

Remittance Inflow And Domestic Credit To Private Sector. The Nigerian Experience

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Abstract: *The objective of the study is to determine empirically the impact of international remittances inflows to domestic credit to private sector, using Nigeria as a case study between 1980 and 2015. In the model specified, domestic credit to private sector(DCPS) is a function of the growth in international remittance inflows (IRIGWT), oversea development assistance, (ODAGNI), real gross domestic product (RGDP), inflation (INFL), exchange rate (EXR).The study used co- integration, vector error correction mechanism for estimation of specified models. In the short run, IRIGWT was found to have positive insignificant link with DCPS while ODAGNI indicated a negative significant relationship with DCPS. The study recommends that Federal Government of Nigeria should adopt strict policy measures to regulate remittances and also to encourage international remittances passing through official channel by reducing the cost of remittances.*

Keywords; *remittance inflows, domestic credit to private sector, official development assistance, co integration, Nigeria*

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I. Background

Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of non equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises.

Efficient financial systems influence the rate of savings, leading to improved investment decisions and eventually to higher long-run growth rates (Schumpeter 1912; McKinnon 1973). The positive effect of financial development on growth has been extensively documented (Rajan and Zingale 1998; Levine 1997, 2004; Levine et al. 2000; Beck et al. 2000). Through the availability of credit at a lower cost and improved saving propensities, investments are very likely to improve which foster economic growth. In developing countries, specifically in Africa, the cost of funding can be deemed as very high. Individual, households and entrepreneurs are known to resort to other sources rather than funding via formal means from financial institutions. Monies remitted by relatives who reside overseas with better living conditions form a major part of these alternative sources of funding for the private sector.

In recent times, monies remitted to most developing countries worldwide can be seen to have grown intensely from US \$68.5 billion in 1990 to US \$440.0 billion in 2010 (World Bank 2011). A substantial amount of research undertaken has indicated that remittances have become the second largest source of external finance for developing countries after foreign direct investment (FDI) and about double the amount of official aid received, both in absolute terms and as a percentage of GDP (Aggarwal et al. 2010; Yang 2011). Evidence shows that in 2010, worldwide remittance flows of US \$325 billion were to developing countries, an amount that constituted more than 10 percent of gross domestic product (GDP) in many developing countries (Nyamongo et al. 2012). With all the growth in the levels of remittances, both in absolute dollars and percentages, the questions we ask are, whether and how do these funds help improve the availability of credit to recipients? Does it increase their saving propensities or enable them have access to and improve the formal financial infrastructure in the recipient countries?

A number of studies have analyzed the developmental impact of remittances along various dimensions. The extent of the impact of remittances include poverty reduction, narrowing of the inequality gap, education, infant mortality, entrepreneurship and finally growth (Giuliano and Ruiz-Arranz 2009; Vaaler 2011). The concentration of this study is the ability of the recipients of these remittances to channel these monies for financial inclusion, via deposits and availability of credit which may result from deferred consumption of received remittances. According to Aggarwal et al. (2010), remittances are usually substantial in amounts and that recipients might have a need for financial products that allow them to save some of these funds for later consumption as well as gain some amount of interest earnings from the savings and boost the financial sector.

The theory, which we allude to, posits that through the channelling of remittances via formal means, banks will be able to extend banking services or products and proceed further with other investment

opportunities to recipients who may be unaccustomed with banking and create adequate financial intermediation. This will be of great value to the recipients of the remitted funds by creating any further wealth. The availability of credit to the private sector can be theorised by the increase in interaction of individuals with financial institutions. This interaction can be as a result of receipts of migrant funds, for which the excess of funds over consumption increases the propensity to save, thus allowing recipient individuals, the opportunity to be introduced to financial products and services, thus deepening financial sector development.

From a contrasting perspective, Calderon et al. (2007), indicates remittances can reduce credit demands and “have dampening effect on the credit markets.” Again, “a rise in remittances might not translate itself into an increase in credit to the private sector if the flows from the remittances are channelled to finance the government or if the banks are reluctant to lend and prefer to hold liquid assets.” Chami et al. (2003) also postulate that remittances make recipients who receive remittances through informal channels, sidestep the many financial requirements in acquiring capital, which are seen as constraints (Giuliano and Ruiz-Arranz 2009). This makes less use of the financial sector services and products which in turn do not promote the financial sector. Despite the above contrasting view, very recent studies (Vaaler 2011, 2013) explained that the entrepreneurial potentials for migrant entrepreneurs are better poised to succeed. This is due to their ability to transfer capital from the host countries to their home countries in the form of remittances and gaining financial advice from institutions. Aggregate level impact of remittances can then be said to be inconclusive.

Due to the less developed nature of the African continent, there are staggering records of migration to more developed areas. Statistics from World Development Indicators (World Bank) and the International Monetary Fund (IMF) database indicate that the average remittances to African countries have grown over US \$250 million in 1990 to over US \$1.4 billion in the year 2011. However, a fall was seen in the year 2008 and 2009 which could be explained by the years’ financial downturn in most developed countries, which are the source of most remittances. A fall in remittances could have impacted on the level of improvement or otherwise in the financial sector of recipient countries. Remittances, despite the attention, are deemed to be severely understated since most of the migrants’ funds sent home are done mainly through informal channels as these channels do not require any formal documentation and sometimes void of transaction costs (Gibson et al. 2005; Freund and Spatafora 2008). With the presence of greater financial intermediation and financial sector reforms, all amounting to improved financial sector development, we hypothesize that financial development has the propensity to encourage the remittances of funds from developed countries to developing countries and even amongst developing countries. With improved financial sector growth, increased competition will reduce transaction cost. We hypothesize that financial inclusion could be widened through the attraction of such funds as remittances into the financial sector, rather than for mere consumption which are short lived if not used for entrepreneurial purposes. This research then again adds to existing literature to find out if there is any reverse causality traceable among financial development and remittance inflows to Africa.

This study contributes to knowledge, by extending empirical studies on the links that exist between funds remitted by migrants abroad to relatives at home in Nigeria. It shows the accessibility and coverage to financial intermediary services in terms of credits to the private sector and tendency to create more financial wealth which, for the purposes of this study, focuses on private sector access.

The increase in Nigeria’s migration stock has led to recent growth of international remittance inflows to the country. Even though, international remittances have been increasing, there are arguments on how the remittance have contributed in growth of gross domestic product, domestic credit to private sector, its comparison to the influence oversea development assistance to Nigeria’s economy, inflation, and its impact in alleviating poverty in developing economies. More importantly, there has also been issue of remittance inflows on the growth of Nigerian economy at both microeconomic and macroeconomic levels. In microeconomic level, there are issues of whether remittance inflows can boost investment in human capital and educational attainment, and reduction in poverty and inequality. At macroeconomic level, whether remittances increase money supply which also increases the capacity of the financial institutions to grant credit to private sector or whether remittances boost the accumulation of factor of production, such as physical capital and education infrastructure. Some economists argued that the impact of remittances on the economy depends on the level of financial development in an economy.

Remittance is a tool to reducing poverty in developing countries and this implication has not fully been understood. However, remittance inflows are important in relaxing the financial constraints, particularly under the conditions of crippling institutions and inadequate financial intermediation; also a lifeline to investment where the very institutions that give life to capital are non-existent (Bjuggren et al, 2010). A lot of empirical evidences However, the works of Giuliano and Ruiz-Arranz (2009) and Fayissa and Nsiah (2008) suggest that remittances boost growth in countries with an underdeveloped financial sector. In other words, in countries where the financial sector is unable to extend credit to the private sector, remittance receipts are a vital source of capital relative to financially developed societies. These conflicting empirical findings invite further research of these issues.

II. Conceptual Review Overview Of Remittance

A **remittance** is a transfer of money by a foreign worker to an individual in his or her home country. Money sent home by migrants competes with international aid as one of the largest financial inflows to developing countries. Workers' remittances are a significant part of international capital flows, especially with regard to labour-exporting countries. In 2014, \$436 billion went to developing countries, setting a new record. Overall global remittances totaled \$582 billion in 2015. Some countries, such as India and China, receive tens of billions of US dollars in remittances each year from their expatriates and diaspora. In 2014, India received an estimated \$70 billion and China an estimated \$64 billion, Al – Ssaf et al (2014)

Remittances are not a new phenomenon in the world, being a normal concomitant to migration which has always been a part of human history. Several European countries, for example Spain, Italy and Ireland were heavily dependent on remittances received from their emigrants during the 19th and 20th centuries. Since 2000, remittances have increased sharply worldwide, having almost tripled to \$529 billion in 2012. In 2004 the G8 met at the Sea Island Summit and decided to take action to lower the costs for migrant workers who send money back to their friends and families in their country of origin. In light of this, various G8 government developmental organizations, such as the UK government's Department for International Development (DFID) and USAID began to look into ways in which the cost of remitting money could be lowered.

In September 2008, the World Bank established the first international database of remittance prices. The Remittance Prices Worldwide Database, provides data on sending and receiving remittances for over 200 "country corridors" worldwide. The "corridors" examined include remittance flows from 32 major sending countries to 89 receiving countries, which account for more than 60% of total remittances to developing countries. The resulting publication of the Remittance Prices Worldwide Database serves four major purposes: benchmarking improvements, allowing comparisons across countries, supporting consumers' choices, and putting pressure on service providers to improve their services

At the July 2009 summit in L'Aquila, Italy, G8 heads of government and states endorsed the objective of reducing the cost of remittance services by five percentage points in five years. To drive down costs, the World Bank has begun certifying regional and national databases that use a consistent methodology to compare the cost of sending remittances.

At the G20 2011 Summit in Cannes, Bill Gates stated that, "If the transaction costs on remittances worldwide were cut from where they are today at around 10% to an average of 5% it would unlock \$15bn a year in poor countries." A number of low-cost online services such as Azimo have emerged with the objective of lowering the cost of money transfers to developing and emerging economies.

III. Remittance Inflow In Nigeria

A major source of foreign exchange earnings for Nigeria are remittances sent home by Nigerians living abroad.^[26] In 2014, 17.5 million Nigerians lived in foreign countries, with the UK and the USA having more than 2 million Nigerians each. According to the International Organization for Migration, Nigeria witnessed a dramatic increase in remittances sent home from overseas Nigerians, going from USD 2.3 billion in 2004 to 17.9 billion in 2007, representing 6.7% of GDP. In 2016, remittances reached a new record of \$35 billion. The United States accounts for the largest portion of official remittances, followed by the United Kingdom, Italy, Canada, Spain and France. On the African continent, Egypt, Equatorial Guinea, Chad, Libya and South Africa are important source countries of remittance flows to Nigeria, while China is the biggest remittance-sending country in Asia. In August 2016 Nigerian Central Bank (NCB) decision to suspend the operations of all MTOs in the country, except those of Western Union, Money Gram and Rio, was met with a strong backlash. It was argued that the decision was not appropriately justified, while also standing in contrast to the NCB's previous move to ban all exclusivity agreements with Western Union. The decision was considered to disproportionately strengthen the dominant position of Western Union, Money Gram and Rio, under pressure; however, the Central Bank reversed the decision and granted new licenses to a number of competing MTOs.

Remittances reflect the local labour working in the global economy and have been shown to explain partly the connection between growth and integration with the world economy. Remittances enhance the integration of countries into the global economy and reflect the local labour working in the globalized economy. The significant contribution of international remittances to the stability and sustainable growth prospects of developing countries cannot be overemphasized. Remittances have not only grown strongly in a positive direction, but these inflows have also exhibited a much more stability than other private capital inflows and overseas (Iheke, 2016). Below is the graph of remittance and domestic credit to private sector

IV. Theoretical Review

Endogenous Migration and "Portfolio" Theory.

Elbadawi and Rocha (1992) present a detailed theoretical review and insightful analysis of the literature on the causes of immigrant remittances, which applies well to all remittances. They divide this literature into two main strands: the "endogenous migration" approach, and the "portfolio" approach. The endogenous migration approach is based on the economics of the family, which include but not limited to motivations based on altruism. The portfolio approach isolates the decision to remit from the decision to migrate, and likewise avoids issues of family ties. In this view, the migrant earns income and decides how to allocate savings between host country assets and home country assets.

Remittances are as a result of deciding to invest in home country assets. The portfolio view, therefore, is an informal theory of international remittance inflows that supports the view that international remittances behave like other capital flows. The rates of return on various assets, or return differentials are regarded as important decision variables affecting remittances in the portfolio view. The variables often included in such studies are interest rate differentials on comparable deposit accounts offered in the host and home (labour-sending) countries, incentive interest rates offered on home country deposits, black market exchange premium (if any), the return on real estate in the home country, inflation rates, and other returns. In addition, political risk and uncertainty may also affect the decision to remit.

The endogenous migration approach and the portfolio approach are the most prominent approaches employed to perform empirical estimations of international remittance inflows determination. Wahba (1991) introduced a dichotomy by dividing international remittances into "fixed" remittances, which go toward family support, and "discretionary" remittances, which are investment flows. In the view of this theory, the fixed remittances depend essentially on demographic and economic factors including family characteristics such as size and income level, and therefore may be explained by the endogenous migration view. In general, empirical analyses include some demographic variables such as the stock of migrants in the host country (or family characteristics in studies that use micro data), economic variables such as wages or income, and financial variables such as interest rates.

The demographic and income variables tend to be significant in nearly all the estimations, while the financial variables' significance varies depending on the sample and specification. Chami (2003) pointed out that this is probably the most reliable stylized fact to come out of the empirical literature on the causes of remittances. While most studies have found evidence consistent with altruistic behavior, only a few studies such as Lucas and Stark (1985) and Agarwal and Horowitz (2002) have tested altruism against alternate family arrangements. Lucas and Stark (1985) find evidence in favor of self-interested behavior in Botswana, while Agarwal and Horowitz find evidence in favor of altruism in Guyana.

V. Altruistic and Self Interest Motive Theory

The motivated factor to migrate and remit has become a heated debate recently. Altruistic and self interest motive theory, according to Clarke and Drinkwater (2001) and Rapoport and Katz, (2005) was another hypothesis put forward as explanation of the determinant to migrate. In these views, altruism towards family members at home and the care for their consumptions and welfares were regarded as important determining factor for decision to migrate by intending migrants. On the other hand, self-interest was determinant for decision to migrate and remit to family in origin countries or to invest for future profit-making and preparing to return home in the near future. In general, this school of thought viewed remittance as result of inter-generation contract between migrants and their parents in the home country, concurred by Lucas and Stark (1985).

VI. Capital Asset Pricing Model

The emergence of capital asset pricing model is believed to signal actual asset pricing theory (Andre', 2004). This is further confirmed by its generally acceptance and usage till date. When determining the cost of capital or evaluating the performances of portfolios. CAPM appears to be the most potent theory to use just as it has remained an important topic in the course of finance Fama and French (2004). The basis of this acceptance of CAPM is anchored on its effective and predictive capability in the measurement of risk and correlation between risk and expected return on investment. Despite the above popularity, perceived importance, and possible usage, CAPM enjoys very insignificant empirical support making it difficult to accept its predictive ability in the determination of returns on investment. This theory assumes a link between expected returns on free risk assets and inflexible risk which is usually calculated by the value of beta per asset. In CAPM hypothesis, investors need the return for a logical risk of their selections with a standard period for comparison. This assumption seems unrealistic because of the imperfection in the market.

Capital asset pricing model is believed to have advantage over other means determining investment return because it considers only systematic risks showing a true situation where most investors have alternative portfolios from where unsystematic risk has been predominantly eliminated. It also generate a theoretical based

correlation between required return and systematic risk, this has constituted the basis of empirical testing and research in recent time. More so, when compared to the dividend growth model, CAPM appears a better method of determining the value of capital. However, this is not without some obvious shortcomings, for example, in order to use the CAPM, values need to be assigned to the risk free rate of return, the return on the market or the equity risk premium and equity beta. This is usually a complicating procedure. The idea of the theory of CAPM was initiated and developed by Sharpe (1964), Lintner (1965) and Mossin (1966)

VII. Structural or Dependence Theory

The structural or dependency theory was theory studied by Todaro (1997) and Chami (2003) which assumed that dependency on global political-economic system have been dominated by the industrialized nations. The theory argued that as capitals from the industrialized nations grow, migration was assumed to have negative effect on traditional societies by undermining their economic potential and motivating migration from the less developed to developed countries. According to this theory, brain drain is one of the negative outcome of capitalism on less developed societies. Structural or dependency theory concurs with Marxist and Neo-Marxist theories on the negative impact of migration from least developed to developed countries.

VIII. Neo-Classical Economic Growth Theory

Neo-Classical theory as analyzed by Roel(2006) opined that real salary differences between economies gave rise to bidirectional flows that culminated into a new international equilibrium in which real wage earning of all countries are the same. According to Roel, the flow starts from flowing of low skilled labor from low-wage earning countries to high-wage earning ones. His second assumption was capital flows from high-wage earning countries to low-wage earning ones. In his view, capital flows comprise labor intensive industrial capital moving together with high-skilled labor migration. Roel's second assumption agrees with Markovitz portfolio frontier theory and can be explained through utility function of Capital Asset Pricing (CAPM) which depicts that the cost of equity capital is determined only by the systematic or market risk. More so, Roel referred to Keynesian theory which views migration differently. He asserted that Keynesian regards labor supply to depend on the nominal wages, not real wage which implies that nominal wages is critical factor in labor migration. In essence, the major issue here is migration and income. Income is important variable to look at economic growth. The neoclassical production function of the Cobb-Douglas form in which output (GDP) is specified as a function of labor (L), capital (K), workers' remittances, and a technological factor or efficiency parameter (A) is very important function of economic growth.

IX. Empirical Review

Karikari, Mensah & Harvey (2016) sought to establish whether or not remittances promoted financial developments and explore the traceable causality between remittances and financial developments in some countries in Africa. The author examined the association between remittances received and how they affect the availability of credit to private sector, bank deposits intermediated by financial institutions and money supply. The study wanted to know whether the development in the financial sector causes higher levels or otherwise of remittances received using data on remittance flows to 50 developing countries in Africa from 1990 to 2011 to explore the nexus. The study uses fixed effects and random effect estimations as well as Vector Error Correction Model method on the panel data. The study shows that remittances promote certain aspects of financial development to some extent and better financial system foster receipts of remittances. The effect of causality is seen in the short run and not in the long-run. The study alludes to literature that increase the propensity to remit via formal channels.

Globally, many researchers have conducted studies on remittances and economic growth with little focus on its effect on the financial sector. Few of the studies investigated the economic growth and developmental role of workers' remittances in selected Sub-Saharan African (SSA) countries. Specifically, they have sought to determine the contributions of workers' remittances to output growth globally and regionally, analyzed the importance of workers' remittances to the level of domestic investment in form of capital inflows. Regardless of what has already been done in terms of study, scope, geographical spread, specification of variables and adoption of econometric methodology, there are many areas yet uncovered making this research necessary so as to fill the omitted aspect in this area of study. For instance, Ahoure(2009) study was related to the role of governance in the relation between remittances and economic growth in Sub-Saharan African countries, based on panel data over the period 2002-2006, a scope which cannot capture recent development in this area of study.

Githaiga (2014) determined whether remittances can stimulate private sector investment through lessening credit constraints facing households. The study targeted fifteen Sub-Saharan Africa countries for the period between 1982 and 2012. Data was collected from World Bank databases and analyzed through a fixed effect regression. The study found that remittances had a positive and significant effect of private sector

investment. The Study recommends; households should substitute bank credit for remittances, African governments should create a regulatory regime that allows for the free transfer and receipts of foreign remittance and the need for financial intermediation.

Bjuggren, Dzansi & Shukur (2010) studied the impact of remittances on investment. They stated that workers remittances to developing countries have grown to be an important source of financing, amounting to around \$300 billion a year. The funds are used for both consumption and investment in the home countries of the migrants. The importance of financial and institutional framework in the receiving countries and how they interact with remittances is stressed. Data on remittance flow to 79 developing countries during 1995-2005 is used. Dynamic panel data approach is applied for this purpose. The results reveal that remittances, high quality institutional framework and well developed credit market increase investment. However, it is also found that the marginal importance of remittances as a financial source for investment decreases with improved institutional framework and a more developed credit market.

Brown and Carmignani (2015) investigated the effect of remittances on bank credit in developing countries. Understanding this link is important in view of the growing relevance of remittances as a source of external finance and of the beneficial impact that financial intermediation is likely to have on economic growth. Our approach is essentially inductive and our contribution is twofold. First, we look at the evidence using a panel dataset for a large group of developing and emerging economies over the period 1960-2009. We find that at initially low levels of remittances, an increase in remittances reduces the volume of credit extended by banks. However, at sufficiently high levels of remittances, the effect becomes positive. The turning point of the relationship occurs at a level of remittances of about 2.5% of GDP, which would imply that approximately 50% of our sample lie to each side of this threshold. Second, we present a theoretical model that rationalizes this non-linear effect of remittances on financial development.

Yaya Kebo (2016) examined the impact of remittances on financial sector development in a panel of 19 developing countries. Contrary to previous studies that focus on mean effects, it uses quantile regression methodology to examine whether the effect of remittances on financial development is the same for less and more financially developed countries. The results point out that remittances promote financial development only in less financially developed countries. Further, the effect of income is positive and larger in less financially developed countries. Trade openness is positively related to financial development while inflation and urbanization are negatively related to it.

Githaiga and Kabiru (2014) studied the impact of remittances on financial sector development. Remittances sent across countries have increased enormously in the last three decades. For instance in 1980 remittances sent globally amounted to \$47 billion, \$102 billion in 1990, \$321 billion in 2010, \$529 billion in 2012 and \$550 billion in 2013. A significant portion of remittances are received in lump sum and channeled through financial institutions which increases bank deposits, revenue for banks through transaction costs and enabling households access other financial services. Data on remittances, financial sector development and the control variables for the 31 countries for the period between 1980 and 2012 was used. General Moment Method (GMM) was used to analyze the data. The results show that remittances have an adverse effect on domestic credit to private sector and foreign direct. However the study further found that impact of remittances on bank deposit was positive though statistically insignificant. The study concludes that remittances can support financial sector development if financial institutions are effective in converting deposits to credit.

Kunofiwa Tsurai (2015) investigated the causal relationship between personal remittances and economic growth using Israel time series data from 1975 to 2011. In a bid to contain the omission-of-variable bias not addressed in many past studies on this topic, this study included banking sector development as a third variable in the relationship between personal remittances and economic growth to create a tri-variate causality framework. Personal remittances as a ratio of GDP, domestic credit to private sector by banks as a ratio of GDP and GDP per capita were used as proxies for personal remittances, banking sector development and economic growth respectively for the purposes of this study. It used the Johansen co-integration test to examine the existence of the long run relationship and vector error correction model (VECM) to determine the direction of causality between personal remittances, banking sector development and economic growth both in the long and short run. The findings reveal that: (1) there is a significant long run causality relationship running from GDP per capita and banking sector development towards personal remittances, (2) there is an insignificant long run causality relationship running from personal remittances and GDP per capita towards banking sector development, (3) there is no long run causality relationship running from personal remittances and banking sector development towards GDP per capita and there is no short run causality relationship between the three variables that were under study in Israel. The author therefore recommends the authorities of Israel to speed up the implementation of banking sector development and economic growth programmes in order to increase the quantity of personal remittances inflows.

Iheke (2012) analyzed the effect of remittances on the Nigerian economy. The study employed secondary data covering the period 1980-2008. Results of the author's data analysis revealed that remittance

inflow has been on the increase over the past two decades. Also, remittances, per capita income, investment and time were positive and significant factors influencing output while consumer price index significantly influenced output negatively. Ukeje and Obiechina (2012) investigated the empirical impact of the workers' remittances on economic growth in Nigeria. They used a time series data, from 1970-2010 in an error correction methodology (ECM). From 2010 to 2015 is quite a long time in scope. This study by using the scope of 1980 to 2015 will fill the gap of latest development regarding the relationship between international remittance inflows and the growth of domestic economic in Nigeria. Most importantly, international remittances encompassed workers' remittances as Nigeria's experience depicts that some students send money to Nigeria, thereby contributing to Nigerian economy.

Nkoro and Uko(2012), examined the nature of causality between foreign capital inflows components and real GDP (economic growth) and also, the impact of foreign capital inflows on economic growth in Nigeria. The study looked at the dynamic interaction among aid, remittance, FDI and external debt and growth of the Nigerian economy using the concept of cointegration, variance decomposition and impulse response analysis and block exogeneity tests. The results of the cointegration test revealed that causal relationship exists between foreign capital inflows and economic growth in Nigeria. The study was more of forecasting by depicting that the shocks appeared to be very pronounced within the forecast period. Its block of exogeneity tests showed that the granger causality runs from remittance (RMC) and external debt (TED) to real GDP (growth) only. The study did not distinguish the foreign aid variables used. There are many types of foreign aids, such as technical assistance and overseas development assistance. This study will fill the gap by using overseas development assistance(ODA) as one of the control variable and by extending the timeframe to 2015.

Olowa, Awoyemi, Musediku, and Olowa(2013) stated that poverty in Nigeria is more prevalent in the rural sector due to dwindling and inequitable distribution of real income. They argued that remittances (money and goods sent by migrants to relatives back home) can be poverty reducing. They stated that poverty is reduced more when domestic, as opposed to foreign remittances are included in household income. For example, domestic remittances decreased Poverty Incidence(PI), Poverty Gap (PG) and Squared Poverty Gap (SPG) by 1.80%, 1.60% and 1.60% while 10% rise in foreign remittances reduced poverty incidence (PI), Poverty gap (PG) and Squared poverty gap (SPG) by 0.86%, 0.62% and 0.62% respectively in rural Nigeria. Olowa and Shittu (2012) concurred on the effectiveness of domestic remittance over the international remittance on reduction of poverty incidence, but argued that increase in the years of schooling increased inequality through domestic remittances and decreased inequality through international remittances. The result of their findings established a significant relationship between net remittance and economic growth, but at individual level, it provided immediate income for different households. While these studies treated a very important issue of remittance inflow, such as an instrument for poverty alleviation, they negated the most current study which looked at the international remittance inflows and the growth of domestic economy. Domestic economy encompasses household income and national economy as a whole. By using per capita gross domestic product, as dependent variable this study will capture the state of nation economy in Nigeria. 2015 as timeframe will fill the gap with updates in the current studies in the international remittance inflows and domestic economic growth.

Azuh, Fayomi and Ajayi (2015) examined the effect of remittances from Nigeria diasporas in Ghana using qualitative data approach (Questionnaire, chi square) to access how such remittances affect micro economic growth in Nigeria. While the above study is about Nigeria diasporas in Ghana, the current study is evaluating the general international remittance inflow to the country and will be useful to government in managing issues relating to remittance in the country.

Also, Okon, Akpan and Udoka (2014) studied the impact of international remittance on agricultural productivity in the country. While this study is focused on agriculture sector only, the current study considers the impact of remittance inflow in the entire economy in addition to updating the study to 2015. The present study which intends to investigate international remittance inflows and domestic economic growth with GDP growth rate as dependent on international remittance inflow, overseas development assistance, balance of trade, inflation, domestic credit to private sector, and exchange rate from 1980 to 2015 will fill the gap of the previous studies. More also, the scope of 1980 to 2015 will strategically capture the latest development in the study of international remittance inflows and domestic economy in Nigeria. The empirical literature captures the global, regional, sub-regional studies in the subject, depicting a comprehensive research when compared to the previous studies.

Esman, Misati, Kipyegon, Ndirangu (2012) investigated the role of remittances and financial development on economic growth in a panel of 36 countries in Africa over the period 1980–2009. It uses a panel econometrics framework and the main findings of the study are as follows: (1) Remittances appear to be an important source of growth for these countries in Africa during the period under study. (2) Volatility of remittances appears to have a negative effect on the growth of countries in Africa. (3) Remittances appear to be

working as a complement to financial development. (4) However, importance of financial development in boosting economic growth appears weak, at least among the countries under study.

Previous studies, such as Akinpelu (2013), Iheke (2012), Ukeje and Obiechina (2012), Omobitano (2012), Nkoro and Uko (2012), Olowa, Awoyemi, Musediku, and Olowa (2013) Azuh, Fayomi and Ajayi (2015), Osarens (2011), Okon, Akpan, and Udoka (2014) investigated remittance inflows and economic growth in Nigeria, however, this study identified gap in their studies as results of variables used for analysis, scope of studies, methodologies, econometric outcomes, and their theoretical reviews. More importantly, non of the previous study linked Cobb-Douglas Production Function and Markowitz (1999) theory to their studies, failing to capture Asset Pricing Model (CAPM) and output-remittance model of Neo-classical economic growth ideology.

X. Model Specification

The model adopted in this study is the finance – remittance framework explained through the capital asset pricing model(CAPM) which concurs with Markowitz (1999) which study the relationship between risks and returns, The CAPM is specified below;

$$\Sigma(R_i)_t = R_f + \beta_i (E(R_M))_{t-1} - R_f + \epsilon_t \tag{4}$$

where $\Sigma(R_i)$ is asset’s expected return, R_f is the expected excess return of the market portfolio’s expected return over the risk-free rate, β is beta which is the measure of asset sensitivity to movement in the overall market and $(E(R_M)) - R_f$ is the market premium, the expected excess return of the market portfolio’s expected return over the risk-free rate.

The model is modified and stated functionally below in order to contain the relevant variables in the study;

$$DCPS = f(IRIGWT, EXR, INFL, RGDP, ODAGNI)$$

Where, DCPS = Domestic Credit to Private Sector, IRIGWT= growth rate of international remittance inflow, EXR= Exchange Rate and INFL = Inflation, RGDP= Real Gross Domestic Product, ODAGNI= Official Development Assistance.

Equations above are presented in a linear form for estimation as follows;

$$DCPS_t = \alpha_0 + \alpha_1 IRIGWT_{t-1} + \alpha_2 EXR_{t-1} + \alpha_3 INFL_{t-1} + \epsilon_t \tag{7}$$

Where, RGDP, IRIGWT, ODAGNI, EXR, INFL and DCPS are as explained above; β_0 and α_0 = Constant term, α_1, \dots, β_4 = Regression coefficients of both dependent and independent variables specified; μ_t and ϵ_t = Error Term

PRESENTATION OF RESULTS

Unit Root Test

The Augmented Dickey-Fuller (ADF) statistic was employed to test for the existence of unit roots in the data using trend and intercept. Test result is presented below

Table 1: Augmented Dickey – Fuller Unit Root Test Result

Variables	Level	5% crt.val	Pall.	1 st diff	5% crt.val	Pval.
RGDP	-1.184539	-3.544284	0.8983	-10.64834	-3.548490	0.0000
IRIGWT	-2.476189	-3.544284	0.3371	-6.250958	-3.548490	0.0001
ODAGNI	-3.254943	-3.544284	0.7888	-5.430184	-3.548490	0.0005
DCPS	-2.118668	-3.544284	0.5180	-4.633705	-3.548490	0.0039
EXR	-2.159829	-3.544284	0.4961	-5.543668	-3.548490	0.0004
INFL	-3.050712	-3.544284	0.1337	-5.428573	-3.548490	0.0005

Sources: Author’s computation, 2017 using E view 9.0

The unit root test above showed that all variables are stationary at first difference, as indicated by the t- statistics and p values that are less than 0.05 (5%) level of significance as shown in the table below.

Table 2: Co integration Test

Unrestricted Co integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
DCPS *	0.912973	183.7749	95.75366	0.0000
IRIGWT *	0.672657	103.2044	69.81889	0.0000
RGDP *	0.647726	66.35178	47.85613	0.0004
ODAGNI *	0.437824	31.92136	29.79707	0.0280
EXR	0.319334	12.91532	15.49471	0.1180
INF	0.006668	0.220781	3.841466	0.6384

Trace test indicates 4 co integrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 From the model, the VECM test result is presented below as;

Table 3: VECM test result

	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-0.930569	0.117676	-7.907919	0.0000
D(DCPS(-1))	0.053623	0.128301	0.417949	0.6807
D(IRIGWT(-1))	0.032002	0.420607	0.076085	0.9401
D(RGDP(-1))	-0.024044	0.018977	-1.267018	0.2205
D(ODAGNI(-1))	-2.544597	0.711359	-3.577093	0.0020
D(EXR(-1))	-0.144842	0.042295	-3.424586	0.0028
D(INF(-1))	0.118157	0.037130	3.182240	0.0049
C	1.473188	0.813329	1.811307	0.0859
R-squared	0.854965	Durbin-Watson stat		2.064903
F-statistic	8.615629	Prob(F-statistic)		0.000020

The model of the study was introduced to enable the researcher evaluate the research hypothesis aimed at understanding the influence of international remittance inflows on the growth of credit to private sector in Nigeria. The error correction term met the required conditions. Inverse result of ECM satisfied one condition and the P-value [0.0000] < 5% [0.05] critical value satisfied another condition of been statistical significant. Result of ECM with the coefficient of (-0.930569) indicated that the speed of adjustment amid the short run dynamics and the long run equilibrium is 93%. Thus, ECM will adequately act to correct any deviations of the short run dynamics to its long-run equilibrium by 93% annually.

Computed coefficient of multiple determination (R^2) value of 0.854965 showed that 85% of overall variation in domestic credit to private sector (DCPS) is accounted for by the explanatory variables: international remittance inflows (IRIGWT), real gross domestic product (RGDP) overseas development assistance (ODAGNI) exchange rate (EXR) and inflation (INF) while 15% of the changes in domestic credit to private sector can be attributed to other factors not included in the regression equation. F – Statistics = 8.615629, with p value of 0.000020 which is less than 0.05 shows that explanatory variables jointly influence dependent variable significantly. Result of DW which stands for Durbin Watson is used to determine if there is autocorrelation among residuals, since the DW has the value of 2.06; it indicates the absence of auto correlation among the residuals.

XI. Test Of Hypotheses

International remittance inflows to an extent do not contribute significantly to the growth of credit to the private sector in Nigeria.

Decision rule: if the probability value of the t-statistics in VECM for IRIGWT is less than 5% benchmark the null hypothesis is rejected.

From the VECM result presented above, the p value of International remittance inflows (IRIGWT) is 0.6807 which is greater than 0.05. The study therefore accept the null hypothesis and concludes that International remittance inflows to an extent do not contribute significantly to the growth of credit to private sector within the period of the study.

XII. Implication Of Result

The result of VECM showed a positive insignificant relationship between international remittance inflows and domestic credit to private sector in the short run within the period under consideration with a t-statistics of 0.053623 and p-value of 0.6807. This implies that though the contribution of international remittance to the growth of credit to private sector is positive, the impact is not felt in the economy. A possible explanation to this outcome could be the manner international remittance is transmitted to the recipient economy. Evidence suggest that most international remittance does not pass through the official channel for fear of being taxed hence avoiding the financial sector and even when the fund is received, most recipients after the process of currency conversion tend to spend their money directly. The financial sector in most cases is avoided in the transmission process and consequently denied the necessary impact this would have created in the creation of credit to the private sector of the Nigerian Economy. However, from the upper chamber of the VECM ,

international remittance inflow indicated a negative relationship with domestic credit to private sector in the long run, implying that it does not contribute to growth in credit to private sector in the long run.

In view of the above findings, the study makes the following recommendations;

- i. The federal government should adopt strict policy measures to regulate international remittance inflows to Nigeria by ensuring proper investment of greater percentage of all remittances. This can be done by insisting that all remittance above certain level be accompanied with an investment plan or properly taxed.
- ii. In order to encourage remittances passing through the official channel, the Central Bank of Nigeria should ensure that transaction cost of international remittance inflows are kept very minimal.

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