

THE IMPACT OF REMITTANCES ON HEALTH SECTOR IN NIGERIA

BY

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**DEPARTMENT OF ECONOMICS,
FACULTY OF SOCIAL SCIENCES,
UNIVERSITY OF BENIN, BENIN CITY.**

JULY, 2021

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**BEING A PROJECT SUBMITTED TO THE
DEPARTMENT OF ECONOMICS, FACULTY OF SOCIAL SCIENCES,
UNIVERSITY OF BENIN, BENIN CITY.
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN
ECONOMICS**

JULY, 2021

CERTIFICATION

This is to certify that this project titled “**THE IMPACT OF REMITTANCES ON HEALTH SECTOR IN NIGERIA**” was carried out by **OVIS STEHEN MONDAY** with matriculation number **SSC1609210**. It has been read and recommended for acceptance in partial fulfillment of the requirement for the award of Bachelor of Science (B.Sc.) Degree in Economics.

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DEDICATION

I dedicate this work to Good almighty, and to my parent Mr. Johnbull and Mrs. Rosemary Ovbiagbede for their moral upbringing.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank God Almighty for giving me the strength, knowledge, ability and opportunity to undertake this research study and to persevere and complete it satisfactorily. Without his blessings this achievement would not have been possible. It is in him I have my being.

In my journey towards this degree, I have found a teacher, an inspiration, a role model and a pillar of support in my guide, Mr. F.D. Isuwa. He has been there providing support and guidance at all times and has given me invaluable guidance, inspiration and suggestions in my quest for knowledge, He has given me all the freedom to pursue my research, while silently and non-obtrusively ensuring that I stay on course and do not deviate from the core of my research. Without his able guidance, this project would not have been possible and I shall eternally be grateful to him for his assistance.

I have great pleasure in expressing my gratitude to the insightful guidance of my lecturers during the course of my study in UNIBEN among whom are Dr. S.O. Igbinedion (my HOD), Dr. Presley Osewingie, Dr. S.O. Abusomwan, Dr. N.L. Arodoye, Dr. C.A.U. Ighodaro, Prof. D.E. Oriakhi and Dr. (Mrs.) F. Mogbolu. Also, my sincere gratitude goes to every non-academic staff of the Department of Economics, UNIBEN.

It would be inappropriate if I omit the names of my dear friends: Alimazoya David, Beture Stephen, Jideonwor Emeke, I.S.O Gujarati, and also to my uncle Mr Alex Ezonmon who have, in their own ways, kept me going on my path to success assisting me as per their abilities, in whatever manner possible and for ensuring that good times keep flowing.

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Abstract

This study examined the impact of remittances on the health sector in Nigeria for the period of 1981-2019. The main objective of this research work is to examine the impact of remittances on the health sector in Nigeria. The study used Error Correction Mechanism (ECM) to examine the relationship between remittances and health sector in Nigeria. The study found the level of remittances has both a positive and significant impact on the health sector both in the short and long run. Also, level of expenditure on education was found to have both a positive and significant impact on the health sector both in the short and long run. Also, level of physical capital was found to have a positive and significant impact on the health sector both in the short and but a positive and insignificant impact on it in the long run. Finally, Real GDP was found to have a positive and significant on the health sector in the short run but a negative and insignificant impact on the health sector in the long run. Seeing that remittances is a catalyst to the health sector, the study therefore recommends that the costs of transfer of remittances can be waived or significantly reduced if it is specifically tagged for healthcare. Still building on the earlier suggestions, there should be defiscalization of migrant savings linked to payments for healthcare in source country in order to attract more remittances from abroad. Also, the government should constantly review upward of budgetary allocation to education sector in Nigeria. This will increase health education of Nigerians and in the long run boost the health sector and economy at large.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Migration which involves a relocation of residence from a home country to another (foreign) had assumed a phenomenal dimension in the works today. According to the United Nation (UN), the estimated number of international migrants worldwide increased over nineteen years between 2000-2019 reaching 272 million in 2019 (UN DESA,2019), despite the global economic downturn. For a very longtime, individuals have been on the move looking for economic opportunity. In the twentieth century, technology advances and undiscovered natural resources drove developments of population from all around the globe. Global migration produced tremendous upgrades in individuals' lives. Immigrants delighted in higher wages, destination countries benefitted from expanded flexibility of work, and migrant homeland labor market pressures ease. Recent trends demonstrate that pressures for migration from the south toward the north are set to increase once more. This development is obsessed by pay holes and the rising number of youthful grown-ups in developing nations looking for better breakthrough abroad. The monetary, social, and political ramifications that accompany the development of individuals vary from the movement of goods or cash. Subsequently, the subject of global migration has incited a lot of political discussion in the global network today. Today, around 260 million individuals

live temporarily or permanently in remote nations around the world, especially in the modern countries. Over the past decades, their number has almost multiplied (OECD, 2017).

There are numerous elements related with human migration. Lee (1966) characterized the fundamental variables which motivate migration as Push-Pull Factors. The push factors are elements that make an individual, due to numerous issues, to leave his homeland and move to some other location. The normal push factors are low success, joblessness and underdevelopment, poor monetary conditions, absence of chances for progression and common cataclysms. The non-accessibility of different sources of revenue in rural space is similarly substantial element for migration. The Pull Factors are elements that draw in the migrants to a particular zone. Opportunities for worthy business, good wages, better working conditions and pleasing facilities are pull basics to a region (Lee, 1966; Kyaing, 2012).

In regards to movement outside Nigeria, there has been an astounding increment in emigration to Europe, the Middle East, North America, and South Africa from 1980's after monetary downturn, arrival of liberation measures and rise of harsh military autocracy. A large number of experts, particularly researchers, scholars, and those in the clinical fields have emigrated, for the most part to Europe, the United States and Persian Gulf States. Simultaneously, unskilled individuals from Nigerian with little education have traveled to another

country to fill in as road cleaners, security watches, cab drivers, and manufacturing plant hands. Migration is viewed as basic to making progress. These migrants frequently dispatched or transferred substantial part of their expanded profit to families and friends back home. At the same time, remittances have become important private financial related assets for family units in homeland of migration in spite of the fact that they can't be deliberated as alternative for foreign direct investment, official advancement aid and poverty alleviation (Anyanwu & Erhijakpor, 2010).

Remittances remain significant and constant avenues of private inflows to emerging nations, as they provide substantial amounts of overseas cash that support and tolerate the balance of payments. Remittances diminish the poverty and lead to increase human capital accumulation; improve wellbeing; improve access to finance related areas; lead to more business enterprises; and better readiness for negative shocks. Remittances provide significant avenue of foreign exchange, capital, innovation, and information for nations of starting point and destination. Returning migrants take home the skills they acquired and before that, normally have transferred funds to their homeland. Remittances add to monetary development and to the employments of numerous individuals originating from less fortunate locales around the world. Additionally, remittances sent can likewise elevate access to economic administrations for the sender and beneficiary, thereby supporting investments and expanding money related and social inclusion.

As per the World Bank, in 2019 worldwide remittance arrived at a record USD 554 billion in 2019 expanded up by 4.7% weighed with 2018, surpassing Foreign Direct Investments (World Bank, 2020), the main five settlement beneficiary nations were India (\$83.1 billion), China (\$68.4 billion), Mexico (\$38.5 billion), the Philippines (\$35.2 billion), and the Arab Republic of Egypt (\$26.8 billion) (World Bank, 2020). In comparative terms, the main 5 nations which got the most noteworthy remittance as a portion of total national output (GDP) in 2019 were: Tonga (37.6% of GDP), Haiti (37.1%), South Sudan (34.1%), the Kyrgyz Republic (29.2%), and Tajikistan (28.2%) (World Bank, 2020). Moreover, the amount of informally dispatched cash could be a few times higher. This can be considered as an extraordinary commitment to household economies, critics contend that this cash is fundamentally influencing consumption, instead of adding to longer-term sustainable development and advancement. Migrant transferred of goods or cash has become a momentous basis of revenue and foreign exchange for emerging nations. A large number of family units are influenced by migration through cash or goods transferred to the migrants' homeland. Global remittances comprise the second biggest avenue of net capital inflows after foreign direct investment which surpasses foreign aid. It is evaluated that inflows of migrant remittances to emerging nations currently exceed official advancement aid in many emerging nations (World Bank, 2018).

Nigeria's remittance inflows continue to be among the most noteworthy in Africa with high commonness of familiarity. Remittance inflows into Nigeria are by a wide margin is one of the most significant in Africa. In 2017, they were the 6th most elevated on the world. In 2018, USD 24.2 billion was transmitted to Nigeria a 9% growth rate from 2017. The Central Bank of Nigeria (CBN) credits this development to improved economic conditions of the world (CBN, 2017). These noteworthy flows establish one third of official flow of remittance into Africa and are ten times greater than Senegal, which is the second most elevated beneficiary in SSA. Remittances were valued as 5.9% of the Nigerian GDP in 2017. This is a great figure given that Nigeria is Africa's biggest economy. Capital and remittance flows have increased rapidly since 2005 because of the introduction of the Nigerian capital market, and the nation is considered to have linked with the positions of frontier markets (IMF, 2016). Different sources exposed that the flows are comprehensibly undervalued, in such case, with as much as half of remittances inflow to the nation through unofficial sources are not caught in the official information. Transferred remittance remained at about USD275 million of every 2017, making Nigeria a significant beneficiary of remittances.

In the migration literature, there are immediate and indirect impacts of remittances on expenditure of nation's economy. Remittance can be seen as monetary inflow emerging from the movement of people, and the disposal of cash

and items by migrants to their homeland. Household expenditure is the amount of final consumption and spending made by families to meet their daily needs such as food, furniture, accommodation, vitality, transport, vehicles, wellbeing costs, recreation, and different administrations. In the widest sense, there are positive and negative views on the effects of receiving remittances and speculations have swung between the two. On the constructive side, the immediate impact results when the remittances are coordinated towards investment costs and many policy makers hope that the money received through remittances will be invested to guarantee the basic needs of families, working towards development of the economy, or add to individual savings. On the adverse side, opposing discoveries have recommended that remittance cash, on several instances, is not used for long-term investments, but rather allows obvious consumption or has a limited impact on investments, while indirect impact results when it is coordinated towards family income, education, health care costs and poverty reduction. Above all, families who receive remittances likely to spend more on consumption, wellbeing and education (Adams, 2011). The impact of remittance income on poverty has been greatly analyze in different developing countries but relatively little is known about its impact on the health sector especially in Nigeria which is my focus of study.

1.2 Statement of Research Problem

The rise of geographical labor mobility due to economic hardship, redundancy and insecure monetary conditions, among other factors, particularly among experts, has been related with brain drain in African nations. In any case, migration is not generally favorable. Labor migration around world presents obvious difficulties, employees and managers worried about the rights of all workers in their supply and workforce, including migrant workers. Migrant workers are progressively helpless against infringement of their principal rights, exploitation and abuse, segregation and unequal treatment and freedom of association. Employers of migrant workers may face legal impediments in respect of the rights of migrant workers; For instance, in many countries foreign workers are restricted by law from joining a union. At the same time, there are a lot of chances for organizations and employers to have a positive influence on the extensive debate on global migration and to coordinate migrant workers into their various tasks or working environments in a human, reasonable, efficient and genuinely increase the value of social orders and organizations (World Bank, 2015).

Remittance flows, which are an indispensable piece of improvement finance, demonstrated moderately strong during the 2008 financial crisis and the 2014 Ebola pandemic. Nevertheless the world as of now is under danger by the COVID-19 pandemic. Remittance flows in 2020 to low and middle income

nations are anticipated to drop by 19.7% to USD 445 billion, perhaps the worst decrease in the history (World Bank, 2020). As indicated by the World Bank, this fall is to a great extent because of the financial emergency brought about by the COVID-19 plague; for migrant laborers, the pandemic has implied a fall in earnings and business. Lockdown estimates actualized in host nations have made numerous migrants lose their jobs, subsequently decreasing remittance flows to emerging nations. In 2020, the World Bank evaluates a decrease in worldwide remittance of US\$110 billion, with sub-Saharan Africa (SSA) expected to encounter a decay of about 23.1%. People, families, organizations and countries that are exceptionally reliant on remittance flow are as of now enduring an immense finance related upset (World Bank, 2020). The estimated increased fall in remittance will subvert building up nations' capacity to manage the COVID-19 pandemic, not to mention their capacity to accomplish the Sustainable Development Goals (Amanda, 2020).

It is imperative to stipulate that despite the position of Nigeria as top remittance beneficiary nation in Africa and fifth on the world in 2013 budgetary year, the Central Bank of Nigeria is uncertain about the genuine measure of monies transferred to the nation because of its absence of strategies to quantify casual routes through which remittance move to the nation. This proposes remittance enter the nation through informal ways and this could be make the official figures not exactly precise impression of the truth as individuals like to

send remittance home cheaply requiring little to no effort, for the most part through friends who is visiting their homeland. It is essential that Nigerians overseas were recorded to have transmitted US\$10/\$21 billion out of 2010 and 2013 financial year separately, and this placed the nation in front of other African nations as the most remittance beneficiary nation. In spite of the high flow of remittance into Nigeria, hardship and inequality are still rampant in Nigeria, and the nation is unable to utilize remittance like other developing nations, for example, Philippines and Mexico (Adams, 2011).

Nightingale (2013) observes that, in spite of the recognized advantages of a well-articulated remittance management regime to aid development by providing much needed foreign exchange and a source of liquidity, Nigeria does not put remittance of migrant workers to their best uses. In light of the aforementioned problems, the following research questions are formulated to proffer solutions.

1. How are remittances used to purchase healthcare service by households?
2. What is the impact of remittance on financial household's healthcare needs?
3. What is the importance of remittance in financing household's healthcare needs?

1.3 Objectives of the Study

The Main object of this study is to ascertain the impact of remittances on the health sector in Nigeria.

The specific objective of the study is to:

1. To determine how remittances are used to purchase health care services.
2. To examine the impact of remittances in financial household's health care needs.
3. To examine the importance of remittances in financing household's health care needs.

1.4 Significance of the Study

In Africa, very little research has been undertaken to document the scale and impact of remittance on healthcare (health sector) (Oluwafumiso, 2019). Much studies have been carried out on the impact of remittance on poverty inequality and other economic development indicators, but the health sector has been very much left out. The financial infrastructure for remittance in Nigeria is still limited. Thus, a lot of remittances go through informal channels and discourages their use for investment especially in the health sector. Nigeria has a laissez-faire emigration policy and as such, no structures our measures hinder or facilitate the movement of citizens outside the country beyond normal immigration requirements and therefore, no initiatives for pre-departure training and management of remittance. Therefore, a study such as this will help justify

the need for policy initiatives to develop financial structures and infrastructure for remittance and for a credible immigration policy.

1.5 Hypotheses of the Study

The Hypotheses of this study are derived from the attempt to explore the impact of remittances on the health sector in Nigeria; hence the null hypothesis are started below;

Remittance are not used to purchase healthcare services.

Remittance do not have any impact on financial household healthcare needs.

Remittances are not important in financing households healthcare needs.

1.6 Scope of the Study

For the purpose of adequacy, easy statistical analysis and true representation of data, the scope of this study will be within the range of 1999 to 2019. Effort Is made to examine the impact; positive or otherwise of foreign remittance income on health outcomes in Nigeria.

1.7 Structure of the Study

This study is structured into five chapters.

Chapter One: As already presented, it focused on the Introduction of the Study, its Problem Statement, Objectives, Research Questions and Hypothesis of the study.

Chapter Two: Focused on Literature Review.

Chapter Three: Theoretical Framework and Model Specification

Chapter Four: Deals on the presentation and interpretation of result obtained and finally,

Chapter Five: The Presentation of result, Recommendation and Conclusion.

1.8 Limitation of the Study

General speaking, accurate statistics and reliable data on remittance are hard to come by. The study only employed three independent variables as the factors that influence the health sector and assumed that all other factors that may affect healthcare expenditure are captured by the stochastic error term. There are chances that the secondary data used for this study may not be 100 percent accurate and reliable. Of course, finance is always an issue in any human undertaking or endeavour. again, the researcher also had one or two challenges in accessing some materials via the internet as some internet sites were secured and required subscriptions before gaining access to relevant materials.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Overview of Remittance

Remittances are financial resource flows arising from the cross border movement of nationals of a country, Remittance comes in form or money, assets, informal or non-monetary forms. Non-monetary forms may include: clothing, medicine, gifts, dowries, tools and equipment. Many experts and institutions are of the opinion that, financial transfers are but one form of remittances. Some scholars believe that, the definition of remittance could be further broadened to include not only the transfer of funds and goods but, also the transfer of skills and technology, idea and attitudes. For instance Levil (1997) introduced the concept of social remittance in 2001 to refer to the exchange of idea, behavior and social capital flows between host and sending countries.

In recent years, remittance flows rank behind foreign direct investment (FDI) as a source of external funding for developing countries. Global flows of migrant worker remittance were estimated at US\$689billion in 2018 up from \$633billion in 2017.

Following the onset of the COVID-19 pandemic in 2020, emerging market countries witnessed a significant reversal of \$100bn worth of financial flows, as investors retreated to safe haven assets such as US treasury bills. Some analysts had expected a significant dip in remittances to emerging and frontier markets as

a result of the slowdown in global growth in the 1st half of the year. This was not the case in countries such as Pakistan, Bangladesh, Mexico and India, where we saw a significant boost in remittances. The increased flow of remittances helped in mitigating the negative effects of the pandemic and the outflow of portfolio funds on their respective economies. one of the key elements of the Sustainable Development Goals is to increase the volume of global remittances as a percentage of GDP while reducing the cost of remittances. This aligns perfectly with the objective of the CBN and the Nigerian government. Following the recent outbreak of the Covid-19 pandemic, global remittance flows to developing countries is estimated to fall by 7.2 percent to US\$508 billion in 2020 and a further 7.5 percent to US\$470 billion in 2021. Regardless of the global fall in remittance flows in 2020, they remain a major source of stable external financing for developing countries. According to the World Bank, flows to low and middle-income countries reached a record high of US\$548 billion in 2019. This surpassed foreign direct investment (FDI) flows of US\$534 billion and overseas development assistance of about US\$166 billion.

Consistent with the global trend, Nigeria aspires to ensure that remittance flows and diaspora investments become a significant source of external financing. Over the years, foreign direct investments and, more noticeably, portfolio flows to Nigeria have exhibited volatilities, the reversals of which exert enormous pressures on domestic market conditions. Hence the need to boost remittance flow.

Today, the World Bank data shows that Nigeria, with a total flow of US\$21 billion, was the seventh largest recipient of remittances in 2019. This is behind India, China, and even Egypt. Though official remittance flows declined in 2020 due largely to the undermining impact of the Covid-19 pandemic, it maintained its dominance over FDI inflows (Proshare, 2021).

Migrants have various options of sending remittances which may include: money transfer companies, western union (money gram) or credit companies, regular mail service, financial transfers through banks, credit unions or the various transfer options offered by companies. Informal channels of transfer also exist, they include: couriers or more sophisticated channels such as the "Hawala" and Hondi transfer systems or hand- carried by migrants themselves. Usually, where the financial sector is missing, people tend to use informal money transfer, while in strong liberalized economies, they trust the formal sector. There has been so much effort to convince migrants to use authorized financial channels. However, many continue to use informal channels. "Banking the unbanked", that is, reaching out to those who lack readily access to banking services, is a key factor in an effort to bring about a shift from informal to formal financial institutions among remittance senders and receivers (inter-American Dialogue, 2014).

It is noted that informal money transfer are very common among low-income groups in Africa and Asia. The Hondi and Hawala transfer systems are

particularly important in Bangladesh and Sudan; forty percent of all remittances are routed through this means. It has been estimated that the Hawala system provides up to 85percent of Sudanese remittances. However, studies in 2013 showed that 70 percent of all remittances were wire-transfer, and only 17percent of all remittance senders from the United States to Latin America and the Caribbean region use informal channels (Suro, 2013). In Nigeria, international remittances come through formal and informal sources also; the Western Union Money Transfer mechanism is one of the major ways. Also, Nigerians are allowed to operate foreign Currency dominated domiciliary accounts in Nigeria and remittances are received through this means too.

There is no doubting the fact that these remittances to Africa play an important role to national economics and the livelihood of less prosperous people in general. It has also become one of the most significant sources of foreign exchange for African countries. They are likely to remain so, despite a slow-down in their growth as a result of global financial crisis. It was observed that banks in several African countries aided by the African Export-Import Bank have even used remittance and securitization to raise international financing at lower cost and longer maturities. Surveys conducted as part of the African Migration Project find that, a significant portion of international remittance are spent on human and physical capital investment, such as land purchases, building houses,

starting/growing businesses, improving farms, agricultural equipment and other investments.

It is also known that, remittance have great impact on poverty and inequality (Richard Adams World Bank). The growth in foreign remittance over the last decade bode very well for the recipient families and communities in which they invest these funds. It was noted that it could help reduce poverty, raise household investment and increase access to health and educational services.

The literature on foreign remittances tends to be characterized by both micro-economic and macro-economic approaches (Rapoport and Docquoror, 2001). At the macro analytic level, the emphasis is usually on an individual's motivation to remit. The general motivations are the altruistic motive (Locas and Stark 1985, 1985), the self-interest motive, the implicit family contract or loan repayment, and also implicit family contract as co-insurance (Massey and Parado, 2008; Soalimano, 2013). Motivation to remit as reflected by some other schools of thought includes; risk sharing, altruistic or livelihood and risk sharing with altruism.

The risk sharing school suggests that remittances are installments for individual risk management (Stark 1991, Stark and Lucas, 1988). The altruism or livelihood school considers remittance to be an obligation to the household and that, remittance are sent out of affection and responsibility towards the family (Chimhowu et al, 2013). The migrant is simply part of a spatially extended

household that is reducing the risk of impoverishment by diversifying across a number of activities (de Haan, 2008; Agrawal and Horowitz, 2012). The third school sees both altruism and self-interest as laying a role in the motivation to migrate and remit (Bullard, 2001; in Clarke and Drink water).

The macroeconomic literature has utilized many of these motivations to hypothesize the relationships that might explain growth in remittances. It tells us that, these various motives also determine the uses to which remittances are put. As a result, while remittance can have a strong positive impact on the current account of the home country's balance of payment, they may also have adverse economic effects, but dealing on the positive side, remittance contributes to household income, and may help to alleviate poverty and improve health (Standard of Living).

With respect to the impact of remittance, two dominant perspectives also emerge in literature.

- i. The neo-liberal-functionalist persuasion which suggests that remittances are beneficial at all levels particularly the individual, household, community and national level (Orozee, 2012; Skeldon 2012; Ratha, 2013)
- ii. On the other hand, those looking at remittance from historical Structuralism perspective, consider remittance to be responsible and for creating dependent relations between the sending and for receiving countries (Portes and Boroiz, 1999)

2.1.1 Factors that determine the use of Healthcare Services

According to World Health Organization (WHO) primary healthcare essential which forms the core of the Nigerian Health Sector means essential healthcare based on practical, scientifically sound and socially acceptable methods, and technology made universally accessible to individuals, and families in the community through their full participation at a cost which the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part of the Nigerian social and economic development plan, bringing healthcare close as possible to where people live and work contributes the first element of a continuing healthcare process (Akinsola 2003; pg. 100).

There have been several studies on the factors that determine the use of healthcare services. Obermeyer and Potter (2001) assert that, socio-economic factors are of greater importance than demographic factors in inflowing health service use. They specifically opine that, although demographic factors may shape a woman's desire to make use of health services, the socio-economic state of an individual and her household determines her economic ability to do so. It was also noted using the 2008 DHS data that, young children especially females and those from poor households suffer more ill health.

Human capital has been identified as a major factor that influences poverty aside from physical capital (Schultz T, 1990). On theoretical ground,

investment in health and productivity interact in important ways affecting economic growth, and economic growth in return affecting health outcome (Ajayi, 2002)

2.1.2 Health as a form of Human Capital

Health is an important component of human capital, in the sense that, investment in health has important direct effects on productivity and thus on economic growth. Various writers have also suggested that health can be viewed as a form of human capital (Mushcin 1972; Becker, 1974). However gross man argued that, health capital differs from her forms of human capita According to the World Health Organization (WHO, 2015), fifty percent of economic growth differentials between developed and developing nation is attributable to its health and low life expectancy. Developed countries spend a high proportion of their gross domestic product (GDP) on health care because they believe that, their resident health can serve as a major driver for economic activities and development.

In 2019 at the level of the EU, 'health' expenditure remained the second largest item of general government expenditure after expenditure on 'social protection'. In 2019 in the EU-27, total expenditure of general governments on 'health' amounted to EUR 983 billion or 7.0 % of GDP (Eurostat, 2021).

A study carried out by viju and wullianallur (2020) has shown that an increase in healthcare expenditure has a positive relationship with economic

performance. Using visual analytics, they collected economic and health data from the Bureau of Economic Analysis and the Bureau of Labor Statistics for the years 2003–2014. The overall results strongly suggest a positive correlation between healthcare expenditure and the economic indicators of income, GDP, and labor productivity. While healthcare expenditure is negatively associated with multi-factor productivity, it is positively associated with the indicators of labor productivity, personal spending, and GDP.

By 2021, the expenditure in Nigeria on healthcare is projected to increase overall. The government's spending on healthcare is forecasted to reach 1,478 billion Nigerian Naira. In 2019, this figure amounted to 1,191 billion Nigerian Naira. On the other hand, private spending on health is projected to add up to 4,284 billion Naira by 2021, representing the main source of expenditure on health in Nigeria (Simona, 2020).

Currie and Stabile (2003) in their review found a vast literature documenting the relationship between socioeconomic status and health, they emphasized that it has been difficult to determine whether the relationship exist primarily because health affects socioeconomic Status or whether socioeconomic status has a direct impact on health, or if both are affected by some third factor such as rate of time preference. They substantiated their argument by siting works done by Deaton and Paxson (1999) who emphasized the difficulty of inferring a causal relationship from aggregate cross-country or cross-state data thus, they

used a panel Canadian children data. The dependent variable was the reported health status of the child measured on a 1-5 scale from poor to excellent. The independent variable includes family income and maternal education which were used as two key indicators of social economic status; those were estimated using ordered probit. The study revealed that, Canadian children who have universal health insurance appear to have a little effect on the stepping of the social economic status health gradient implying that, socioeconomic status has a direct impact on health.

2.1.3 Appraisal of Government Expenditure on Health

In Nigeria however, government in many instances both in the past and more recently continue to invest in the health sector. Incidence analysis suggests that, public spending in health benefits the non-poor disproportional to the poor.

The implementation of the Universal Health Coverage (UHC) promotes access to quality health care delivery through cost-effective initiatives to ensure good health and wellbeing without discrimination. Adebisi (2020) examines government finance, budgetary allocation, and expenditure as key health development indicators towards achieving the UHC in Nigeria. He found out that within the period of analysis, the annual national health budgetary allocation in Nigeria has been below the 2001 Abuja declaration of allocating 15% of the national budget to health. Our analysis also revealed that if the Abuja declaration was implemented, additional allocations of NGN 4.99 trillion should have been

injected into the health sector between 2014 and 2020. In addition, Nigeria also lags behind relative to some other low-and middle-income countries in terms of government expenditure to the health sector in achieving the UHC.

The Nigerian government targets meeting the millennium development goals (MDGs) and one of its cardinal focuses is improving healthcare infrastructure to improve on the health status of Nigerians. Although, the absolute figure of government expenditure on health has increased (WHO).it has not improved the health indicators thus, increasing the need to explore the causal factors and hence proffer solutions.

2.3 Empirical Studies on Remittance And Health

Studies show that in addition to the impact of remittance on education performance, the importance of remittance for the migrant sending countries is measured also by the well-being of their recipients in terms of improved health status. More regular doctor visit by the members of the household with members residing abroad is assumed with the receipt of remittance. Remittances are expected to help improve health outcome by the means of purchase of better healthcare and nutrition.

In the literature pertinent to health dependence on remittance and migration status various hypotheses on either deterioration or improvement of health outcomes of non-migrating individuals prevail Child health is quite important for the well-being of households and determines long term development

of human capital Gross man's health production function (1972) tells us that, remittance help to improve household health outcome by the means of purchases of childcare and nutrition.

Muhammed and seemab (2018) suggested that growth in remittances could be used as a policy intervention to improve child health. They investigate the impact of remittances on child health by using a panel dataset covering 132 countries spanning over 1980 to 2015. Their results show that role of remittances helps to promote child health. Regarding control variables, GDP per capita, the number of physicians, access to improved water facilities, and health expenditures reduce whereas urbanization increases infant mortality. Globally, an increase in the foreign capital inflow especially in developing countries, in the form of remittances affects the level of consumption and investment which helps in getting better health facilities. Consequently, the amount of remittances is the main source of their survival and wellbeing, especially for low- and middle-income countries.

Other researchers like Hildebrundt and Mckenzie (2015) find positive effect of remittance on health outcomes of migrant households, by matching increases in birth weights and reductions in infant and child mortality. They also show that, migration results in less likely breastfeed and vaccinated children, but also higher level of health knowledge among mothers. They argued that remittances somehow fail to capture the positive impact of migration to the child

health as the latter may be strongly correlated with the mothers' health knowledge. The authors also considered the impact of remittance on preventive healthcare.

Remittance has a direct impact on income and wealth of receiving households, which in turn allows household to spend additional resource on food and health service. The study of Hildebradt and Mikenzie (2015) showed that children of migrant household are less likely than children of non-remittance receiving households to be breastfeed, fully vaccinated or taken to a doctor in their first year of life. Frank and Hummer (2012) implied a positive effect on birth rate in the families receiving remittances against those who don't. Lopoz-cordova (2015) investigates the link between remittance and child health too. He finds that a one percent increase in the remittance reduces infant mortality rate by 1.2per thousand. In 2014 Lopez Cordova also considered the impact of international remittance on infant mortality rates in Mexico. He did that by taking advantage of variation in the rates of remittance receipt by municipalities. He investigated if households that are known to receive large inflows or remittance experience different levels of infant mortality when compared to households for which the remittance receipt rates are known to be lower. After controlling for other determinant of infant mortality and endogeneity of remittance receipt with health outcome, he concludes that remittance does not lower infant mortality rates.

Acosta et al., (2017) analyzes the development contribution of remittances to Latin America on a set of measures such as:

weight-for-age and height-for-age for children aged 1 to 5

The probability that the delivery of the children has been assisted by a doctor and the probability that children aged 2 to 5 had been vaccinated

Their analyses show that children in recipient households enjoy a better health status than in non-recipient households across all the above-mentioned health indicators.

Amuedo-Dorantes and Pozo (2016) provided analysis on the link between remittance income and healthcare expenditures. The authors argue that the potential impact of remittance income on healthcare expenditures will appear to rise with income transfer from abroad. Healthcare expenditures are more responsive to increases in remittances income than other expenditures were also an observation from their research.

Other researchers have split this literature on the link between international remittances on health in developing countries into two broad research areas.

Impact of foreign remittances directly on the health status in recipient countries

Impact of remittance on the access to healthcare.

Remittance and Health Status:

AS we previously established, few papers have actually addressed the impact of remittance on health. The exceptions are mostly focused on infant mortality, like we saw with Lopez Cordova (2014) who concluded that larger

proportions of remittances and migrant households at the community level are associated with lower infant mortality rates.

The poor and low-income earners used remittances to access healthcare services because most of them are not covered by private or government health insurance schemes. The money sent by migrant workers from abroad to their family members, relatives and friends serves as social protection, especially in developing countries where there are no standardised social protection programmes. Oladayo N, A (2019) carried out a review on the impact of remittances on healthcare utilization and expenditure in developing countries. The inclusion criteria of his study were met by 7 out of the 135 studies searched electronically. The studies conducted in Africa, Asia, Europe and Latin America, found that remittances contributed to increased healthcare access, utilisation and expenditures. However, the degrees of these impacts were limited among the studies except in Armenia, where remittances significantly increased healthcare utilisation. From his findings, remittances can not serve as an alternative to formal healthcare insurance schemes, they can serve as a short-term measure in healthcare utilisation in developing countries. It is the responsibility of governments at all levels to formulate health policies that will embrace universal healthcare coverage for all citizens.

Fajnzylber and Lopez (2017) analyze the effect of international migrants' remittances on anthropometric child health indicators in two countries; Guatemala

and Nicaragua. They also estimate the impact of remittance on the probability that, the delivery of children born in the year preceding the survey was assisted by a doctor and on the probability that children aged 2 to 5 received the complete set of required vaccinations. The anthropometric measures on which they focused are on the weight-for-age (WAZ) and height-for-age (HAZ) just like Acosta et al, (2017) did in Latin America. Their results suggest that children from households that report receiving remittance tend to exhibit higher health outcomes than those from non-recipient households with similar demographic and socio-economic characteristic. The result also indicated that the impact of remittances on child health is concentrated on low-income households located in the first quintile of the income distribution.

Chauvet et al (2018) analyze the respective impact of aid and remittances on human development as measured by infant and child mortality rates, with a panel data on a sample of 109 developing countries and cross-country quintile level data, on a sample of 47 developing countries. Their results suggested that remittances significantly improve child health.

Remittance and Access to Health Services

Increased spending on health services by migrant households may improve the access to private sector health services for everyone in the community as service provider's move to the community in response to this increased demand. In a study of the consequences of migration in Kerala (India)

Zachariah and al. (2011) found that the receipt of remittance is associated with greater use of hospital facilities to treat illness and a three-fold increase in the use of private hospital facilities for childbirth.

Lindstrom and Munoz Franco (2016) identify remittance as one of the three potential pathways that affect positive healthcare services utilization in rural areas.

Reanne et al. (2019) used data from a 2016 survey of two localities in the municipal city of Tepoztlan and Morelos (Mexico), they used logistic regressions to determine whether household remittance expenditure on health care were conditional to the type of health insurance coverage. They found that individuals who lacked insurance coverage (Low-income earners) are significantly more likely to reside in households that spend remittances on healthcare than individuals covered by an employer-based insurance program (high-income earners).

Levitt 2007) argues that improved health behaviors can also be remitted "socially" leading to improved health outcomes. Likewise, Frank and Hummer (2012) measure higher birth weight in families with a migrant member possibly due to the acquisition of positive health behaviors from migrants (social remittance).

In addition, monetary transfers or remittances can affect health by relaxing liquidity constraints that would otherwise restrict access to healthcare.

Kanaidupuni and Donato (2009) argue that, as household receive monetary remittances, infant mortality significantly drops. Again in 2014 Hildebrandt and Mckenzie also linked increase birth weight and lowered infant mortality rates to both monetary remittance and health knowledge, whereas Durgea, Lopez-Cordova and Olmodo (2015) concludes that the acquisition of better housing infrastructure (e.g. improved housing, creates and refrigeration of food) via remittances Is crucial in improving health outcomes.

Looking at the impact of remittance in Mexico, Amuedo-Dorotes et al (2017) alongside Valero-Gil (2018) finds that remittance raise health expenditures in Mexico. They took a first look at the ENIGH data to examine how remittance affects household expenditures on specific healthcare services from the routine primary care to hospitalization. Using instrumental linear regression method, they find that hospitalization expenditure display the largest responsiveness to remittance income. However, primary care expenditures are also higher among remittance receiving households who on average spend between 5 and 9 percent of remittance on primary healthcare services. Valero G.I (2018) on the other hand also using the ENIGH estimates that one tenth of remittances are spent on health expenditure in Mexico.

In analyzing the role that remittance may play in the provision of healthcare services, some experts advocate that it is pertinent to note also the relationship between migration and health. As opposed to the various literatures

above, some studies conclude that migration of a household member results in poor health outcomes for the non-migrating family members. Kanaiavpun and Donato (2009) attribute increases in infant mortality to family separation due to migration. The transmission of habits and life styles (social remittances) that may be incompatible with healthy outcomes may further disadvantage health in families with migrating members. They concluded that migration may contribute to poor health outcomes in communities that experience much out-migration on account of the importation of communicable diseases such as tuberculosis or HIV (Perez-stable et al, 19969).

Finally, we observe that the literature on this topic has focused on the line between remittance/migration and health outcomes with only a handful zeroing in on the actual link and impact of the receipt of remittances on health outcomes, also most of our past literatures are based In countries other than an Nigeria, this is because such studies are limited in Nigeria, notwithstanding, he impact of remittances Income on healthcare expenditure is of great importance as it relates to a topic of considerable elates to a topic of considerable policy interest i.e. how remittance are being used in Nigeria. To this end, To this end, I follow up on the existing literature and further examine remittance impact on Nigerian's health sector using the models and data presented in the following chapters.

2.3 Empirical Literature on Recent Findings

A study by Dorantes and Pozo, (2009), looked at the role of remittances on Health care expenditures by Mexican Households. One of their objectives was to learn about the importance of remittances relative to other sources of income in financing household health care needs. Their aim was to properly investigate the response of the remittance receiving household; if there is an additional dollar increase in their ordinary income, they asked the questions; "Are the household more likely to spend it on health care?"

The other objective was to examine whether remittances contribute to the equalization in the use of health care services by households across the different income levels. To achieve the objectives, they modeled the impact of remittance income on Mexican households' health care expenditure while taking account of the potential endogeneity of remittance as well as the discrete and continuous nature of health care expenditures. They found that remittance increased both the likelihood of incurring health expenditure. They also observed that remittances are important in driving health care expenditures when compared to other sources of household income. Eventually, they conclude that remittance income has a significant greater influence in shaping the health care expenditures of households in higher income groups relative to lower income households.

Using data from the Encuesta Nacional de Ingresos y Gastos de los Itoques [ENIGH]. Survey (2002), they noted that while expenditures on health care may

constitute a good human capital investment, their analysis revealed the potentials for remittance income to promote household well-being. They also pointed out that greater health care expenditures may not translate into better health outcomes.

CHAPTER THREE

3.0 Introduction

International remittance flows are born out of immigrants saving which are parts of wages earned for work performed abroad. Remittances, as we have seen in previous chapters are private transfers received by family relatives to be used mainly on private consumption, saved as we have established or invested in health and education (social investment).

Several arguments can be evoked in explaining the interest on studies undertaken on health care development in Nigeria, one of which is that the status of health care of the population is a major pre-occupation, in so far as, it determines the level of productivity of the labor force and contributes to growth as well as poverty reduction.

A number of studies on health care systems in Africa pointed out the existence of substantial gaps between budgets noted at the central level and disposable resources that are actually received by the local communities (Gauthier and Wayne 2019). Beside the problem of corruption and bad governance, the concern for the progressivity of the advantages of public spending on health or more generally the question of equity to health care services remains acute in developing countries such as Nigeria (Gwatkin and al 2017, Yazbeck, 2019). In as much as public spending and foreign aid on health stand as key sources of financing health and inequality reduction in the access to health care services in

developing countries, (Chauvet L. 2018, Amuedo-Dorantes et al 2017) pointed out the important role that remittance playing also financing household's health.

3.1 Theoretical Framework

There is no single theory that can fully explain migration, remittance and household expenditure given the fact that their drivers are complex and multifaceted. There are a number of theories that can be relied upon to explain the drivers of remittance and household expenditure, hence, Dual Labour Market Theory, Implicit family contract theory and Theory of migrant network provide theoretical basis for proper understanding of the study. These theories have in one way or the other revolved around Micheal Grossman's model on the theory of demand for healthcare service (1972).

Dual Labour Market Theory

The dual labor market theory, also known as segmented labor market theory, stressed that migration is reaction of the labor market pressure of the advanced nations (Piore, 1969; Piore, 1970; Doeringer & Piore, 1971). The dual labor market theory holds that the request for low-level workers in the more advanced economies is the critical factor that forms global migration. According to this theory, migration is brought from fascinating (pull) elements in industrialized territories and not by pressure (push) elements in sending nations. It is the economic structure of advanced nations that requires a permanent job offer. The dual theory of the labor market has underlined that the market can be described by

the presence of two distinctive sectors, namely the primary and secondary segments. The representatives of the first sector enjoy stable employment, great working conditions and high advancement prospects. The primary sector contains privileged members of the workforce. It represented an internal job market. Relatively high wages are paid; there is stable work with good working conditions and job safety. This theory was mainly used to clarify how circumstances in receiving nations draw migrants around the world and restricting their job prospects after arrival. Therefore, global migration is considered from the point of interesting (pull) elements in developed nations, in particular aspects essential in their labor markets rather than driving (push) elements in sending countries (Massey et al., 1993).

In a dual labor market, a secondary sector is categorized by short-term business opportunities, next to zero possibility of internal promotion. In terms of professions, they are mainly low or inexperienced jobs. The secondary sector is made up of works without expertise particularity. Employment in the secondary sector makes or strengthens bad work habits, such as unstable work arrangements, low level of promptness and absentmindedness. Wages in these engagements are low. This area has poor working conditions, gives little or no professional prospects and barely any advancement possibilities. Presumably, migrants in this category earn relatively low. Therefore, we can contend that secondary division is an essential feature of emerging nations that inspires migration. This huge

informal segment constructs a persistent source of laborers prepared to find employment elsewhere, just on the request for secondary sector workers in established industrialized nations such as the countries of Europe makes consistent interest for immigrant laborers (Piore, 1975).

Therefore, migration may along these lines be viewed from the consequence of labor market situations inalienable to emerging nations as opposed to individual or family factor, despite the fact that the impact of these market situations can be explained through individual and family decisions. It is recognized that migrants who work in primary segment are probably going to transfer remittance to their homeland. It is frequently contended that the migrants in primary class are prone to increase economic well-being of family at home, gratitude to a moderately higher flow of remittance. These migrants typically earn relatively more and, will subsequently remit more. Conversely, they are also expected to spend a longer span of time abroad and furthermore are bound to rejoin with their close family in the host nation.

Implicit Family Contract Theory

This theory distinguishes family as the main unit of investigation (Stark & Lucas, 1985; 1988). In this view family go into implicit agreements with individuals who migrate. These certain agreement includes investment and repayment assurance among household and migrants, and often lasted for a long while or decades. The understood agreement involve time-based dimension for

different years or even decades. In the loan repayment theory, the household puts resources into the education of the migrant and generally funds the migration expenses and accommodation in the receiving nation. This represents the loan component of the hypothesis. The repayment takes place after the migrant settles abroad, his earnings begin to rise over the long run and he is in a situation to begin reimbursing the loan back to the family as in form of remittance. In this way the family puts resources into a higher yielding resource, the migrant who gains a higher salary in an outside nation than other relatives living and working at home. This theory predicts different time profiles of remittance, varying, among others, on the period of time it takes for the migrant to settle in the foreign labor market and on the span of his stay abroad. The sooner the migrant's coordinate into the labor market of the new nation the quicker the progression of remittance. The sums to be moved will depend, in addition to other things, on the earning profile of the migrant (Stark & Lucas, 1985).

Another variation of this hypothesis as an implicit family contract between the migrant and families at homeland is based on the concept of risk diversification. The notion is basic as insurance and capital markets in reality are inadequate, and risks cannot be expanded in view of the lack of financial resources that edge risks. Furthermore, debt constraints, a particularly serious problem for poor migrants, limit the ability to regulate consumption or finance investments. Assuming that the economic risks between the host country and

country of origin are not significantly related, at that point it turns into an advantageous procedure for the family to send a portion of its individuals abroad to diversify economic risk. The migrant, at that point, can assist with supporting his family in awful occasions at home. On the other hand, for the migrants, having a family in the homeland is insurance against the unpleasant occasions that may likewise happen in the host nations. In this perspectives, emigration turns into a co-insurance strategy, with remittances playing the character of an insurance claim. As with any contract, there is a potential execution problem (e.g. ensuring that all parties comply with the terms of the contract). Nonetheless, on a fundamental level, implementation can be relied upon to be less difficult because of the way that these are implicit family contracts which are aided by family trust and selflessness, an element regularly missing in legitimately authorized agreement (Stark & Lucas, 1988).

Theory of Migrant Network

The network theory was proposed by Massey et al., 1987; Massey, 1988, 1989, which stressed that transmission of the migration experience from migrants to family members and companions in their homeland as an engine of global migration. Arango (2000) defined the migration network as a relatively steady relationship over time of beneficiary nations with migrants' homeland. As per Massey et al. (1993), migrations produce networks which at that same point feed the migration that created them. In this way, whatsoever micro social, cultural

political and monetary circumstances that primarily caused migration originated from pushes and pulls factors, the growing migration procedure turns out to be logically independent to the real causal situations. Basically, migrations in process ascend over the conditions that made them, driving from that point of a liberated presence. Massey (1988) describes migratory networks as sets of relational bonds that connect migrants, ex-migrants, and non-migrants in homeland and host territories from the ties of kinfolk, friendship and common network of origin.

Networks stimulate autonomy of migratory flows for two reasons. Firstly, when network associations arrive at some limit level, they become self-governing social structure that underpins immigration. This emerges from decreased social, monetary, and emotional expenses of immigration allowed by the networks. In other words, the migrants supported by the network have significant impact in financing transportation, securing accommodation and work in the host territories, and in achieving a reasonable individual and emotive adaptation to what is frequently a hard condition of ethnic peculiarity. These advantages make migration simpler, therefore reassuring individuals to move rather than remained at homeland. Except if migrants are relocated, displaced people with no other option on leaving, while immigration gives them courage of subsistence. Given that decision, the diminished expenses of migration expands the amount of people who will choose to leave, therefore expanding the size of migration (Bozorgmehr & Sabagh, 1990).

Secondly, Massey (1988) has put forth a similar defense for networks from the presumptions of risk diversification model. On this view, families designate labour to members within the limits of their needs and aspirations in a convenient way to minimizing risks. Several Third World families are risky economically. Such family units face high-dangers to their prosperity if they don't decide on migration. Besides, modernization and advancement make social and economic dislocations strengthen the insecure and unpredictable financial condition made by the dangers of drought and cataclysmic events, for provincial and urban territories. Without different approaches to safeguard against such dangers, expansion of household members limits the overall risk of family revenue (Massey, 1989). Global migration is particularly compelling in light of the fact that international borders make gaps between freedom of income at home and foreign territories. Great occasions in foreign territories can coordinate awful situations at home, or the other way around. Indeed, even without disparities of income, global migration creates a powerful risk diversification strategy, particularly when network of migrant previously exist. Migration networks diminish the economic threats of migration therefore making the approach more gorgeous from the perspective of risk diversification (Massey, 1989).

However, another significant element of migrant networks is that it enhances communication between migrants and their families in their homeland. The networks transmit information with social norms and, they can exercise control

over individual behaviors to ensure the unity between the migrant host nation and his homeland. This might be especially the situation in the Nigerian society which is or possibly structured by well-demonstrated values of solidarity. In this view, the continuation of interpersonal relationships established with family members or other ethnic groups can be a constant reminder for migrants of their commitment to family ties at home. A specific outcome is that migrants should remain firmly connected with their homeland, which leads migrants to transfers money or goods to those remain, for fear of being criticized. And given the myriad of services that networks can provide them, exclusion and fear of being left without support can be an effective punishment for different people for preventing them from violating their remittance obligations.

Yang (2008) characterizes human relocation as the development of individuals starting with one spot then onto the next on the planet to build up changeless or semi-lasting living arrangement, for the most part over a political fringe.

Grossman's Model

Micheal Grossman (1972) postulated the use of two models to establish the theory of demand for health re services. They include;

- I. Investment model
- II. Consumption model

Grossman however stressed the estimation of the investment model rather than the consumption model because in his words "the consumption model generates powerful prediction from simple analysis and innocuous assumptions". He gave an instance from the use of the investment framework, if one uses the investment frame work, then he does not need to know whether the production of health is relatively time-intensive to predict the effect of an increase in wage rate on the demand for health. In addition, he does not have to know whether shifts in education and commodity-neutral to access the sign of the correlation between health and schooling, but in the consumption model on the other hand, he stated three parameters are relevant: the own price elasticity of health, the elasticity of substitution between present and future health and wealth elasticity.

Using the investment model, he suggests that health would have positive wealth elasticity in the investment model for people who are not in the labour force. For such individuals, an increase in wealth would raise the ratio of market goods to consumption time, the marginal productivity of consumption time, and its shadow price. Hence the monetary rate of return on an investment in health would increase.

In line with Grossman's model with and identifications, the model for this study can be specified as follows:

$$hsa_{ijt} = \mathcal{X}_{ijt}^1 \beta + \phi hf_{jt} + \delta r_{jt} + \sum_{i=2}^{i=n} \theta_i q_i + \varepsilon_{ijt}$$

where β , ϕ , and δ are the slopes of the parameters.

Hsa: access to healthcare services

X: control variables (income per capita, mother education)

Hf: health aid or public spending on health on per capita terms

R: remittance per capita

q: quintile dummies

I: quintile j: country. t: year

Using data from the United State for the period of 2015 to 2019, his findings confirmed that there is a positive impact of remittance on demand for medical services by households.

3.2 Model Specification

3.2.1 Analysis of Parameters

HCE HEALTH CARE EXPENDITURE

Using life expectancy as a proxy for measuring health care performance, HCE acts as the dependent variable which would be tested on remittance income. Theoretically, remittance is found to boost expenses on health sector by increasing the wealth or adding to the earnings of the households.

GDP REAL

Increase in real gross domestic product tends to encourage the government in pumping funds to various sectors of the economy, thus the health sector benefits in the increase of the real gross domestic product. This confirms that

there is a positive relationship between Real Gross Domestic Product and the Health sector.

HUMAN CAPITAL

Using the Primary Education expenses as a proxy for measuring human capital, the literate tends to use health care services more than the illiterate; this confirms the assertion that as human capital increase, the health care performance or expenses also increase.

PHYSICAL CAPITAL

Gross fixed capital formation in Nigeria seems to be the best proxy for physical capital. According to Lopez Cordova (2015), acquisition of better housing infrastructure is crucial in improving health outcome. There is also a positive relationship between gross fixed capital formation and health sector performance reason being that as the increasing Gross Fixed Capital Formation boost investment expenditure, expenses to the health sector (both private and public) is encouraged.

Thus, according to past authors like Gupta et al. (1999) stated that the population's health status improves as per capita income rises, suggesting that increasing income would be associated with lower under-five and infant mortality rates. In addition, higher incomes lead to improved public health infrastructure such as water and sanitation, better nutrition, better housing and the ability to pay for health care (Cutler 2016). According to basic economic theory, if everything

else is held constant and if health care is a normal good, an increase in per capita income will lead to increase in the demand for health care. Higher per capita income also increases the capacity of government and other players to supply more and better health care services via the provision of better infrastructure.

3.2.2 Model Specification

Socioeconomic factors are often found to be good determinants of health outcomes (Nolte and McKee, 2014:58; Young, 2011; St. Leger, 2011). Numerous studies (especially those using micro-data) show a close association between life expectancy and socio-economic status, for example, (World Bank, 2003). Most indicators of socio-economic status used are income per capita, education, urban/rural residence, work status and household assets. Hence the model;

$$HCE = f (REMIT, TER, PC, RGDP)$$

The econometric form of the model is stated as follows:

$$HCE = \alpha_0 + \alpha_1 REMIT_t + \alpha_2 TER_t + \alpha_3 pc_t + \alpha_4 rgdp_t + U_t$$

Where:

α_i = parameters to be estimated

Where i =0,1, 2, 3...

HCE: HealthCare Expenditure

REMIT: Remittance per capita

TER: Total Education Expenditure

PC: Physical Capital

RGDP: Real Gross Domestic Product

U_t : Error term

3.3 Sources of Data And Methodology

The data used to carry out this study were obtained from secondary sources such as central Bank of Nigeria (CBN) Statistical Bulletin (2020). And the others from International Monetary Fund(IMF) (2019), World Development Indicator (WDI) (2020), (NBR) National Bureau of Statistics (2020) and other data files. The Dependent variable will be the Nigerian health sector, as it is influenced by foreign remittances. The Independent variable will be remittance per capita, while Human capita, physical capita and Real Gross Domestic Product would be other control variables. The Estimation Technique to be used is the Ordinary Least Square (OLS) Method, because of its BLU property. consistency property and efficiency property.

3.4 A Priori Expectation

These are determined by the principles of economy theory and refer to the sign and the size of the parameters of economic relationships (Koutsoyiannis, 1977). The economic criterion check is aimed at determining whether the signs and sizes of the estimated results are in conformity with economic theory. That is, it is concerned with ascertaining the consistency of parameter estimates with the signs and sizes postulated by theory. To this end, it is expected that the parameters

estimates of this study conform with the theoretical postulation in terms of signs and sizes. Thus, the apriori expectations of this study are stated as follows:

Where:

α_0 = Constant term

α_1 = Coefficient of remittance

α_2 = Coefficient of total education expenditure

α_3 = Coefficient of physical capital

α_4 = Coefficient of real gross domestic product

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION OF RESULTS

This chapter contains the analysis and representation of data. It shows the empirical analysis of the study which examines the Impact of Remittances on the health sector in Nigeria from 1981-2019.

4.1 Pre-Estimation of Test Results

4.1.1 Descriptive Statistics

Descriptive statistics is the process of using and analyzing descriptive statistics, which is a summary statistic that statistically describes or summarizes features from a collection of data. The table below shows the summary statistics for the variable of this study:

Table 4.1.: Summary statistics for the variable

	LER	REMIT	TER	PC	RGDP
Mean	3.762564	20.33227	20.63605	12.87348	8.529042
Median	3.721585	20.83078	20.64000	12.55522	8.707881
Maximum	3.998021	23.91420	22.30461	17.20884	11.87903
Minimum	3.687488	14.70115	18.55401	9.082450	4.975561
Std. Dev.	0.084838	3.204125	1.147301	2.654169	2.406292
Skewness	1.383421	-0.327699	-0.006394	0.134873	-0.170677
Kurtosis	3.928902	1.649795	1.683394	1.692366	1.569799
Jarque-Bera	14.19713	3.754333	2.889356	2.971117	3.603330
Probability	0.000826	0.153023	0.235822	0.226376	0.165024
bservations	40	40	40	40	40

Source: Author's Computation (2021) using Eviews 9

The table 4.1 indicates that the variables i.e LER, REMIT, TER, PC, RGDP have mean values 3.76, 20.33, 20.63, 1287, 8.93 respectively and their standard deviations are given respectively as follows: 0.08, 3.20, 1.15, 2.65, 2.41. LER, REMIT, TER, PC, RGDP are negatively skewed except for LER and PC which are positively skewed in nature. The table above also shows that mean values falls between the minimum and maximum values. Furthermore, for the kurtosis, the value often compared to is 3. From the table above, we see that the kurtosis values in the table are less than 3 and that implies that the distribution of the variables are all platykurtic in nature except for LER which is leptokurtic in nature ($K > 3$). Finally, the Jarque-Bera statistic and the respective probability values we can see that all the variables are normally distributed except for LER.

4.1.2 Unit Root Test

This section investigates the time series variables' stationarity. Stationarity refers to the fact that the statistical characteristics of a time series (or, more precisely, the process that generates it) do not change with time. Stationarity is important because many useful analytical techniques, statistical tests, and models rely on it. The table below shows the stationarity or non-stationarity of the variables in these investigations, as well as the order of integration:

Table 4.2.: Augmented Dickey Fuller Approach Unit Root test

Variables	ADF Statistics (level)	MacKinnon Critical Values at 5%	ADF Statistics (1st Difference)	MacKinnon Critical Values at 5%	Order of Integration
LER	-1.81	-2.94	-4.26	-2.94	I(1)
REMIT	-0.65	-2.94	-6.43	-2.94	I(1)
TER	-0.26	-2.94	-5.19	-2.94	I(1)
PC	-0.47	-2.94	-4.82	-2.94	I(1)
RGDP	1.51	-2.94	-3.32	-2.94	I(1)

Source: Author's Computation using Eviews 9

From the table 4.2 above, it can be seen that the variables of this study were all stationary at I(1) at 5 percent significant level.

4.1.3. Test for Co-integration

Cointegration tests identify circumstances in which two or more non-stationary time series are integrated in a way that prevents them from diverging from equilibrium over time. The tests are used to see how sensitive two variables are to the same average price over a set period of time. Johansen co-integration test method was adopted to check for co-integration test in this study. Johansen's test is a way to determine if three or more time series are cointegrated. More

specifically, it assesses the validity of a cointegrating relationship, using a maximum likelihood estimates (MLE) approach. The following are the test results:

TABLE 4.3a: Johansen co-integration test (Trace)

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.631877	95.30911	69.81889	0.0001
At most 1 *	0.449769	56.33490	47.85613	0.0065
At most 2 *	0.352804	33.03564	29.79707	0.0205
At most 3 *	0.267831	16.06651	15.49471	0.0410
At most 4 *	0.095360	3.908514	3.841466	0.0480

Source: Author's Computation using Eviews 9

In the table 4.3a, it can be seen that the trace test indicates 5 co-integrating equations at 0.05 significant level and so there is a long run relationship among the variables captured by this study.

TABLE 4.3b: Johansen co-integration test (Maximum Eigenvalue)

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.631877	38.97422	33.87687	0.0113
At most 1	0.449769	23.29926	27.58434	0.1611
At most 2	0.352804	16.96912	21.13162	0.1735
At most 3	0.267831	12.15800	14.26460	0.1048
At most 4	0.095360	3.908514	3.841466	0.0880

Source: Author's Computation using Eviews 9

In the table 4.3b, the Max-Eigen value test also indicates there is 1 co-integrating equations at 0.05 significant level and so there is a long run relationship among the variables captured by this study.

Model Estimates

Short run Estimates

The table below shows the ECM regression results regressing LER on the independent variables REMIT, TER, PC, RGDP.

Table 4.4: Parsimonious Error Correction Model

Dependent Variable: LER				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.364031	0.145106	-2.508721	0.0178
D(REMIT)	0.012175	0.005818	2.062045	0.0509
D(TER)	0.000453	0.008109	0.055852	0.9558
D(PC)	0.018164	0.009047	2.001946	0.0244
D(RGDP)	0.009942	0.003644	2.728021	0.0105
ECM(-1)	-0.037646	0.018795	-2.433739	0.0076
R-squared	0.986506	Mean dependent var		3.765567
Adjusted R-squared	0.983357	S.D. dependent var		0.086020
S.E. of regression	0.011097	Akaike info criterion		-
Sum squared resid	0.003694	Schwarz criterion		5.979612
Log likelihood	121.6126	Hannan-Quinn criter.		-
F-statistic	313.3174	Durbin-Watson stat		5.856950
Prob(F-statistic)	0.000000			1.952150

Source: Author's Computation using Eviews 9

4.2 Discussion and Findings

The parsimonious error correction model is shown in table 4.5 (ECM). It shows that each year, approximately 3.8% of the difference between the real and long run (equilibrium) value of life expectancy ratio is reversed or removed. It's worth noting that the ECM's coefficient has a negative sign, as predicted, and is meaningful at 5% significant level with a probability value of 0.0076.

The table 4.4 above indicates that level of remittances is positively related to life expectancy in the short run. This implies that one percent increase in the level of remittances in Nigeria will result in 0.01 percent increase in current level of life expectancy. The results above show that remittances is a statistically significant factor affecting current life expectancy in Nigeria at 5% level of significance.

Also, the level of total expenditure on education is positively related to life expectancy in the short run. This implies that one percent increase in the level of the total expenditure on education in Nigeria will result in 0.0004 percent increase in current level of life expectancy. The results above show that total expenditure on education is a statistically insignificant factor affecting current level of life expectancy in Nigeria at 5% level of significance.

Also, the level of physical capital is positively related to life expectancy in the short run. This implies that one percent increase in the level of physical capital in Nigeria will result in 0.02 percent increase in current level of life expectancy. The results above show that physical capital is a statistically significant factor affecting current level of life expectancy in Nigeria at 5% level of significance.

Also, the level of Real GDP is positively related to life expectancy in the short run. This implies that one percent increase in the level of Real GDP in Nigeria will result in 0.01 percent increase in current level of life expectancy. The results above show that Real GDP is a statistically significant factor affecting current level of life expectancy in Nigeria at 5% level of significance.

The coefficient of determination (R^2) showed that, about 99% of the systematic variations in the explained variable are accounted for by the joint influence of all the explanatory variables employed in the study, while the remaining 1% is due to other factors captured by the error term. This further confirms that the model is correctly specified.

The F-statistics indicate a rejection of the null hypothesis of joint insignificance (at 5% significance level). In other words, we are about 95% confident that the explanatory variables are simultaneously significant when addressing the various factors that influence economic growth in Nigeria.

Finally, the Durbin Watson statistic 1.95 which is approximately equals 2 indicating that autocorrelation is absent in the estimated model, this makes the estimated model reliable and fit for policy perspective.

Table 4.5: Long run model

Dependent Variable: LER				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.973446	0.125405	23.71077	0.0000
REMIT(-1)	0.012900	0.006559	1.966661	0.0574
TER(-1)	0.026074	0.008386	3.109071	0.0038
PC(-1)	0.055494	0.017477	3.175260	0.0032
RGDP(-1)	-0.022428	0.020289	1.105442	0.2767
R-squared	0.863620	Mean dependent var		3.764182
Adjusted R-squared	0.847576	S.D. dependent var		0.085320
S.E. of regression	0.033310	Akaike info criterion		-3.846701
Sum squared resid	0.037725	Schwarz criterion		-3.633423
Log likelihood	80.01066	Hannan-Quinn criter.		-3.770179
F-statistic	53.82595	Durbin-Watson stat		1.644206
Prob(F-statistic)	0.000000			

Source: Author's Computation using Eviews 9

The table 4.5 above indicates that level of remittances is positively related to life expectancy in the long run. This implies that one percent increase in the level of remittances in Nigeria will result in 0.01 percent increase in current level of life expectancy. The results above show that remittances is a statistically significant factor affecting current life expectancy in Nigeria at 5% level of significance.

Also, the level of total expenditure on education is positively related to life expectancy in the long run. This implies that one percent increase in the level of the total expenditure on education in Nigeria will result in 0.02 percent increase in current level of life expectancy. The results above show that total expenditure on education is a statistically significant factor affecting current level of life expectancy in Nigeria at 5% level of significance.

Also, the level of physical capital is positively related to life expectancy in the long run. This implies that one percent increase in the level of physical capital in Nigeria will result in 0.06 percent increase in current level of life expectancy. The results above show that physical capital is a statistically significant factor affecting current level of life expectancy in Nigeria at 5% level of significance.

Also, the level of Real GDP is negatively related to life expectancy in the long run. This implies that one percent increase in the level of Real GDP in Nigeria will result in 0.02 percent decrease in current level of life expectancy. The results above show that Real GDP is a statistically insignificant factor affecting current level of life expectancy in Nigeria at 5% level of significance.

The coefficient of determination (R^2) showed that, about 86% of the systematic variations in the explained variable are accounted for by the joint influence of all the explanatory variables employed in the study, while the

remaining 14% is due to other factors captured by the error term. This further confirms that the model is correctly specified.

The F-statistics indicate a rejection of the null hypothesis of joint insignificance (at 5% significance level). In other words, we are about 95% confident that the explanatory variables are simultaneously significant when addressing the various factors that influence economic growth in Nigeria.

Finally, the Durbin Watson statistic 1.64 which is approximately equals 2 indicating that autocorrelation is absent in the estimated model, this makes the estimated model reliable and fit for policy perspective.

4.3 Diagnostic Tests

Table 4.6: Test on the Error Term

TEST	TYPE	Prob(@ 5 Percent Sig. Level.	CONCLUSION
Normality	Histogram Normality test	0.0000	Not Normally distributed
Serial correlation	Breusch-Godfrey Serial Correlation LM Test	0.9316	No serial correlation
Heteroskedasticity	Breusch-Pagan Serial Correlation LM Test	0.2416	Homoskedastic (equal spread)
Stability	CUSUM	<i>NONE</i>	Stable

Source: Author's Computation using Eviews 9

The table 4.6 above indicates that the distribution is normally distributed and that the model is there is absence of serial correlation and heteroscedasticity in the model. The table also shows that the model is stable in nature.

4.4 Policy Implications

The findings of the study showed that remittances, government expenditure on education, physical capital and Real GDP are the only four factors(variables) that importantly explains the behavior of health sector in Nigeria which was proxied by life expectancy ratio from regression results obtained in the study.

Physical capital was found to have a positive impact on health sector in Nigeria and this conforms to theory. This can be due to some economic reason(s). Capital formation increases investment which effects the health sector and economy at large in two ways. Firstly, it increases the per capita income and enhances the purchasing power which, in turn, creates more effective demand. Secondly, investment leads to an increase in production and then increase in production would result to increase in income and this would result to increase welfare health state of the populace because the standard of living increases with an increased income in most cases.

Educational expenditure was found to have a positive impact on the growth of the health sector in Nigeria and this conforms to apriori expectation. An increase of government expenditure on education increases funds needed to run

the affairs the educational sector and humans are adequately educated, health is improved as well because they would be exposed to health education which would help them manage their health conditions and this would overtime improve health condition and boost life expectancy ratio.

Remittances were found to have a favorable impact on Nigerian health growth, which is in line with expectations. The economic effect of remittances boosts the recipient's household income as well as the recipient's country's foreign exchange reserves. Inflows of remittances support human capital investment, stabilize consumption, and generate multiplier effects through increasing household expenditures (Gupta, 2009). Remittances enhance investments by reducing credit constraints in developing nations, which has a positive impact on the health sector because the funds from remittances are utilized to purchase health facilities that would improve the sector.

Finally, Real GDP was found to have a positive impact on the health sector in Nigeria in the short run. This is true from economic expectation. Increase in Real GDP implies increase in the nation's income and this often results to increase in the budgetary allocation to the health sector and so as funds allocated to the health sector increases, life expectancy increases because health facilities needed to boost to health welfare of the populace are now readily available.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Summary of Findings

The study seeks to examine the impact of remittances on the health sector in Nigeria. The study tests for unit root using Augmented Dickey-Fuller (ADF) to check if the variables are stationary or non-stationary. Also to check that long run relationship exists, the study used the Johansen Co-integration test. This show the existence of long-run relationship among the variables employed in the study. Error Correction mechanism was adopted to examine the relationship among the variables in the study ie relationship between the dependent and independent variables. The work finds out that the model passed through the diagnostic test such as Normality, serial correlation, heteroskedasticity, stability tests . The Durbin-Watson test was carried out to check for autocorrelation. The variables were also found to have an overall significant effect on life expectancy from F-statistic obtained in the model. The study found the level of remittances has both a positive and significant impact on the health sector both in the short and long run. Also, level of expenditure on education was found to have both a positive and significant impact on the health sector both in the short and long run. Also, level of physical capital was found to have a positive and significant impact on the

health sector both in the short and but a positive and insignificant impact on it in the long run. Finally, Real GDP was found to have a positive and significant on the health sector in the short run but a negative and insignificant impact on the health sector in the long run.

5.1 Conclusion

In conclusion, the empirical results show that there is positive relationship between for foreign remittances which is the key determining variable in the study and health sector in Nigeria and these relationship was found to be significant from the study. Remittances are indeed now becoming critical for many developing countries in view of the increasing need for additional foreign financing to achieve the Millennium Development Goals. This is becoming part important for sub-Saharan Africa e.g. Nigeria with a very small share of foreign remittances relatively to other developing regions. Foreign remittances is also likely to have a considerable impact on basic health infrastructure and on many health systems.

In the last decade remittances to Nigeria have gradually grown larger than both Foreign Direct Investment (FDI) and Official Development Assistance (ODA) to Nigeria. For a better appreciation of how large remittances have grown in Nigeria a comparison to oil revenues is important. In 2018 the oil sector accounted for about 8.7 percent of our GDP and contributed about 50 per cent of

government revenues and 80 per cent of exports. In the same period remittance inflows was equivalent to 6 percent of our GDP and 40% of our exports. The Nigeria diaspora population is significant with an estimated 15-17 million Nigerians` dispersed across the globe; It is also not obvious to many that there is an equally large population of Nigerian diasporas on the continent itself. A survey in 2006 identified Nigeria as the biggest identified country recipient of respondent remittances (17%) from the UK; the survey further noted that Nigerians remit relatively higher levels of remittance (£1,022) higher than the Africa average remittance value (£875). Overall, Nigerians in diaspora remitted a whopping 24 Billion USD back to Nigeria in 2018.

Finally, the study reveals that remittances have a positive and significant impact on Nigeria's health sector, and thus on the nation as a whole, and that a very conducive environment must be created to attract more of these remittances, as they play a critical role in the country's healthcare sector growth.

5.2 Recommendations

On this basis of the emanating findings, this study proffered the following recommendations:

1. Seeing that remittances is a catalyst to the health sector, the costs of transfer of remittances can be waived or significantly reduced if it is specifically tagged for healthcare.

2. Still building on the earlier suggestions, there should be defiscalization of migrant savings linked to payments for healthcare in source country in order to attract more remittances from abroad.
3. The government should constantly review upward of budgetary allocation to education sector in Nigeria. This will increase health education of Nigerians and in the long run boost the health sector and economy at large.
4. Physical capital was also shown to positively affect the health sector and so the government should invest more on health related physical capital and other health facilities for this would boost the health sector and increase life expectancy of Nigerians.
5. In order to increase the country's national income which indirectly enhances the Real GDP which was shown in the study, significantly affects the performance of the health sector, the government can generate more funds by encouraging tax payment among citizens, seek for international funds and grants, etc for by so doing the health sector would drastically be enhanced.

References

- A. Koutsoyiannis, "Theory of Econometrics," 2nd Edition, Palgrave Publishers Ltd. (Formerly Macmillan Press Ltd.), 1977.
- Acosta, P., Fanjnzylber, P., & Lopez, J.H. (2017). "Labour supply school attendance, and remittances from international migration: the case of El Salvador", *World Bank Policy Research Working*, Paper No. 3903.
- Adams Jr., & Richard H. (2015) Remittances, Household Expenditure and Investment in Guatemala. Development Research Group. Policy Research Working Paper Series 3532. The World Bank. Washington, DC. March
- Adams, R. H. (2011). Remittances, Investment and Rural Asset Accumulation in Nigeria. *Economic Development and Cultural Change*, 47, 155-173. <https://doi.org/10.1086/452390>
- Adebisi Y, A (2020) Assessment of Health Budgetary Allocation and Expenditure.
- Adeseye, A. (2021) Migrate Remittance and Household Expenditure Pattern in Nigeria. National School of Political and Administrative Studies SNPA Bucharest, Romania. <https://www.scirp.org/journal/paperinformation.aspx?paperid=106577>
- Adeseye, A. (2021) Migrate Remittance and Household Expenditure Pattern in Nigeria. National School of Political and Administrative Studies SNPA Bucharest, Romania. <https://www.scirp.org/journal/paperinformation.aspx?paperid=106577>
- Ajayi, O. (2002). International conference on Macroeconomics and Health in countries in Greatest Need: Report of the Rapporteur, Geneva, Switzerland, World Health Organization
- Alfred E Justina A and Helen A. F (2018) impact assessment of the public health expenditure on the health outcome in Nigeria.
- Amanda, B. (2020). The Impact of COVID-19 on Remittances for Development in Africa. 2020 Discussion Paper No. 269. <http://ecdpm.org/dp269>
- Amuedo-Dorantees, Tania S., and Susan p. (2017) Remittances and Healthcare Expenditure Patterns on Population in Origin Communities.

- Amuedo-Dorantes, C., & Pezo, S. (2016): "New evidence on the role of remittances on healthcare expenditures by Mexican households". *Review of Economics of the Household*, Springer, 9(1), 69-98
- Anyanwu, J. C., & Erhijakpor, A. E. (2010). Do International Remittances Affect Poverty in Africa? *African Development Review*, 22, 51-91. <https://doi.org/10.1111/j.1467-8268.2009.00228.x>
- Arango, J. (2000). Explaining Migration: A Critical View. *International Social Science Journal*, 52, 283-296. <https://doi.org/10.1111/1468-2451.00259>
- Awojobi O N (2019) impact of remittances on healthcare utilization and expenditure in developing countries: A Systematic review.
- Bozorgmehr, M., & Sabagh, G. (1990). A Comparison of Exiles and Immigrants: Iranians in Los Angeles. Leiden.
- Bullard, R. (2011). An investigation of household Remittance Behaviour, in clark and drink water. Manchester school of Economics Studies Discussion paper Manchester England.
- Chauvet, L. (2018). Remittance and healthcare expenditure patterns of population in origin communities, evidence from Mexican integration and trade, 27, 159-184
- Chauvet, L., Gubert, F., & Mesple-Soms, S. (2018). Are remittances more effective than aid to improve child health. In ABCDE Conference, 1-33.
- Chimhowu, A., Piesse, J., & Pinder, C. (2013). The socioeconomic impact of remittance on poverty Reduction.
- Currie, J., & Stabile, M. (2013). Socioeconomic Status and Child Health: Why is the Relationship Stronger for Older Children? *The American Economic Review*, 93(5). 1813-1823.
- Cutler, D. (2016). Remittances senders and receivers tracking the transnational channels. Washington, D.C.: Pew Hispanic Center
- Doeringer, P. B., & Piore, M. J. (1971). Internal Labor Markets and Manpower Analysis. Lexington, MA: Heath Lexington Books.
- Domory, L., & Mehra, K. (2009). Public social spending in Africa: Do the poor benefit? *World Bank Research Observer*, 14:1, 49-72.

- Eurostat (2021) government expenditure on health.
- Fajnzylber, P., & Lopez, J.H. (2017). The development impact of remittance in Latin America.
- Frank, R., & Hummer, R.A. (2012). "The Other Side of the Paradox: The Risk of Low Birth Weight Among Infants of Migrant and Non-migrant Households within Mexico." *International Migration Review*, 36, 746-765.
- Gauthier, B., & Wane, W. (2019). Leakage of public resources in the health sector. An empirical investigation of Chad. *Journal of African Economics*, 18(1), 52-83
- Grossman, M. (1972). "On the Concept of Health Capital and the Demand for Health", *Journal of Political Economy*, 80, 223-255.
- Gwatkin, D.R., Somanthan A., Adjikari S.R., Harbianto D (2017). Access to healthcare in developing countries.
- H. P. Pesaran (1990), "Econometrics," *Econometrics: The New Palgrave*, p. 2, citing Ragnar Frisch (1936), "A Note on the Term 'Econometrics'," *Econometrica*, 4(1), p. 95.
- Hildebrandt, N., & McKenzie, D. (2015). "The Effects of Migration on Child Health in Mexico". *Economia* 6(1), 257-289
- Kanaiaupuni, S.M., & Katherine, M. Donato (2009). "Migradollars and Mortality: The Effects of Migration on Infant Survival in Mexico". *Demography*, 36, 339-53
- Kyaing, K. T. (2012). Pull and Push Factors of Migration: A Case Study in the Urban Area of Monywa Township, Myanmar. <https://www.worldofstatistics.org/files/2014/03/Pull-and-Push-Factors-of-Migration-Thet.pdf>
- Lee, E. S. (1966). A Theory of Migration. *Demography*, 3, 47-57. <https://doi.org/10.2307/2060063>
- Levitt, Peggy. (2007). "Transnationalizing Community Development: The Case of Migration Between Boston and the Dominican Republic." *Non-profit and Voluntary Sector Quarterly*, 26(4), 509-526.

- Lindstrom, D., & Munoz-Franco, E. (2016). Migration and maternal health services utilization in rural Guatemala. *Social Science Medicine*, 63(3), 706-721
- Lopez-Cordova, E. (2014). Globalization, Migration and Development. The Role of Mexican Migrant Remittances, Economirable Castro-leal.F, Dayton J.
- Lucas, R.E.B., & Stark, O. (1995). Motivations to remit: Evidence from Botswana. *Journal of Political Economy*, 93(5), 901-18.
- M. Hashem Pesaran (1987). "Econometrics," *The New Palgrave: A Dictionary of Economics*, v. 2, p. 8 [pp. 8–22].
- Magnus, Jan & Mary S. Morgan (1987) The ET Interview: Professor J. Tinbergen in: 'Econometric Theory 3, 1987, 117–142.
- Massey, D. S. (1988). Economic Development and International Migration in Comparative Perspective. *Population and Development Review*, 14, 383-413. <https://doi.org/10.2307/1972195>
- Massey, D. S. (1989). Social Structure, Household Strategies, and the Cumulative Causation of Migration. The Annual Meeting of the American Sociological Association, San Francisco, 13 August 1989.
- Massey, D. S., Alarcón, R., Durand, J., & González, H. (1987). *Return to Aztlan: The Social Process of International Migration from Western Mexico*. Oakland, CA: University of California Press.
- Massey, D. S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., & Taylor, J. E. (1993). Theories of International Migration: A Review and Appraisal. *Population and Development Review*, 19, 431-466. <https://doi.org/10.2307/2938462>
- Muhammed N, Seemab, G (2018) Health Outcomes of Remittances in Developing Economics: An Empirical Analysis.
- Mushkin, S.J. (1972). "Health as an Investment". *Journal of Political Economy*, 70.
- Nightingale (2013) The Impact of Remittance on The Economic Growth of Nigeria.

- Nolte and McKee (2014); Young (2011); Leger S.T. (2011) Health Expenditure & Health Outcomes in Africa.
- OECD (2017). A Profile of Immigrant Populations in the 21st Century: Data from OECD Countries. Paris: OECD Publishing.
- Oluwafumiso A, O (2019) Migration: Its causes and consequence in south East Nigeria Migration. pp 1638 – 1650
- Oni, Lawrence B. (2014) Analysis of The Growth Impact of Health Expenditure In Nigeria. Po 77-84
- P. A. Samuelson, T. C. Koopmans, and J. R. N. Stone (1954). "Report of the Evaluative Committee for Econometrica," *Econometrica* 22(2), p. 142.
- Piore, M. J. (1969). On-the-Job Training in the Dual Labor Market: Public and Private Responsibilities in on The-Job Training of Disadvantaged Workers. In A. R. Weber, F. H. Cassell, & W. L. Ginsburg (Eds.), *Public-Private Manpower Policies*. Madison, WI: Industrial Relations Research Association.
- Piore, M. J. (1970). Jobs and Training. In *The State and the Poor*. Cambridge, MA: Winthrop.
- Piore, M. J. (1975). Notes for a Theory of Labor Market Stratification. In *Labor Market Segmentation* (pp. 125-150). Lexington, MA: DC Heath.
- Pro share (2021) policy on remittance flow administration aimed at increasing transparency - Emiefele.
- Rapghupathi V and Rapghupathi W (2020) Healthcare expenditure on economic performance: insights from the united states data.
- Ratha, S.M. (2015). "Worker's remittance: An important and stable source of external Development Finance" in Maimbo. S.M, and Ratha D. (ed) *Remittances: Development Impact and Future Prospect*. Washington DC: The World Bank.
- Reanne, F., Palma-Coca, O., Rauda-Esquivel, J., Olaiz-Fernandez, Diaz-Olavamieta, C., & Acevedo-Garcia, D. (2019). The Relationship Between Remittances and Health Care Provision in Mexico. *American Journal of Public Health*, 99(7), 1227.

- Simona V (2020) Government's healthcare expenditure in Nigeria 2019 – 2021
- Stark, O., & Lucas, R. E. (1985). Motivations to Remit: Evidence from Botswana. *Journal of Political Economy*, 93, 901-917. <https://doi.org/10.1086/261341>
- Stark, O., & Lucas, R. E. (1988). Migration, Remittances, and the Family. *Economic Development and Cultural Change*, 36, 465-481. <https://doi.org/10.1086/45670>
- Stark, O., & Lucas, R.E.D. (1998). *Migration, Remittance and the family Economic Development and cultural change* 36, 465-481
- UN-DESA (2019) International Migrant Stock.
- Willekens, Frans (2008) International Migration in Europe: Data, Models and Estimates. New Jersey. John Wiley & Sons: 117.
- World Bank (2015). World Development Report. Washington DC: World Bank.
- World Bank (2018). Global Economic Prospect 2018: Economic Implications of Remittances and Migration. Washington DC: The World Bank.
- World Bank (2020). Remittances Data in Brief. Washington DC: The World Bank.

APPENDIX ONE

UNIT ROOT TEST

AT LEVEL

LER

Null Hypothesis: LER has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.810626	0.9999
Test critical values:		
1% level	-3.610453	
5% level	-2.938987	
10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LER)

Method: Least Squares

Date: 07/22/21 Time: 20:11

Sample (adjusted): 1981 2019

Included observations: 39 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
LER(-1)	0.100107	0.026270	3.810626	0.0005
C	-0.368398	0.098705	-3.732290	0.0006
R-squared	0.281844	Mean dependent var		0.007656
Adjusted R-squared	0.262435	S.D. dependent var		0.014472
S.E. of regression	0.012429	Akaike info criterion		5.887636
Sum squared resid	0.005716	Schwarz criterion		5.802326
Log likelihood	116.8089	Hannan-Quinn criter.		5.857028
F-statistic	14.52087	Durbin-Watson stat		2.070552
Prob(F-statistic)	0.000507			

REMIT

Null Hypothesis: REMIT has a unit root

Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.646992	0.8481
Test critical values:		
1% level	-3.610453	
5% level	-2.938987	
10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(REMIT)
 Method: Least Squares
 Date: 07/22/21 Time: 20:19
 Sample (adjusted): 1981 2019
 Included observations: 39 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
REMIT(-1)	-0.023543	0.036388	-0.646992	0.5216
C	0.655736	0.745399	0.879711	0.3847
R-squared	0.011187	Mean dependent var		0.179211
Adjusted R-squared	-0.015538	S.D. dependent var		0.710687
S.E. of regression	0.716187	Akaike info criterion		2.220170
Sum squared resid	18.97819	Schwarz criterion		2.305481
Log likelihood	-41.29331	Hannan-Quinn criter.		2.250779
F-statistic	0.418598	Durbin-Watson stat		2.086278
Prob(F-statistic)	0.521631			

TER

Null Hypothesis: TER has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.256935	0.9222
Test critical values:		
1% level	-3.610453	
5% level	-2.938987	
10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(TER)
 Method: Least Squares
 Date: 07/22/21 Time: 20:19
 Sample (adjusted): 1981 2019
 Included observations: 39 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
TER(-1)	-0.010962	0.042664	-0.256935	0.7987
C	0.248151	0.879878	0.282029	0.7795
R-squared	0.001781	Mean dependent var		0.022411
Adjusted R-squared	-0.025198	S.D. dependent var		0.293386
S.E. of regression	0.297060	Akaike info criterion		0.460153
Sum squared resid	3.265044	Schwarz criterion		0.545464
Log likelihood	-6.972982	Hannan-Quinn criter.		0.490762
F-statistic	0.066016	Durbin-Watson stat		1.604738
Prob(F-statistic)	0.798653			

PC

Null Hypothesis: PC has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	0.470405	0.9835
Test critical values:		
1% level	-3.610453	
5% level	-2.938987	
10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(PC)
 Method: Least Squares
 Date: 07/22/21 Time: 20:20
 Sample (adjusted): 1981 2019
 Included observations: 39 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
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PC(-1)	0.007716	0.016404	0.470405	0.6408
C	0.103180	0.213520	0.483236	0.6318
R-squared	0.005945	Mean dependent var	0.201660	
Adjusted R-squared	-0.020921	S.D. dependent var	0.259486	
S.E. of regression	0.262186	Akaike info criterion	0.210398	
Sum squared resid	2.543443	Schwarz criterion	0.295709	
Log likelihood	-2.102765	Hannan-Quinn criter.	0.241007	
F-statistic	0.221281	Durbin-Watson stat	1.653173	
Prob(F-statistic)	0.640827			

RGDP

Null Hypothesis: RGDP has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.508393	0.5189
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RGDP)

Method: Least Squares

Date: 07/22/21 Time: 20:21

Sample (adjusted): 1981 2019

Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
RGDP(-1)	-0.115862	0.076811	-1.508393	0.1399
C	0.998747	0.686013	1.455871	0.1539
R-squared	0.057931	Mean dependent var	0.000000	
Adjusted R-squared	0.032470	S.D. dependent var	1.139329	
S.E. of regression	1.120679	Akaike info criterion	3.115667	
Sum squared resid	46.46911	Schwarz criterion	3.200978	
Log likelihood	-58.75551	Hannan-Quinn criter.	3.146276	
F-statistic	2.275251	Durbin-Watson stat	1.064936	
Prob(F-statistic)	0.139946			

AT FIRST DIFFERENCE

LER

Null Hypothesis: D(LER) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.261778	0.0018
Test critical values: 1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LER,2)

Method: Least Squares

Date: 07/22/21 Time: 20:21

Sample (adjusted): 1982 2019

Included observations: 38 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LER(-1))	-0.670820	0.157404	-4.261778	0.0001
C	0.004977	0.002583	1.926672	0.0619
R-squared	0.335337	Mean dependent var		0.000241
Adjusted R-squared	0.316874	S.D. dependent var		0.016966
S.E. of regression	0.014022	Akaike info criterion		5.645121
Sum squared resid	0.007079	Schwarz criterion		5.558933
Log likelihood	109.2573	Hannan-Quinn criter.		5.614456
F-statistic	18.16275	Durbin-Watson stat		2.043653
Prob(F-statistic)	0.000139			

REMIT

Null Hypothesis: D(REMIT) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.427465	0.0000
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(REMIT,2)

Method: Least Squares

Date: 07/22/21 Time: 20:22

Sample (adjusted): 1982 2019

Included observations: 38 after adjustments

Variable	Coefficient t	Std. Error	t-Statistic	Prob.
D(REMIT(-1))	-1.063495	0.165461	-6.427465	0.0000
C	0.203648	0.121366	1.677961	0.1020
R-squared	0.534356	Mean dependent var		0.007459
Adjusted R-squared	0.521422	S.D. dependent var		1.046705
S.E. of regression	0.724104	Akaike info criterion		2.243433
Sum squared resid	18.87576	Schwarz criterion		2.329621
Log likelihood	-40.62522	Hannan-Quinn criter.		2.274098
F-statistic	41.31230	Durbin-Watson stat		1.976308
Prob(F-statistic)	0.000000			

TER

Null Hypothesis: D(TER) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.186203	0.0001
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(TER,2)
 Method: Least Squares
 Date: 07/22/21 Time: 20:22
 Sample (adjusted): 1982 2019
 Included observations: 38 after adjustments

Variable	Coefficient t	Std. Error	t-Statistic	Prob.
D(TER(-1))	-0.834057	0.160822	-5.186203	0.0000
C	0.009174	0.047179	0.194461	0.8469
R-squared	0.427633	Mean dependent var		0.006892
Adjusted R-squared	0.411734	S.D. dependent var		0.378368
S.E. of regression	0.290202	Akaike info criterion		0.414719
Sum squared resid	3.031825	Schwarz criterion		0.500908
Log likelihood	-5.879660	Hannan-Quinn criter.		0.445384
F-statistic	26.89670	Durbin-Watson stat		1.995978
Prob(F-statistic)	0.000008			

PC

Null Hypothesis: D(PC) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.816249	0.0004
Test critical values:		
1% level	-3.621023	
5% level	-2.943427	
10% level	-2.610263	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(PC,2)
 Method: Least Squares
 Date: 07/22/21 Time: 20:23
 Sample (adjusted): 1983 2019
 Included observations: 37 after adjustments

Variable	Coefficient t	Std. Error	t-Statistic	Prob.
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D(PC(-1))	-1.001132	0.207865	-4.816249	0.0000
D(PC(-1),2)	0.249184	0.161138	1.546399	0.1313
C	0.202452	0.058139	3.482183	0.0014
R-squared	0.443914	Mean dependent var		0.006849
Adjusted R-squared	0.411203	S.D. dependent var		0.328779
S.E. of regression	0.252282	Akaike info criterion		0.161068
Sum squared resid	2.163976	Schwarz criterion		0.291683
Log likelihood	0.020234	Hannan-Quinn criter.		0.207116
F-statistic	13.57083	Durbin-Watson stat		1.941956
Prob(F-statistic)	0.000046			

RGDP

Null Hypothesis: D(RGDP) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		3.324964	0.0066
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RGDP,2)

Method: Least Squares

Date: 07/22/21 Time: 20:24

Sample (adjusted): 1982 2019

Included observations: 38 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	0.584452	1.798511	0.324964	0.7471
C	-0.289630	0.376894	-0.768465	0.4472

R-squared	0.002925	Mean dependent var	0.183453
Adjusted R-squared	-0.024772	S.D. dependent var	1.143993
S.E. of regression	1.158076	Akaike info criterion	3.182593
Sum squared resid	48.28105	Schwarz criterion	3.268782
Log likelihood	-58.46927	Hannan-Quinn criter.	3.213258

F-statistic	0.105602	Durbin-Watson stat	1.057858
Prob(F-statistic)	0.747089		

COINTEGRATION

Date: 07/22/21 Time: 20:25
Sample (adjusted): 1981 2019
Included observations: 39 after adjustments
Trend assumption: Linear deterministic trend
Series: LER REMIT TER PC RGDP
Lags interval (in first differences): No lags

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.631877	95.30911	69.81889	0.0001
At most 1 *	0.449769	56.33490	47.85613	0.0065
At most 2 *	0.352804	33.03564	29.79707	0.0205
At most 3 *	0.267831	16.06651	15.49471	0.0410
At most 4 *	0.095360	3.908514	3.841466	0.0480

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.631877	38.97422	33.87687	0.0113
At most 1	0.449769	23.29926	27.58434	0.1611
At most 2	0.352804	16.96912	21.13162	0.1735
At most 3	0.267831	12.15800	14.26460	0.1048
At most 4	0.095360	3.908514	3.841466	0.0880

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Unrestricted Cointegrating Coefficients (normalized by b*S11*b=I):

LER	REMIT	TER	PC	RGDP
-16.91350	-0.125959	-0.247295	0.843797	-0.566341

17.22048	-0.084669	-0.357249	-0.268831	-0.236005
20.62648	-0.077927	-0.587568	-2.353204	2.368795
-10.11671	-1.181872	-0.106130	1.549056	0.196415
5.396338	0.501770	-1.524037	2.503187	-3.092057

Unrestricted Adjustment Coefficients (alpha):

D(LER)	-0.007521	-0.004895	-0.001621	0.001215	-0.002147
D(REMIT)	0.153985	-0.030576	0.073783	0.342142	0.001341
D(TER)	-0.022804	-0.147621	0.073732	-0.062229	0.021230
D(PC)	-0.012173	-0.027188	0.129674	-0.026017	-0.035932
D(RGDP)	0.612677	-0.226534	-0.211612	-0.047077	-0.200468

1 Cointegrating Equation(s): Log likelihood 26.96739

Normalized cointegrating coefficients (standard error in parentheses)

LER	REMIT	TER	PC	RGDP
1.000000	0.007447	0.014621	-0.049889	0.033485
	(0.00912)	(0.01166)	(0.02431)	(0.02822)

Adjustment coefficients (standard error in parentheses)

D(LER)	0.127211
	(0.03377)
D(REMIT)	-2.604433
	(1.90304)
D(TER)	0.385698
	(0.80275)
D(PC)	0.205891
	(0.71140)
D(RGDP)	-10.36251
	(2.62231)

2 Cointegrating Equation(s): Log likelihood 38.61702

Normalized cointegrating coefficients (standard error in parentheses)

LER	REMIT	TER	PC	RGDP
1.000000	0.000000	-0.006681	-0.029242	0.005061
		(0.01091)	(0.02288)	(0.02320)
0.000000	1.000000	2.860454	-2.772384	3.816674
		(1.62425)	(3.40599)	(3.45370)

Adjustment coefficients (standard error in parentheses)

D(LER)	0.042920	0.001362
	(0.04411)	(0.00028)
D(REMIT)	-3.130974	-0.016807
	(2.71312)	(0.01706)
D(TER)	-2.156408	0.015371

	(0.98452)	(0.00619)
D(PC)	-0.262304	0.003835
	(1.00950)	(0.00635)
D(RGDP)	-14.26353	-0.057992
	(3.63275)	(0.02284)

3 Cointegrating Equation(s): Log likelihood 47.10158

Normalized cointegrating coefficients (standard error in parentheses)

LER	REMIT	TER	PC	RGDP
1.000000	0.000000	0.000000	0.028666	-0.070394
			(0.02931)	(0.03211)
0.000000	1.000000	0.000000	-27.56406	36.12054
			(9.03586)	(9.89869)
0.000000	0.000000	1.000000	8.667042	-11.29326
			(2.70539)	(2.96372)

Adjustment coefficients (standard error in parentheses)

D(LER)	0.009486	0.001488	0.004561
	(0.05740)	(0.00031)	(0.00132)
D(REMIT)	-1.609095	-0.022557	-0.070509
	(3.54798)	(0.01907)	(0.08166)
D(TER)	-0.635581	0.009626	0.015055
	(1.23652)	(0.00664)	(0.02846)
D(PC)	2.412422	-0.006270	-0.063469
	(1.14242)	(0.00614)	(0.02629)
D(RGDP)	-18.62833	-0.041502	0.053753
	(4.64907)	(0.02498)	(0.10700)

4 Cointegrating Equation(s): Log likelihood 53.18058

Normalized cointegrating coefficients (standard error in parentheses)

LER	REMIT	TER	PC	RGDP
1.000000	0.000000	0.000000	0.000000	-0.031002
				(0.00431)
0.000000	1.000000	0.000000	0.000000	-1.757300
				(0.12955)
0.000000	0.000000	1.000000	0.000000	0.616767
				(0.13877)
0.000000	0.000000	0.000000	1.000000	-1.374175
				(0.07071)

Adjustment coefficients (standard error in parentheses)

D(LER)	-0.002808	5.19E-05	0.004432	0.000666
	(0.05987)	(0.00215)	(0.00133)	(0.00531)
D(REMIT)	-5.070451	-0.426925	-0.106820	0.494524
	(3.21762)	(0.11530)	(0.07130)	(0.28516)
D(TER)	-0.006029	0.083172	0.021659	-0.249459

	(1.25220)	(0.04487)	(0.02775)	(0.11098)
D(PC)	2.675626	0.024479	-0.060708	-0.348414
	(1.19052)	(0.04266)	(0.02638)	(0.10551)
D(RGDP)	-18.15207	0.014137	0.058750	1.002915
	(4.87255)	(0.17461)	(0.10798)	(0.43183)

MODEL ESTIMATES

Dependent Variable: LER
Method: Least Squares
Date: 07/22/21 Time: 20:31
Sample (adjusted): 1981 2019
Included observations: 39 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	2.973446	0.125405	23.71077	0.0000
REMIT(-1)	0.012900	0.006559	1.966661	0.0574
TER(-1)	0.026074	0.008386	3.109071	0.0038
PC(-1)	0.055494	0.017477	3.175260	0.0032
RGDP(-1)	-0.022428	0.020289	-1.105442	0.2767
R-squared	0.863620	Mean dependent var		3.764182
Adjusted R-squared	0.847576	S.D. dependent var		0.085320
S.E. of regression	0.033310	Akaike info criterion		3.846701
Sum squared resid	0.037725	Schwarz criterion		3.633423
Log likelihood	80.01066	Hannan-Quinn criter.		3.770179
F-statistic	53.82595	Durbin-Watson stat		1.644206
Prob(F-statistic)	0.000000			

ECM

Dependent Variable: LER
Method: Least Squares
Date: 07/22/21 Time: 20:35
Sample (adjusted): 1982 2019
Included observations: 38 after adjustments

Variable	Coefficien	Std. Error	t-Statistic	Prob.
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t

C	-0.364031	0.145106	-2.508721	0.0178
D(REMIT)	0.012175	0.005818	2.062045	0.0509
D(TER)	0.000453	0.008109	0.055852	0.9558
D(PC)	0.018164	0.009047	2.001946	0.0244
D(RGDP)	0.009942	0.003644	2.728021	0.0105
ECM(-1)	-0.037646	0.018795	-2.433739	0.0076
R-squared	0.986506	Mean dependent var	3.765567	
Adjusted R-squared	0.983357	S.D. dependent var	0.086020	
			-	
S.E. of regression	0.011097	Akaike info criterion	5.979612	
			-	
Sum squared resid	0.003694	Schwarz criterion	5.634857	
			-	
Log likelihood	121.6126	Hannan-Quinn criter.	5.856950	
F-statistic	313.3174	Durbin-Watson stat	1.952150	
Prob(F-statistic)	0.000000			

DIAGNOSTICS

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.071031	Prob. F(2,28)	0.9316
Obs*R-squared	0.191824	Prob. Chi-Square(2)	0.9085

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 07/22/21 Time: 20:38

Sample: 1982 2019

Included observations: 38

Presample missing value lagged residuals set to zero.

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	-0.125262	0.371047	-0.337590	0.7382
D(REMIT)	2.56E-06	0.002911	0.000879	0.9993
D(TER)	0.000357	0.008479	0.042087	0.9667
D(PC)	-0.000369	0.009458	-0.039022	0.9691
D(RGDP)	0.001507	0.006133	0.245723	0.8077
ECM(-1)	0.012375	0.095502	0.129583	0.8978
RESID(-1)	0.275002	0.756585	0.363479	0.7190
RESID(-2)	0.100180	0.562492	0.178100	0.8599

R-squared	0.005048	Mean dependent var	-2.68E-16
Adjusted R-squared	-0.314758	S.D. dependent var	0.009992
S.E. of regression	0.011458	Akaike info criterion	5.879409
Sum squared resid	0.003676	Schwarz criterion	5.448465
Log likelihood	121.7088	Hannan-Quinn criter.	5.726083
F-statistic	0.015785	Durbin-Watson stat	1.989639
Prob(F-statistic)	1.000000		

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.400268	Prob. F(7,30)	0.2417
Obs*R-squared	9.358136	Prob. Chi-Square(7)	0.2280
Scaled explained SS	50.15588	Prob. Chi-Square(7)	0.0000

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

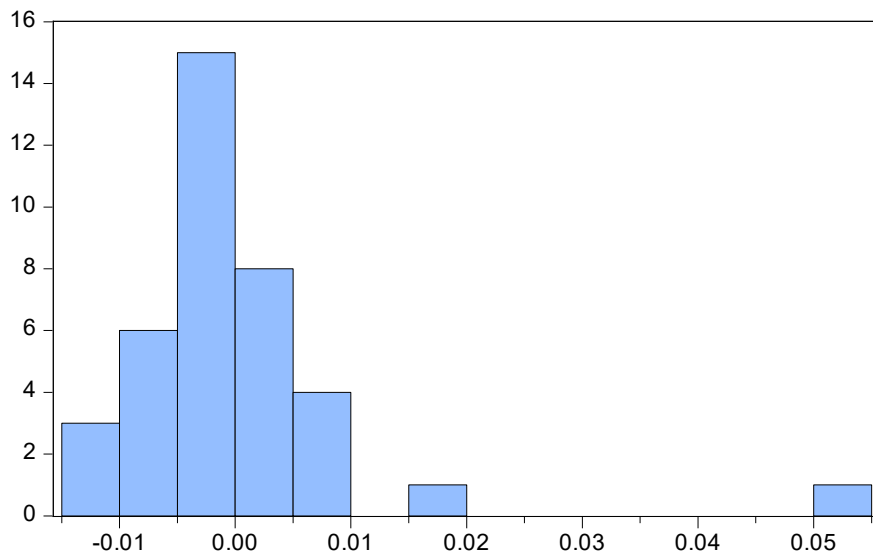
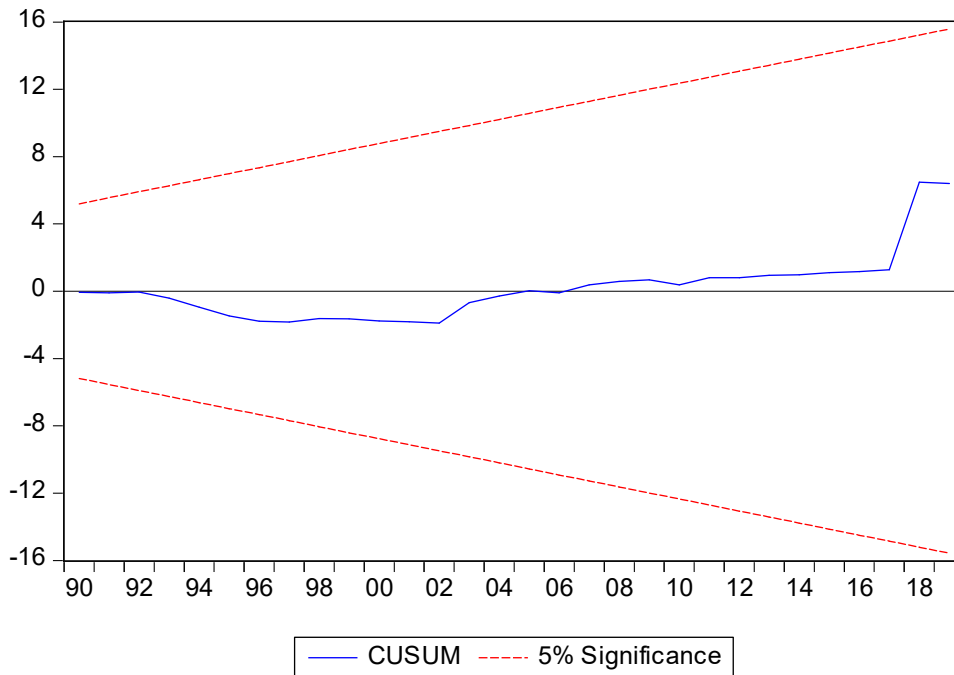
Date: 07/22/21 Time: 20:38

Sample: 1982 2019

Included observations: 38

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.013240	0.005151	-2.570283	0.0154
D(REMIT)	2.28E-05	0.000100	0.227902	0.8213
D(TER)	-7.41E-05	0.000288	-0.257381	0.7986
D(PC)	0.000212	0.000321	0.661347	0.5134
D(RGDP)	5.53E-05	0.000129	0.427541	0.6720
ECM(-1)	0.000327	0.003081	0.106146	0.9162

R-squared	0.246267	Mean dependent var	9.72E-05
Adjusted R-squared	0.070396	S.D. dependent var	0.000409
S.E. of regression	0.000394	Akaike info criterion	12.65606
Sum squared resid	4.66E-06	Schwarz criterion	12.31130
Log likelihood	248.4650	Hannan-Quinn criter.	12.53339
F-statistic	1.400268	Durbin-Watson stat	1.917031
Prob(F-statistic)	0.241696		



Series: Residuals	
Sample 1982 2019	
Observations 38	
Mean	-2.68e-16
Median	-0.001108
Maximum	0.050320
Minimum	-0.011644
Std. Dev.	0.009992
Skewness	3.462158
Kurtosis	18.19837
Jarque-Bera	441.6495
Probability	0.000000

APPENDIX TWO

DATA PRESENTATION

Year	LER	REMIT	TER	PC	RGDP
1980	40.42489	21946633.79	2028570000	11431	144.83
1981	40.91779	16188874.3	3038154000	18220.6	154.98
1982	41.4107	17818396.82	2516300000	17145.8	163
1983	41.3876	13804340.16	1578398000	13335.3	170.38
1984	41.3645	11741262.51	1130221000	9149.8	192.27
1985	41.3414	10069658.73	1007268000	8799.5	202.44
1986	41.3183	3989688.356	608941200	11351.5	249.44
1987	41.2952	2739018.355	584650600	15228.6	320.33
1988	41.27499	2424527.401	508345700	17562.2	419.2
1989	41.25477	10183665.81	392461200	26825.5	499.68
1990	41.23456	10008540.02	365400600	40121.3	596.04
1991	41.21435	65544714.33	211962000	45190.2	909.8
1992	41.19413	56448404.41	223987300	70809.2	1259.07
1993	40.98477	793154025.5	114262700	96915.5	1762.81
1994	40.7754	549872704.1	133731900	105575.5	2895.2
1995	40.56603	250043007.2	223774100	141920.2	3779.13
1996	40.35666	296587337.3	278435400	204047.6	4111.64
1997	40.14729	585738409.8	285482600	242899.8	4588.99
1998	40.10671	448546824.8	248014300	242256.3	5307.36
1999	40.06613	1301055577	258926600	231661.7	6897.48
2000	40.02554	1391826072	342022300	331056.7	8134.14
2001	39.98496	1166614598	340363800	372135.7	11332.25
2002	39.94438	1208958588	450664900	499681.5	13301.56
2003	40.65753	1062820789	509967100	865876.5	17321.3
2004	41.37068	2272734507	662893800	863072.6	22269.98
2005	42.08383	14640084310	840489700	804400.8	28662.47
2006	42.79699	16932144079	1196690000	1546525.7	32995.38
2007	43.51014	18014430787	1314125000	1936958.2	39157.88
2008	44.13768	19199974036	1639735000	2053006	44285.56
2009	44.76523	18370796915	1316803000	3050575.9	54612.26
2010	45.39277	19744755063	2970410000	9183000.2	62980.4
2011	46.02032	20616772501	3305684000	9897918.7	71713.94
2012	46.64787	20542884460	3728857000	10282280.3	80092.56

2013	47.35488	20797073957	4158514000	11478397.8	89043.62
2014	48.06189	20999084800	4669330000	13596000	94144.96
2015	48.76891	20626046924	3956580000	14112000	101489.49
2016	49.47592	19697938004	4128320250	15104000.8	113711.63
2017	50.18294	22037016832	4228186063	16908100.13	127736.83
2018	54.33001	24311022416	4217845639	24550200.3	144210.49
2019	54.49021	23809281401	4861509700	29764800	144.83

Source: I. World Development indicators (2019)

II. CBN Statistical Bulletin (2019)