is strong correlation between

Table 13. Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.913[a]	0.834	0.828	4015.473

[a]Predictors: (Constant), Imports.

Table 14. Coefficients[a].

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	−2037.579	1278.797		−1.593	0.123		
	Imports	0.530	0.046	0.913	11.641	0.000	1.000	1.000

[a]Dependent Variable: Remittance.

Table 15. Correlations.

		Remittance	Exports
Pearson Correlation	Remittance	1.000	0.810
	Exports	0.810	1.000
Sig. (1-tailed)	Remittance	.	0.000
	Exports	0.000	.
N	Remittance	29	29
	Exports	29	29

**Correlation is significant at the 0.005 level (1-tailed).

both variables at 0.001 level of significant. The result indicates that Exports and Remittance are positively correlated. This implies that the higher the Exports the higher the Remittance. However, the correlation between Exports and remittances is strong considering the fact that the absolute rate of correlation coefficients was greater than 0.5. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted.

Table 16 below reveals the ANOVA test for the regression of Exports from Remittance. The table shows that calculated Value of 51.347 is high than critical value of 0.000[b] at 0.05 levels of significance and degree of freedom of 1 to 28. This validates that Exports can be elucidated by Remittance.

Table 17 below reveals the model summary for the regression of Exports from remittance. It indicates that Remittance account for about 65.5% of the variability in Exports. The Adjusted R Square value of 64.3% indicates further that this relationship is very strong for predictive purposes. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted.

Table 18 below reveals the coefficients test for the regression of Exports from Remittance. The results exhibit Imports related values such as standardized coefficients 0.810, t-value 7.166, p-value 0.000 with a significant level of 5%. This implies that a rise in inflows of remittance will bring about 81% improvements

Table 16. ANOVA[a].

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1,717,439,929.265	1	1,717,439,929.265	51.347	0.000[b]
1	Residual	903,087,708.045	27	33,447,692.891		
	Total	2,620,527,637.310	28			

[a]Dependent Variable: Remittance; b. Predictors: (Constant), Exports.

Table 17. Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.810[a]	0.655	0.643	5783.398

[a]Predictors: (Constant), Exports.

Table 18. Coefficients[a].

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.	t	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1025.336	1655.870		0.541	0.619		
	Exports	0.211	0.029	0.810	0.000	7.166	1.000	1.000

[a]Dependent Variable: Remittance.

in Nigeria's Exports during the period of study. This is indicative of a strong positive relationship between Exports and Remittance. Thus, the null hypothesis is rejected while the alternative hypothesis is accepted. The VIF values all the explanatory variables are to be less than 10; therefore there is no occurrence of multicollinearity amongst the criterion variables.

6. Discussion of Findings

The study examined on migrants' remittance and economic growth in Nigeria with the aim of either upholding or dismissing claims that have attributed growth in the nation in recent times to contributions from migrants' remittance. A sample size of twenty years (29) that ranged from 1990 to 2018 had been used in this study. Multiple regressions were also used in the analysis of the study. In the course of this study, four hypotheses were tested. This result is consistent with Sujahangir et al. (2018) who discovered that there is a positive connection between remittances and GDP. They stressed that remittances have a positive impact on growth and that the impact increases at higher levels of remittances in relation to GDP. They concluded that remittances are the main source of foreign exchange earnings in most countries and it represents over 10 percent of GDP.

The result of the second hypothesis emphasized that there is no significant relationship between remittance and inflation in Nigeria. Though, the result indicates that Inflation and Remittance are negatively correlated. The research findings also provide useful information on the impact of remittances on inflation

and suggested that policy makers in these countries to improve the effectiveness of operational monetary policy to stabilize inflation due to the upward trend in remittances in the region of Asia Pacific. On the third hypothesis, the result of the findings indicated that there is a significant relationship between remittance and imports in Nigeria. This study has similar results from Khan et al. (2007) who found that remittances were a determining factor in the import function in Pakistan. He stressed that the government should consider measures to attract more remittances and that this could be possible through the import substitution production process. The result of the last hypothesis emphasized that there is a significant relationship between remittance and exports in Nigeria. This finding agrees with Ebenezer (2015), who revealed that remittances influence the hypothesis of export-led growth in Nigeria. Migrant remittances in Nigeria have a significant positive impact on the exports during the period of interest.

7. Conclusion and Recommendations

Remittance is one of the main sources of international financial resources, which sometimes exceed foreign direct investment flows (FDI). The substantial influence of migrant remittances to the economic growth and innovation of homeland economy can no longer be unrecognized in the modern world. This is because of the importance of remittance since earlier decades, which have not only contributed to growth in positive direction, but these inflows have also shown much greater economic stability than other private capital inflows and development aids. This study examined the migrants' remittance and economic growth in Nigeria. In order to explore the relationship between worker remittances and economic growth, multiple regression analysis is utilized. Different statistical tests are applied in order to confirm the major assumption of multiple regression analysis like ANOVA, Correlation and Coefficient. From the findings of the study, it can therefore be deduced that there is a significant relationship between remittance, gross domestic product, imports and exports in Nigeria while remittance has no significant relationship with inflation in Nigeria.

In recent years, remittance inflows have attracted the attention of researchers, policy makers and scholars. This growing concern of enquiry into the continuous flow of remittances in developing countries has led experts to clarify contradictory views on its implications for the development of homeland. It is an indisputable fact that remittances are substance for rapid growth of economy, as it increases the purchasing strength of families and also provide additional capital for the financial activities of beneficiary families who often reside in developing nations. On the other hand, it is feared that the influx of remittances may destabilize the macroeconomics of emerging nations due to the excess demand which leads to price increases; weaken the international competitiveness of exports due to the real appreciation of the exchange rate and this also promotes the moral risks which reduce participation in the labor market due to the excessive dependence on remittances by recipient homes, while encouraging governments

to implement sound macroeconomic policies towards stability, structural reforms, growth and poverty reduction could be slightly reduced.

In the light of the above conclusions, the following recommendations are made: the policy makers should enforce effective monetary and fiscal policies to improve the remittance channel, aid flows and foreign direct investment as a growth strategy. The government and his authorities need to provide sound enlightenment packages to migrants and their homes to strengthen the productive use of remittances for commercial enterprises. Government partners and developmental agencies should plan ways to assist migrants in their economic activities and encourage them to continue sending remittances to their places of origin. The government should encourage and motivate migrants to send remittances through controlled formal channels so that remittance inflows can be accountable and also used for commercial investments that help improve economic growth.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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