Capital inflows, financial development and poverty reduction in Nigeria

Fagbemi, Fisayo and Olufolahan, Toyin

Department of Economics, Obafemi Awolowo University, Ile –Ife, Nigeria

3 February 2019

Capital inflows, financial development and poverty reduction in Nigeria

Fisayo Fagbemi* and Toyin Joseph Olufolahan
Department of Economics, Obafemi Awolowo University, Ile –Ife, Nigeria
Corresponding author: fisay4real@yahoo.com (F. Fagbemi)

Abstract

This paper examines the joint effect of capital inflows and financial development on poverty reduction in Nigeria between 1980 and 2017 using ARDL bound test and Granger causality test based on Vector Error Correction Model (VECM). As capital inflows involved three subcategories (FDI, portfolio investment and remittances), the paper assesses all three in turn. Empirical results indicate that the interaction term of capital inflows and financial development reflects a significant decrease in poverty headcount in the long run as well as in the short run, underlining that the indirect role of both capital inflows and financial deepening in poverty-reducing channel is paramount. The findings underscore the view that capital inflows and financial development could jointly strengthen the means to reinforce incentive and inclusive structures for the extension of credit to innovative small enterprises or individuals, and thereby accentuating poverty-reducing effect. Further evidence reveals that the causal direction between capital inflows, financial development and poverty alleviation is unidirectional, which runs from both foreign capital inflows and financial deepening to poverty level. Hence, the study suggests that ensuring that financial sector development coincides with rising inclusiveness and rates of capital inflows is critical for improved performance and poverty alleviation drive in Nigeria.

Key words: Capital Inflows, Financial Development, Poverty Reduction, ARDL, Nigeria

1.0 Introduction

The mainstream conjecture that investment through capital inflows will have positive and crucial development paybacks predicated efforts geared towards inducing foreign capital inflows across developing economies. The contemporary policy trend in developing countries is a reflection of this plausible assertion. It has been advocated in the empirical literature that these flows of capital are beneficial to developing economies owing to their potential salutary effect on economic performance (Adams, 2009; Goldberg, 2004). Although, few studies have questioned and negated the growth and development gains linked with such flows anchored on the premise that foreign investment rates are very poorly associated with job creation and poverty reduction (UNCTAD, 2005; Rodrik and Subramaniam, 2008; Bhinda and Martin, 2009), the dominant view has been the productivity – enhancing impact. The optimistic side views foreign capital inflows as a path that offers the framework for increasing total factor productivity and, in general, the efficient utilisation of resources in the recipient economy (OECD, 2002; Chor et al., 2008). In addition, in the literature, economic development is engendered by rising access to financial instruments (financial inclusion) which induces savings, productive investment and eases the transfer of capital (funds) from abroad, and thus lead to reduced poverty, fall in the level of inequality and improved private investment (Beck, et al., 2007; Demirgüç-Kunt et al., 2011). Accordingly, capital inflows and financial deepening strengthen the means to reinforce structural economic transformation and effective industrial structure for broad – based growth and poverty alleviation.

Considering the preceding salient insights, developing countries, in particular Nigeria, appear to sustain and revitalize global development initiatives for attracting foreign capital inflows and engendering improved access to financial services to alleviating poverty. With efforts made to boost domestic investment and enhance financial sector development in Nigeria, which began in the 1980s with the introduction of structural adjustment programmes (SAPs), the recent statistical report reflects a rise in the level of foreign investment in the country. According to UNCTAD 2018 World Investment Report, FDI Inward Flows (million USD) to Nigeria were put at 3.06 and 4.45 in 2015 and

2016 respectively. With respect to policy measures for enhancing access to financial credit, since 2001, a persistent increase in microfinance credit has accompanied the establishment of microfinance banks mostly at the local level, although only 36% out of the total population has an online bank account (World Bank, 2017). In spite of these multidimensional approach and policy intervention strategies (the launching of a consortium of poverty alleviation schemes), the rate of poverty in Nigeria is quite alarming as the country seems to be "the poverty capital of the world" based on the current world poverty statistics (Brookings Institution, 2018).

Given persistent mass extreme poverty in Nigeria, the assessment of the foremost goal of the Millennium Declaration (i.e. to eradicate extreme hunger and poverty) remains crucial. With extreme poverty in Nigeria rising by six people every minute, compared to India's 73 million, Nigeria has the highest rate of extreme poverty in the world with about 87 million extremely poor people (Brookings Institution, 2018). In economic and social terms, the country could be regarded as one of the leading retrogressive developing states of the world. As a consequence, attaining the first goal of the United Nations' Sustainable Development Goal (SDG), which is ending extreme poverty, appears to be somewhat difficult. Indeed, Nigeria's case is pulling in massive agitation and debate.

The contribution of capital inflows and financial deepening to poverty reduction may not be as significant and positive as expected in developing countries owing to some certain reasons. For instance, these economies tend to over rely on highly unstable private capital inflows (unpredictable investment sources), it has been advocated that through various channels, poor households could suffer more from such a high level of vulnerability than the non – poor households (Calvo et al., 1994; Son and Kakwani, 2006). Another line of argument, given the set of earlier empirical studies collected by Hulme and Mosley (1996), is that poor households do not often benefit from financial credit expansion; it is only non-poor people usually with income above poverty line (i.e. non - poor borrowers) who can do better with financial credit (mostly micro – loans) would enjoy ample positive impacts. Although few studies on Nigeria corroborate the assertion that inflows of foreign capital do not have a significant effect on welfare (Akinmulegun, 2012; Ogunniyi and Igberi, 2014), many studies on developing countries including country – specific studies contradict this proposition. Magombeyi and Odhiambo (2017); Soumare (2015); Fowowe and Shuaibu (2014); Gohou and Soumare (2012) provide evidence that between net FDI inflows and improved welfare there exists a strong and positive relationship. Also, in exploring the extent to which microfinance institutions aid the alleviation of poverty, Okpara (2010) posits that the persistent rise in microfinance credit causes a drastic reduction in poverty index. However, no known study explores the joint effect of capital inflows and financial development on poverty reduction in Nigeria. With alarming poverty rate in Nigeria and ever – increasing want of consensus among researchers, few cardinal questions that seem to be inadequately addressed are: a) what is the central cause of escalating poverty level in Nigeria? b) What is the significant welfare benefit arising from foreign capital inflows and improved financial access in Nigeria? c) What is the joint effect of capital inflows and financial development on poverty reduction?

Looking at the divergence in the literature, furthering our understanding of the relationship between capital inflows, financial development and poverty reduction is, thus, fundamental. And as the interaction effect of capital inflows and financial deepening on poverty reduction is largely under – researched, based on the authors' best knowledge, the paper is the first empirical study to assess this exclusively on Nigeria. Hence the key objective of this study is to investigate the short run, long run and causal relationship between the interaction term – capital inflows and financial development – and poverty reduction in Nigeria. The use of ARDL bound test and Granger causality test based on Vector Error Correction Model (VECM) is yet another significant novelty that the present study develops on the capital inflows – financial development - poverty debate in Nigeria. While known no study has applied this approach regarding the topical issue for Nigeria, it is expected that the technique will aid the elimination of the problem often related with short time series data. Since economic policy-making is instrumental in facilitating positive development outcomes and poverty alleviation, the study sets out to offer guidance for policymakers in championing optimal investment measures and improved financial access for reducing poverty.

The remainder of the study is structured as follows. The immediate section covers the review of the literature. Section 3 describes the set of data and elucidates the methodological approach. Section 4 contains the presentation of results and discussion, and the last section gives concluding remarks.

2.1 Theoretical review

2.1.1 Capital inflows – poverty reduction nexus

The theoretical link between capital inflows and poverty reduction has been surrounded with much divergent views as conflicting propositions continue to gain prominence in the literature. In an effort to elucidate the possible impact of capital inflows (mostly FDI inflows) on poverty reduction, two categories of scholars have predominantly emerged, which include the optimist and pessimist. The optimistic group supports the positive contribution of FDI to poverty reduction. This group is of the view that the benefits of capital inflows could be attained through spillover effects, an increase in investment capital, and employment creation (Meyer 2004; Gorg and Greenaway 2004). On the other hand, the pessimistic view anchors their argument on the dependency theory which covers a negative or insignificant effect of FDI on poverty reduction (Dutt, 1997; Eller, Haiss and Steiner, 2005). This theory explains the underdeveloped nature of developing countries and how the state of their development results in rising poverty. The pessimists buttress their proposition with the notion that in the country that makes investment climate overcrowded, FDI may be unnecessarily overflow investment, and thus results to inflation in the recipient country's interest rate.

In the literature, nonetheless, spillover effects are divided into two; namely horizontal and vertical spillover effects. Horizontal spillover effects result from nonmarket and non-contractual transactions, in which external parties (i.e. domestic firms) benefit from the foreign firms' resources (Meyer, 2004). These spillover effects are regarded as externalities which are predominantly occur in an intra-industry setup (Meyer, 2004). This process takes place through the technology transfer from foreign firms to local firms in the same level or line of operation but with their technological sophistication operating level differs (Falore and Winkler, 2012). Such Knowledge spillover emanates from labour movement and demonstration effects — arising from local firms that adopt or imitate the innovative approach of foreign firms (Wang and Blomstrom, 1992; Gorg and Greenaway, 2004; Meyer, 2004). In contrast, where inter-industry relations are established and taking place, vertical spillover effects result from product and consumer surplus (Meyer, 2004). Through the interaction between the foreign subsidiary and local economic agents in the recipient country, vertical spillover effect are realised. Vertical spillover is comprised of backward and forward linkages (Sumner, 2005; Liu et al., 2009). Overall, these processes could lead to an increase in investment capital and employment creation, and thus induce poverty reduction.

2.1.2 Financial development – poverty reduction nexus

The nexus between financial development and poverty reduction has been anchored on certain theoretical premise and conjecture, specifically regarding developing countries. It is of common knowledge that in developing countries, access to formal financial services by the poor is fraught with difficulties. This often forces them to depend instead on a narrow range of usually unconducive and more expensive and risky informal financial services, which constrain them from fully participating in market activities and contributing to economic development.

The pioneer work of Keynes (1937) based on the "motive of finance" for money demand has been linked to the channels through which the poor benefit from formal financial intermediation (services). In 1973 when McKinnon presented the "conduit effect", this theoretical assertion was revisited. It is built on the assumption that the poor who engage in self – financing investment enhance savings through the provision of profitable financial opportunities despite the fact that financial institutions fail to offer them credit. The discussion on the impact of financial sector on the economy is further raised by both McKinnon (1973) and Shaw (1973) as both theories emphasis on related implications and influence of financial sector development. Nonetheless, in the models on the nature of money, their assumptions differ. Premising on the financial liberalisation theory, they are of the view that financial repression, which means the distortion of financial prices. This distortion involves the real size of the financial system reduces by interest rates in relation to non-financial system, which in turn retards real rate of economic growth (McKinnon,1973; Shaw, 1973). Fundamentally, their proposition is rest on the conjecture that there exists a positive relationship between interest rates and economic growth, and growth tends to be retarded by low interest rates. At early stage of repression, the nominal interest rate, in terms of administration, fixed and hence the real rate is being kept below the equilibrium level. This argument is anchored on the common notion that developing countries often face with financial repression. They posit that the liberation of these economies from their repressive states would enhance savings, investment and growth, and thus positively affect poverty reduction.

Moreover, give the much elaborative analysis on the channels (credit or money) termed as the "conduit effect" — the medium through which the poor gain from formal financial services, as a consequence, in view of the instrumentality of financial deepening, the McKinnon-Shaw hypothesis is seen as the basis and foundation for poverty reduction. However, Wijnbergen (1983) model faults their conclusion. In negating their assertion, Wijnbergen (1983) stresses that, in the short run, raising interest rate may not induce increased investment and productivity neither decrease inflation. Giovannini (1983) and Sikorsky (1996) further challenged the tenability of McKinnon (1973) and Shaw (1973) proposition as they seem not to have given elaborate view on the workings and operations of the banking systems across developing countries.

2.2 Empirical review

The empirical evidence on the influence of capital inflows and financial inclusion on poverty reduction in developing economies mostly points to divergent views as the results are mixed. The few studies on this central subject have resulted to diverse conclusions. While some studies stress that both capital inflows and financial inclusion are found to worsen poverty, others conclude that they reduce poverty, and yet others posit that capital inflows and financial inclusion have insignificant impact on the level of poverty in most countries. Hence, these form and shape the discussion of this section.

2.2.1 Capital inflows (FDI, portfolio investment and remittances) and poverty reduction

Beginning with studies on the impact of FDI on poverty reduction, in view of a survey of literature, Magombeyi and Odhiambo (2017) focus on the direct impact of FDI on poverty reduction. They overwhelmingly support the notion that FDI have a positive impact on poverty reduction, while from one sample to another, there are vary magnitudes of the effect. In another study, using pooled data from 1981- 2011, Fowowe and Shuaibu (2014) examine the effect of FDI on the poor in a sample of 30 African countries. Based on the Generalised Methods of Moments (GMM) and with World Bank poverty headcount used as a proxy for poverty. They conclude that FDI is good for the poor. In addition, poor countries with a high case of poverty, positive impact of FDI on poverty reduction tends to be high. These findings is also in consonance with the work of Gohou and Soumare (2012) conducted on a sample of 52 African countries between 1990 and 2007 in addressing the same topical subject. Regarding developing countries in particular, using unbalanced panel analysis over the period of 1990 – 2009 and with a sample of 26 developing countries, Ucal (2014) assesses the impact of FDI on poverty. The author also confirms the rising notion that FDI leads to reduced poverty in selected countries, thus underscoring that FDI plays a crucial role in decreasing poverty in these countries. Bharadwaj (2014) using a panel regression analyses the effect of FDI on poverty in 35 developing countries (1990 – 2004). In the study, FDI represents globalisation, while poverty was measured using the headcount ratio and poverty gap. The author's findings indicate that FDI is inversely related to the headcount ratio, underlining the beneficial impact of FDI on poverty reduction.

In studies exclusively based on Nigeria, using time series data, Israel (2014) examines the impact of FDI on poverty reduction in Nigeria, and with the use of poverty headcount as a proxy for poverty reduction between 1980 and 2009. The author posits that FDI positively impacts poverty reduction. Analogously, Omorogbe et al (2007) employing ordinary least squares technique assess the impact of FDI on poverty reduction in Nigeria. With per capita GDP serves as poverty proxy, their findings indicate that FDI positively induces per capita GDP in Nigeria. In contrast, based on Vector Autoregression over the period of 1986 – 2009, Akinmulegun (2012) analyses the effect of FDI on welfare in Nigeria. The study offers evidence that FDI does not have a significant effect on welfare. Also in line with this empirical claim, while using Ordinary Least Squares approach and per capita GDP as a proxy for poverty, Ogunniyi and Igberi (2014) show that between 1980 and 2012 in Nigeria there exists an insignificant relationship between poverty reduction and FDI.

A number of studies have also been conducted in some countries other than Nigeria. For instance, choosing HDI and GDP per capita as proxies for welfare, Soumare (2015) using dynamic panel data regression and Granger-causality investigates the relationship between FDI and welfare in Northern Africa between 1990 and 2011. The author stresses that between net FDI inflows and improved welfare there exists a strong and positive relationship. Zaman et al. (2012) using the Ordinary Least Squares (OLS) examine the relationship between FDI and poverty in Pakistan over the period of 1985 – 2011. Adopting headcount as a proxy for poverty, they conclude that FDI positively influences poverty

reduction at the national, urban and rural levels. In a similar study, while applying an Autoregressive Distributed Lag (ARDL) approach as poverty headcount serves as a proxy for poverty, Mahmood and Chaudhary (2012) study the contribution of FDI to poverty reduction in Pakistan (1973 – 2003). They also validate the growing view that FDI leads to reduced poverty in Pakistan. Other studies such as Shamim et al. (2014) for Pakistan (1973 - 2011), Uttama (2015) for ASEAN countries (1995 - 2011) and Calvo and Hernandez (2006) for Latin America (1984 – 1998) similarly corroborate the decreasing effect of FDI on poverty. On the other hand, Huang et al. (2010) for 12 East and Latin American countries (1970 – 2005) and Ali and Nishat (2010) for Pakistan (1973 – 2008) posit that FDI does not in any way reduce poverty. Regarding the effect of portfolio investment on poverty reduction, according to OECD (2012), in a highly uncertain economic climate (region) like Africa, portfolio investment seems to have minimal impact on poverty reduction.

In ascertaining the role of remittances in poverty reduction measures, a number of empirical studies observe that remittances – led poverty reduction. A study by Adams and Page (2005) conducted on 71 developing countries with the use of panel data analysis revealed that remittances and migration serve as critical element and mechanism for alleviating the level, severity and depth of poverty. In another way, Gupta et al. (2009), in their study, observe that remittances, in form of a private transfer nature and which are stable, influence poverty reduction in sub – Saharan African (SSA) countries. This empirical view is also in line with Anyanwu and Erhijakpor (2010) study on 33 African countries. Further study by McKay and Deshingkar (2014) using secondary data extracted from household surveys examine the effect of internal remittances on poverty in 4 African (South Africa, Rwanda, Nigeria and Uganda) and two Asian (Viet nam and Bangladesh) countries. The authors corroborate remittances‐led poverty reduction hypothesis. Similarly, from the United States and in view of data from a nationally representative household survey, Adams (2004) with a focus on internal and international remittances on poverty in Guatemala asserts that remittances inflows better influence the severity of poverty reduction compared to the poverty level in Guatemala. Using another approach based on literature review, while giving attention to developing countries, Adams (2011) also observed that international remittances significantly lead to poverty alleviation and improved health levels in these countries. However, negating theoretical propositions, the study indicates that international remittances adversely affect education, economic growth and labour supply in developing countries.

Also, on developing countries, Serino and Kim (2011) using quantile regression analysis based on panel data between 1981 and 2005 investigate the influence of international remittances on poverty. Accordingly, international remittances are found to induce poverty reduction in developing countries, while among the worst off groups the effect is viewed to be more pronounced. In more recent work, Azam et al. (2016) assess the role of foreign remittances in poverty alleviation focusing on 39 high, middle and lower income countries employing the panel fully modified ordinary least squares (FMOLS) between 1990 and 2014. Although across all countries studied, foreign remittances are noted to induce poverty reduction, the positive influence of foreign remittances on poverty reduction is only found to be statistically significant in high‐income countries. In somewhat related argument, Chakra and Leon‐Gonzalez (2012) stress that the effect of remittances on inequality and poverty depends on certain prevailing conditions.

In light of country – specific studies, following the study of Waheed et al. (2013), the severity and level of poverty in rural areas of Nigeria are observed to be decreased by both domestic and foreign remittances. Further evidence noted that, compared to foreign remittances, domestic remittances contribute more towards reducing poverty in rural areas of Nigeria. In line with this evidence, Odozi et al. (2010) using living standard survey data explore the effect of remittances on inequality and poverty in Nigeria. During the period under study, they found that remittances induce inequality and poverty reduction in Nigeria. In Ghana, Adams JR and Cuecuecha (2013) assess the effect of internal and international remittances on investment and poverty. Their findings confirm growing assertion that remittances could induce decreased poverty and facilitate investment across levels in developing countries. In addition, Antwi, Mills and Zhao (2013) examine the effect of workers' remittances on poverty reduction and discover that, via rising income, soothing capital bonds and facilitating consumption of the poor, positive effect of such remittances on poverty reduction. Studies that also support the positive effect of remittances on poverty reduction in other countries include; Wouterse (2010) based on four villages of Burkina Faso with use of Gini and concentration co‐efficient decomposition approach, Beyene (2014) for Ethiopia using urban household survey data, Qayyum et al. (2008) for Pakistan (1973-

2007) employing Autoregressive Distributive Lag (ARDL) and Hatemi-J and Salah Uddin (2014) for Bangladesh using granger causality test.

2.2.2 Financial development and poverty reduction

In the quest to alleviate poverty, many studies explore the role of financial development in poverty reduction. Beginning with the work of Honohan (2004), evidence indicates that financial depth is adversely associated with headcount poverty. The causal condition of this relationship was examined by Perez-Moreno (2011) who stresses that headcount poverty may be reduced by financial development, although in view of certain caveats resulting from the findings. For instance, the type of the financial development indicator employed mostly determines the results and the sensitivity of results to time periods under studied. Accordingly the author reveals that there is more supportive evidence that finance induces poverty reduction when liquid liabilities to GDP is used as an indicator of financial deepening than when credit to the private sector is employed. Similarly, Beck et al. (2004), using panel data for 58 developing countries between 1980 and 2000, assert that financial development reduces poverty more than its impact on aggregate growth. By disproportionately enhancing the income of the poor, the authors confirm that countries with well-developed financial intermediaries experience faster reduction in both income inequality and poverty. In another study centers on financial access conducted by Mookerjee and Kalipioni (2010), the link between financial access and income inequality is examined. In the study, findings show a negative and significant relationship between bank branch expansion and the Gini coefficient.

With a plethora of poverty measures representing dependent variables, Donou-Adonsou and Sylwester (2016) offer evidence that poverty could be reduced by financial sector development in view of both depth measures of informal and formal financial sector variables. Although both measures contribute to poverty decline, the impact of the informal sector is weak compared to formal banking sector. Perhaps owing to data availability, in comparison with those on financial deepening, studies assessing the effect of financial access on the poor are quite few. In a more recent study, Rewilak (2017) examines whether financial development brings about poverty reduction using private credit and broad money as measures of financial development and separate it into four categories. With the emphasis on Eastern European economies, Latin American and sub-Saharan African countries (2004 - 2015), the author posits that both greater physical access and financial deepening are beneficial and conducive for the reduction in the proportion of people below the poverty line. Using panel data for a sample of developing countries (1966 – 2000), Jeanneney and Kpodar (2011) analyse how financial development aids poverty reduction indirectly through economic growth and directly through the McKinnon conduit effect. Their findings confirm that the poor gain from having access to financial intermediary services, although the gain may be limited by financial instability. However, overall, the benefit of increased access to financial services usually outweigh the cost. Fowowe and Abidoye (2011) assess the effect of financial development (as measured by private credit) on the growth of inequality and poverty in sub-Saharan African countries. The authors confirm that private credit does not significantly influence poverty reduction in the region.

In country – specific studies, based on India, Burgess and Pande (2005) offer a comprehensive study. The authors explore the effect of the Indian Social Banking Experiment, for every bank branch opened up in a previously served area, the Bank of India decreed that an institution had to open four branches in presently unserved areas. The effect on poverty seemed to be dramatic as the rural headcount decreasing by 14–17 percentage points. Thus, rural savings accounts, in particular, increased by over 100 million and notably rural loan accounts by 25 million. On whether access to banking services can reduce poverty, through a State-wise Assessment in India, Bhandari (2009) examines the drive towards financial inclusion in view of the increase in bank accounts of designated commercial banks and changes in the population of people below poverty line. The findings show that, across states, the increase in bank accounts is not significantly related with the decrease in below poverty line population. The author posits on the premise that offering banking services to a huge number of people is not the effective tool for poverty reduction measure. A study on Nigeria by Okpara (2010), investigates the extent to which microfinance institutions aid the alleviation of poverty. The author's findings identify two phases through which the effect of micro finance could be explained. The first phase, regarded as the take-off stage, with increasing microfinance credit, views poverty as increasing at a decreasing rate. In the second phase, starting from year 2001 precisely, the persistent rise in microfinance credit causes a drastic reduction in poverty index. Thus, at presence, microfinance credit reduces poverty in Nigeria. There are several other studies that also underscore the positive impact of access to financial services on poverty reduction. The studies

include; Odhiambo (2009) for Kenya (968-2006), Quartey (2008) for Ghana and Geda et al. (2006) for Ethiopia (1994 – 2000).

In all, in line with the preceding review, there is a growing trend of divergent conclusions in addition to the scant efforts on the linkage between capital inflows, financial sector development and poverty alleviation in Nigeria. In a nutshell, the nonexistence of the empirical assessment of the dynamic interaction between foreign capital inflows – financial deepening – poverty nexus could account for the paucity of the comprehensive outlines of policy options available in any economy. In essence, since having an inclusive understanding of this link is central to attaining the Sustainable Development Goal (SDG) of ending extreme poverty by 2030, want of detailed expositions on the joint impact of capital inflows and financial development on poverty reduction may give rise to suboptimal performance and in turn, accentuate unattainable policy goal (poverty alleviation). Hence, the paper's findings could help offering adequate and comprehensive policy options crucial for alleviating poverty in Nigeria.

3. Data and methodology

3.1 Data

The study uses time series data set between 1980 and 2017. The scope encompasses the period when key policy reforms were introduced — such as Structural Adjustment Programmes (SAPs) and the Millennium Declaration — to boost domestic investment, strengthen financial access, reinforce structural economic transformation and alleviate poverty. Three capital inflows measures are employed: foreign direct investment (FDI), net inflows (% of GDP), portfolio investment and personal remittances, received (% of GDP). FDI represents net inflows — new investment inflows less disinvestment — in the reporting economy from external (foreign) investors (% of GDP). Personal remittances, received (% of GDP) consist personal transfers and compensation of employees, while portfolio investment captures transactions in equity and debt securities. The financial development indicator used is: credit to private sector (% of GDP). The ratio to GDP of the value of financial credits granted by financial intermediaries to private sectors is commonly used in the literature as it is mostly available for developing countries over a long period time. By excluding financial credit to the public sector, it has the advantage of channelling funds (financial resources) to productive agents and perhaps to the poor (Jeanneney and Kpodar, 2008). The measure of poverty levels used in the study is: Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population) — % of the population living on less than $1.90 a day at 2011 international prices). This is the most widely used measure of poverty level. For instance, Osemene (2005); Akpan and Orok, (2009); kale, (2012) among others used poverty headcount ratio in their respective studies.

The significance of economic growth to the attainment of the goal of poverty alleviation is widely advocated in the literature (Nafziger, 2006; Ravallion and Chen, 1997; Deininger and Squire, 1998). Hence, GDP per capital is included in the model to reflect the influence of economic growth on poverty reduction. Following the study of Chakraborty (2010), it is assumed that the savings ratio (s) is affected by inflation (INF). And there seems to be a consensus that inflation tends to cause risen poverty level (Easterly and Fischer, 2001). As such, inflation, consumer prices (annual %) is introduced in the model. While data on poverty headcount index were obtained from both Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicators (2018 Edition), other data used were sourced from World Development Indicators (2018 Edition).

3.2 Methodology

Considerable theoretical evidence on the capital inflows – financial inclusion – poverty nexus demonstrated in the previous section informed the model formulation. Hence, the updated version of the model of Beck, et al. (2007); Meyer (2004); McKinnon (1973); Shaw (1973); Eller et al., 2005 is specified in a functional form as follows;

$$POV = \mathrm{f}(CFLOW, FIN, FLW * FIN, GDP, INF) \quad (1)$$

In this model (Eq.1), POV is the measure of poverty. $CFLOW$ represents the capital inflows. Financial development is represented by FIN. $FLW * FIN$ indicates the interaction term of foreign capital inflows and financial deepening, while GDP & INF are the control variables: economic growth and inflation rate respectively.

Following the study's objective, Autoregressive Distributed Lag (ARDL)[1] bounds test approach developed by Pesaran et al. (2001) is adopted. Other than other cointegration techniques, this approach is more appropriate given its considerable advantages. For instance, like in the estimated model, it is mostly well applicable for small sample size. In addition, for the regressors, whether they are I (0), I (1) or mutually co-integrated, ARDL is tenably applicable. However, in case of I (2) and above, it is considered inappropriate. Hence, the ARDL model is specified as:

$$\Delta POV_t = \theta_0 + \sum_{i=1}^{n} \theta_{1i}\, \Delta POV_{t-i} + \sum_{i=1}^{n} \theta_{2i}\, \Delta CFLW_{t-i} + \sum_{i=0}^{n} \theta_{3i}\, \Delta FIN_{t-i} + \sum_{i=0}^{n} \theta_{4i}\, \Delta (FLW * FIN)_{t-i} + \sum_{i=0}^{n} \theta_{5i}\, \Delta GDP_{t-i} + \sum_{i=0}^{n} \theta_{6i}\, \Delta INF_{t-i} + \theta_7 POV_{t-1} + \theta_8 CFLW_{t-1} + \theta_9 FIN_{t-1} + \theta_{10}(FLW * FIN)_{t-1} + \theta_{11} GDP_{t-1} + \theta_{12} INF_{t-1} + \varepsilon_t \quad (2)$$

The difference operator is indicated by Δ ; ε is the white noise error term while t represents the time period.
Two steps are involved for the test of the cointegration association between the dependent variable (POV) and the explanatory variables. First step, through ordinary least squares (OLS) technique, Eq. (2) is estimated. In the second step, by tracing the evidence (existence) of cointegration with the placement of restriction on the whole estimated coefficients of the lagged level variables in that they are set (equal) to zero; such that null hypothesis — $H_0 : \theta_7 = \theta_8 = \theta_9 = \theta_{10} = \theta_{11} = \theta_{12} = 0$ against the alternative hypothesis — $H_1: \theta_7 \neq \theta_8 \neq \theta_9 \neq \theta_{10} \neq \theta_{11} \neq \theta_{12} \neq 0$. If the computed F – statistics is less than lower bound critical value, we do not reject the null hypothesis of no integration. However, if computed F – statistics is greater than upper bound critical value, we reject the null hypothesis; in this case, between the variables in the estimated model, steady state equilibrium is said to exist. Nonetheless, if the computed value is within the bound, the result will be termed as inconclusive. When the long-run correlation exists among the variables, error correction representation is present. Hence, through the estimated equation, the Error Correction term is obtained and then, the short-run dynamics is assessed by estimating the Vector Error Correction Model (VECM) (Akinlo and Akinlo, 2009). In at least one direction, there is Granger causality as implied by the existence of cointegration, but it does not reveal the direction of causality (Engle and Granger, 1987). The causality relationship between $FLW * FIN$ and poverty reduction is, therefore, investigated by conducting the Granger causality test through the VECM framework; which can be expressed as;

$$\Delta POV_t = \partial_0 + \sum_{i=1}^{k1} \gamma_{1i}\, \Delta POV_{t-i} + \sum_{i=0}^{P} \gamma_{2i}\, \Delta CFLW_{t-i} + \sum_{i=0}^{P} \gamma_{3i}\, \Delta FIN_{t-i} + \sum_{i=0}^{P} \gamma_{4i}\, \Delta (FLW * FIN)_{t-i} + \sum_{i=0}^{p} \gamma_{5i}\, \Delta GDP_{t-i} + \sum_{i=0}^{P} \gamma_{6i}\, \Delta INF_{t-i} + \mu_i ECT_{t-1} + \varepsilon_{1t} \quad (3)$$

$$\Delta (FLW * FIN)_t = \vartheta_0 + \sum_{i=1}^{k2} \vartheta_{1i}\, \Delta (FLW * FIN)_{t-i} + \sum_{i=0}^{P} \vartheta_{2i}\, \Delta POV_{t-i} + \sum_{i=0}^{P} \vartheta_{3i}\, \Delta CFLW_{t-i} + \sum_{i=0}^{P} \vartheta_{4i}\, \Delta FIN_{t-i} + \sum_{i=0}^{p} \vartheta_{5i}\, \Delta GDP_{t-i} + \sum_{i=0}^{P} \vartheta_{6i}\, \Delta INF_{t-i} + \omega_i ECT_{t-1} + \varepsilon_{1t} \quad (4)$$

The speed of adjustment to equilibrium and long-run relationship are captured by ECT. On the other hand, $\Delta POV_{t-i,}\ \Delta CFLW_{t-i,}\ \Delta FIN_{t-i,}\ \Delta FLW * FIN_{t-i,}\ \Delta GDP_{t-i,}$ & ΔINF_{t-i} represent the short-run dynamics of the model. Notably, there should be negative significant coefficients (μ & ω) of ECT. It has been demonstrated that after a shock in the short-run, the negative sign of ECT coefficients implies that the dependent variable adjusts back to its equilibrium value (Akinlo and Akinlo, 2009; Fagbemi and Ajibike, 2018b). This shows the long run causal effect, and there is bi-directional causality between $FLW * FIN$ and poverty, if both (μ & ω) coefficients are statistically significant. However, unidirectional causality is said to exist if only one coefficient is negative and significant.

[1] For more detailed elucidation on the application and merits of ARDL, one may follow the work of Pesaran et al. (2001); Vita and Abbot (2002); Narayan and Narayan (2005); Squalli (2007) among others.

4. Empirical results and discussion

As shown in Table 1, the empirical analysis involved the test of unit roots in the models based on Augmented Dickey -Fuller (ADF) and Phillips-Perron (PP) unit root test. The appropriateness of the techniques applied is justified as no variable found to be I(2) or above. This underpins the tenability of ARDL bounds tests approach in the study. In addition, following the bound test for ascertaining the cointegration relationship in Table 2, based on the computed F – statistics, there is strong evidence for the existence of long run cointegration among the variables across models suggesting the presence of long run relation between capital inflows, financial deepening (in view of their joint effect) and poverty reduction in Nigeria. In the study, the lying of CUSUM and CUSUMSQ within the critical boundaries, in Figure 1, buttresses the stability of the coefficients in the ARDL models. While a good number of diagnostics across models are well – satisfied (see Table 3), for robustness/sensitivity test, as reported in Table 5, the Dynamic Least Squares (DOLS) for estimating the long – run cointegration relationship were also employed in the empirical study.

Table 3 presents both the long – run and short – run estimates between capital inflows, financial development and poverty reduction. Each model represents different regressions. In model (i), the joint effect of FDI and financial development (the ratio of credit to private sector) on poverty alleviation is examined. Regarding foreign capital inflows and private credit, the empirical results are somewhat puzzling owning to their insignificance, although most variables exhibit the expected sign. As long-run parameters are most often formed the main focus, in the long run as given in Table 3, the two control variables (GDP per capita and inflation) throughout all models are significant. While inflation rate has positive correlation with the poverty measure (poverty headcount), GDP per capita has an adverse association with the poverty indicator, which implies that a rise in per capita GDP results to a decline in poverty. A persistent high inflation rate triggers a price hike and unstable price, which can cause an inimical effect on people's welfare and expand poverty. Regarding inflation, real estate prices and stock prices will increase; on the other hand, the costs of housing, clothing and food will rise. This suggests that poor people will need to spend more to cope and survive. Although inflation has an impact on different income group, rich people can benefit more from their real estate and financial assets price increases and poor people lack those kind of assets; thus, they suffer more. Previous evidence by Yoshino et al. (2017); Easterly and Fischer (2001); Nafziger (2006) offer tenable ground and support for these empirical explanations.

Table 1

Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) unit root test results

Variable	*Augmented Dickey-Fuller*	*Phillips-Perron*
GDP		
Level	-0.02(0)	-0.40
First difference	-4.98(0)***	-4.98***
Inflation		
Level	-2.40(2)	-2.81
First difference	-6.06(1)***	-11.26***
Private credit		
Level	-3.37(1)**	-2.62
First difference	-5.18(2)***	-10.13***
FDI		
Level	-3.67(0)***	-3.64***
First difference	-5.50(0)***	-13.76***
Portfolio Investment		
Level	1.76(1)	-2.42
First difference	-3.43(2)**	-7.26***
Remittances		
Level	-1.96(0)	-1.96
First difference	-6.41(0)***	-6.74***
Poverty headcount ratio		
Level	-1.89(0)	-1.88
First difference	-6.25(0)***	-6.25***

** & *** indicated the level of significance at 5% and 1 % respectively. Figures in (.) represent lag length selected by AIC criterion. The PP length was selected by Newey-West Band Width.

Table 2
Bounds F-tests for cointegration relationship

Model	*F-statistics*	*Level of Significance*	*Lower critical value*		*Upper critical value*	
			Asymptotic (n =1000)	*Finite Sample (n = 40)*	*Asymptotic (n =1000)*	*Finite Sample (n = 40)*
Model (i) (1, 0, 2, 2, 1, 0, 2, 2)	5.91***	1%	2.96	3.64	4.26	5.46
Model (ii) (1, 0, 2, 2, 2, 0, 2, 0)	6.18***	5%	2.32	2.68	3.5	4.13
Model (iii) (2, 1, 1, 0, 1, 0, 0, 1)	6.49***	10%	2.03	2.3	3.13	3.61

*** represents statistical significance at 1% level.

In examining the long run effect of the capital inflows (FDI, portfolio investment and remittances) and financial sector development on poverty alleviation, evidence in Table 3 reveals that in model (i) (FDI*Private credit) all variables are negative with the exemption of FDI. On the other hand, only portfolio investment is significant, while FDI and remittances are insignificant. Nonetheless, the interaction term of FDI and private credit is statistically significant in the long – run as well as in the short – run. In view of the positive nature and insignificance of FDI, which imply that many times FDI inflows have not enhanced welfare of the poor and have even adversely affected them. In this case, what seems to be the cause is that Nigeria is attracting FDI inflows which are mainly beneficial to the upper class or inducing employment generation for higher skilled workers in the country. In addition, they tend to be displacing local production that makes use of very low skilled labour thereby substantially provoking high poverty incidence. In another dimension, since there seems to be no right condition for foreign investors to operate, it might not induce the better side of FDI. Just like the domestic firms there is a tendency for them to get indulged in socially detrimental and corrupt activities. Hence, FDI inflows could not in any way result in lowering poverty in Nigeria. This empirical assertion agrees with some previous studies (Agarwal and Atri, 2015; Akinmulegu, 2012; Ogunniyi and Igberi, 2014). Model (ii) and (iii) results are analogous to the one obtained in model (i) regarding FDI. Focusing on the portfolio investment, it can be seen from Table 3 (model (i)) that in the long, portfolio investment has a larger and significant effect on the reduction of poverty. A strong justification for this development could be linked to the prominent priority given to equity financing by most developing countries, since debt financing is viewed to be much more volatile. The national government of the respective countries has been encouraging inflows with higher rates of genuine fresh equity investment relative to debt. This move is making the economy less vulnerable to financial shocks and thereby dramatically contributing to socially induced welfare and decreasing poverty, as such offers options and means which ultimately allow people to create paths out of their poverty (OECD, 2012). Portfolio investment can reflect a significant substantial decrease in poverty given its larger magnitude compared to remittances and private credit. The results obtained for portfolio investment in model (ii) and (iii) also indicate a negative and significant effect.

Table 3

ARDL long run and short run estimates

Variable	*Model (i) FDI*Private credit*		*Model (ii) Portfolio Inv*Private credit*		*Model (iii) Remittances*Private credit*	
	Long run	*Short run*	*Long run*	*Short run*	*Long run*	*Short run*
Constant	-0.25***	-0.85***	0.63**	0.75**	0.12	0.99***
	[-5.51]	[-4.10]	[3.02]	[3.62]	[0.42]	[5.14]
GDP	-1.21**	-0.01*	-0.08*	0.002	-0.48***	-0.65*
	[-3.60]	[2.25]	[1.56]	[0.20]	[-3.95]	[-1.93]
Inflation	0.50***	0.008	0.08**	0.04**	0.09*	0.01
	[4.25]	[0.86]	[2.15]	[3.59]	[1.55]	[1.00]
Private credit	-0.42	0.14**	-0.21	0.004	-0.15**	0.12
	[0.82]	[2.44]	[-0.74]	[0.13]	[-2.15]	[1.11]
FDI	3.35	0.07**	0.04	0.006	0.06	-0.01**
	[0.81]	[2.18]	[0.57]	[1.34]	[1.22]	[-2.57]
Portfolio Inv	-1.07**	-0.03	-5.90**	-0.03**	-4.36*	-0.33
	[-2.24]	[-0.33]	[-2.30]	[-3.18]	[-1.72]	[-0.21]
Remittances	-0.26	-0.004	-0.02**	-0.002*	-0.20	-0.23*
	[-0.24]	[-0.43]	[-3.21]	[-1.52]	[-2.11]	[1.58]
*FDI*Private credit*	-1.13**	-0.03**				
	[-3.24]	[-2.52]				
*Portfolio Inv*Private credit*			-2.88*	0.41**		
			[1.67]	[2.50]		
*Remittances*Private credit*					-0.11**	-0.04***
					[-2.80]	[-4.38]
ER (-1)		-0.05***		-0.19**		-0.50***
		[-4.23]		[-3.59]		[-5.12]
Diagnostic test						
D.W		2.09		1.89		2.19
Ramsey reset test		0.52		0.77		0.92
Normality test		0.50		0.61		0.69
Serial correlation		0.16		0.36		0.53

*, ** & *** indicate statistical significance at 10%, 5% and 1% respectively, whilst figures in (-) are t-values.

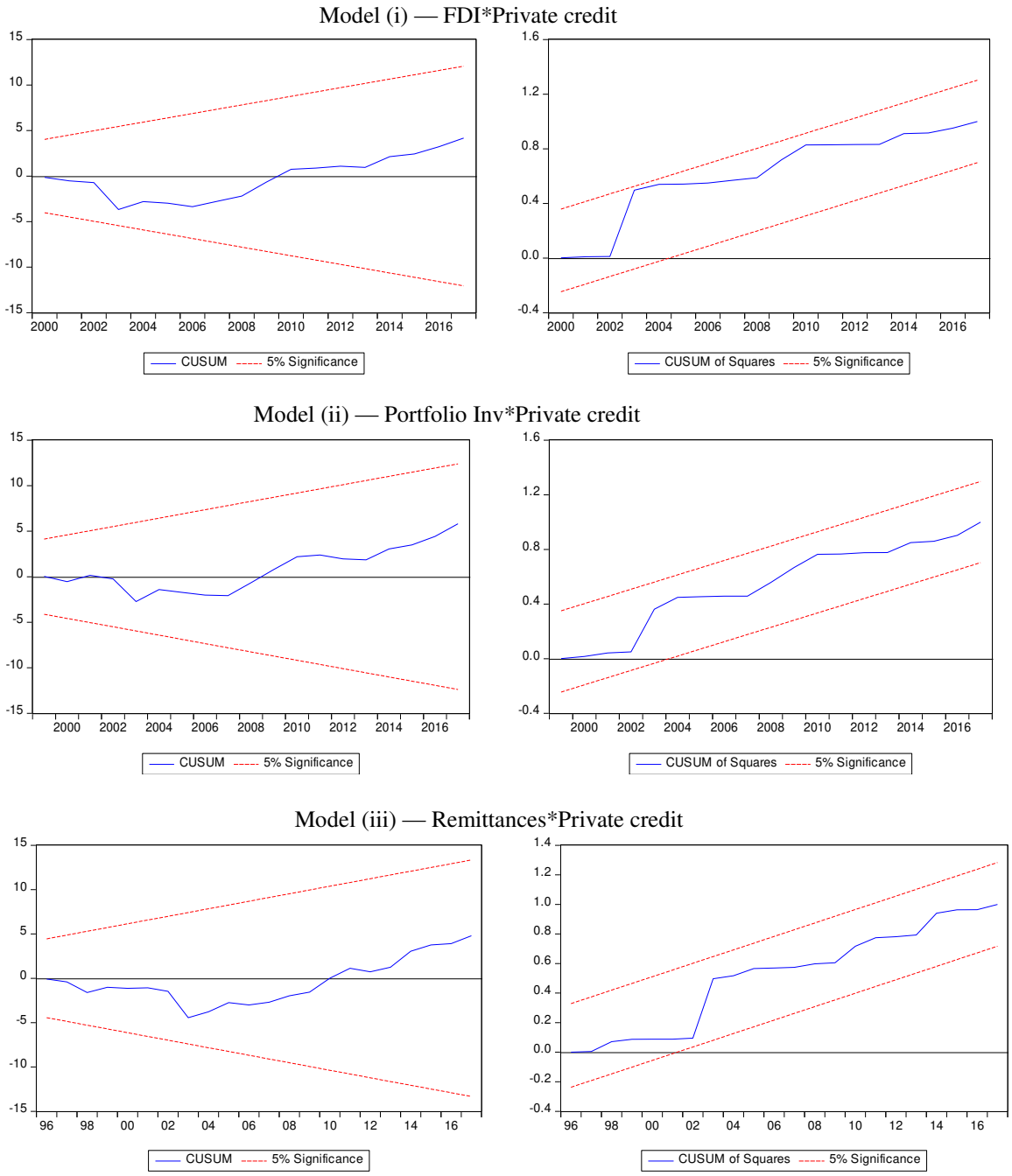

Figure 1: cusum (left) & cusumsq (right)

In contrast, as regards the insignificance of remittances in model (i), while remittances are distributed and given to people in developing countries, the larger proportion of those who often receive remittances could be from high-income (rich) families. This is because considerable amount involved for leaving domestic countries and work abroad, which can provoke an expansion of poverty levels. The empirical results buttress the view of Agarwal and Atri, (2015). Furthermore, in model (iii) remittances also found to be insignificant. However, it is statistically significant in model (ii). This could be as a result of decreasing transaction costs of sending remittances owing to improved technology or banking systems. Our findings in this respect marry up with the conclusion of Adams JR and Cuecuecha (2013); Odozi et al. (2010); Waheed et al. (2013) in that the severity and level of poverty are observed to be decreased by remittances. By and large, the interaction term across models has an adverse and significant effect on poverty headcount ratio. On

the financial development, except in model (iii), private credit is statistically not significant in explaining poverty reduction. The pervasive dearth of financial infrastructure, including absence of terminals could warrant the financial exclusion of the poor. Regardless of how deep (develop) the financial sector is, if this case holds then the gains of financial development may not get to the poor (Rewilak, 2017). This suggests that capital inflows and financial development could jointly strengthen the means to reinforcing structural economic transformation and effective industrial structure for broad – based growth and thereby the reduction of poverty. The study's findings consolidate the empirical assertion of Beck, et al. (2007); Demirgüç-Kunt et al. (2011). In the short – run, the obtained results, given the joint effect of financial development and capital inflows, are somewhat similar to those of long – run.

Furthermore, the short - run estimation results in Table 3, the results of the two control variables in the models are somewhat in line with those of long -run, as they exhibit similar signs except in model (ii) where the negatives sign of GDP vanishes. Portfolio investment in model (i) and (iii) is also not statistically significant. These may be attributed to occasional financial shocks that might obscure the underlying correlation between portfolio investment, economic growth and poverty line. However, unlike in the long run, remittances are significant in model (iii) at 10% level, while FDI is found to be significant in model (i) and (iii), indicating a relatively improved condition for foreign investors to operate, which could bring out the better side of FDI. The estimated parameters of error – correction term (*ER*) has expected signs and statistically significant at 1% across models. When FDI is interacted with private credit, the deviation of both financial development and capital inflows from the equilibrium values is deemed to be corrected by 5% in the following period. It will be corrected by 19% when portfolio investment is interacted with private credit, while for the interaction of remittances with private credit, correction is made by 50%. Thus, the existence of long – run equilibrium correlation among capital inflows, private credit, GDP per capita and inflation is empirically held.

The existence of cointegration in the models suggests that there is solid evidence of a long run correlation among the variables implying that at least from one direction there should be a case for Granger causality (Engle and Granger, 1987). Following Engle and Granger (1987), the presence of cointegration often comes with error correction representation indicating that the disequilibrium state in the cointegration relationship determines any change in the dependent variables, while changes in error correction term (ECT) and other explanatory variables are accounted for the disequilibrium state. Hence the estimation of Eq. (3) and (4) ascertains the possible long run and short run causal direction among the variables. In Table 4, the causal association between capital inflow, financial development and poverty reduction is presented. The findings (Table 4) reveal that across models the Wald test statistics is not significant for poverty headcount under poverty reduction – led capital inflows*financial development, whereas it is statistically significant for the interaction term of capital inflows and financial development under capital inflows*financial development– led poverty reduction. These implies that the null hypothesis that both capital inflows and financial development do not Granger cause poverty reduction in the short run is rejected at 5% in support of capital inflows*financial development– led poverty reduction hypothesis. In contrast, in line with poverty reduction – led capital inflows*financial development, there is no empirical finding in favour of it. This suggests that the causal direction between capital inflows, financial development and poverty alleviation is unidirectional, which runs from both foreign capital inflows and financial deepening to poverty level. The findings stress that, in view of lagged dynamic terms, future changes in the level of poverty would be in part engendered by changes in both capital inflows and financial development in the short run. In addition, through the error correction term adjustment, there is a crucial joint influence of foreign capital inflows and financial development on poverty reduction. The implication of these findings is that the effective management of capital inflows and rapidly improved financial sector would enhance a decline in poverty level. The presence of the mechanism that adjusts the dis-equilibrium between capital inflows, financial development and poverty measure is shown by the ECTs. While not the whole ECTs are significant, they possess appropriate signs. This suggests that the significant negative signs under capital inflows*financial development – led poverty reduction indeed offers robustness for the evidence of cointegration among the variables, although causality is unidirectional running from capital inflows and financial development to poverty reduction.

Table 4:
Granger causality results based on VECM

Model	*Lag*	*Capital inflows*fin dev– led poverty reduction*			*Poverty reduction – led Capital inflows*fin dev*		
		Variable	*Short run*[a]	*ECT*[b]	*Variable*	*Short run*[a]	*ECT*[b]
Model (i)	1	*FDI*Private credit*	5.13**	-0.02*** [-5.55]	*Poverty headcount*	1.07	-0.72 [-0.29]
		Inflation	6.28***		*GDP*	0.44	
		Private credit	4.04**		*Inflation*	4.01**	
		FDI	0.15				
		Portfolio Inv	0.03				
		Remittances	4.58**				
		GDP	1.57				
Model (ii)	1	*Portfolio Inv *Privatecredit*	4.21**	-0.006** [-3.38]	*Poverty headcount*	0.04	-1.27 [-1.27]
		Inflation	2.55*		*GDP*	1.03	
		Private credit	0.24		*Inflation*	0.004	
		FDI	5.10**				
		Portfolio Inv	0.006				
		Remittances	4.58**				
		GDP	5.59***				
Model (iii)	1	*Remittances*Private credit*	4.01**	-0.15*** [-4.24]	*Poverty headcount*	2.02	-0.15 [-0.19]
		Inflation	2.82*		*GDP*	3.05*	
		Private credit	2.5*		*Inflation*	2.69*	
		FDI	7.77***				
		Portfolio Inv	0.54				
		Remittances	0.06				
		GDP	4.43**				

([a]) The Wald statistic is reported. It tests the joint significance of the lagged values of the variables, which follow a x^2 distribution. Figures ([b]) in parenthesis represent t-statistic. (***), (**) & (*) indicate the level of significance at 1%, 5% and 10% respectively.

Table 5
Dynamic Least Squares (DOLS)

Variable	*Model (i)*	*Model (ii)*	*Model (iii)*
Constant	0.93*** [6.64]	0.91*** [8.76]	0.69*** [11.79]
GDP	-0.35*** [-3.00]	-0.34** [-2.93]	-0.47*** [-4.74]
Inflation	0.02** [0.34]	0.008** [2.58]	0.02 [0.82]
Private credit	-0.11 [-0.44]	-0.12 [-1.19]	-0.11* [-1.80]
FDI	0.03 [0.18]	0.02 [1.19]	0.04 [0.65]
Portfolio Inv	-3.85** [-2.65]	-4.39* [-1.63]	-2.06 [-1.33]
Remittances	-0.08 [-1.35]	-0.06* [-1.61]	-0.09* [-1.52]
*FDI*Private credit*	-0.003** [-2.89]		
*Portfolio Inv*Private credit*		-1.61* [-1.72]	
*Remittances*Private credit*			-0.06** [-2.67]

Figures in parentheses are t-values. (***), (**) & (*) indicate significance at 1%, 5% and 10% respectively.

Overall, with underpinning evidence in Table 5, GDP per capita is adversely related to poverty headcount, indicating that high growth rates would induce lower poverty levels in Nigeria. These findings are somewhat in tandem with the study of Rewilak (2017). Surprisingly, FDI is, by and large, positive and insignificant, suggesting that huge inflows of FDI to the country may further exacerbate poverty incidence. Given some points of view, this is a peculiar instance

of more plausible conjecture that in a feeble institutional environment (where corrupt practices and rent-seeking behaviour are ubiquitous) like Nigeria, FDI inflows tend to go badly and ineffectively together with poor governance practices (Klein et al., 2001). Although not significant in all models, private credit, portfolio investment and remittances have negative signs. In all, this implies that a rise in any of them could lead to a decrease in poverty levels. Reasons for their insignificance have been evinced previously. More importantly, in a way, empirical evidence on portfolio investment clearly buttresses the assertion that equity investment is vividly the most efficient and effective form of equity in countries (including Nigeria) with weak corporate governance rules and practices. Finally, the poverty-alleviating effect of financial development could be enhanced if it coincides with rising inclusiveness and rates of capital inflows, and with the drive for improved economic performance simultaneously.

5. Concluding remarks

This paper examines the joint effect of capital inflows and financial development on poverty reduction in Nigeria over the period of 1980 – 2017 using ARDL bound test and Granger causality test based on Vector Error Correction Model (VECM). As capital inflows involved three subcategories, the paper assesses all three in turn. The results reveal that FDI has a direct detrimental effect on poverty reduction in contrast to Bharadwaj (2014) and Ucal (2014). Lack of incentive and inclusive structures or socially conducive business climate may be attributable to this. On the other hand, remittances have no inimical effect on poverty alleviation, as the severity and level of poverty are observed to be decreased by remittances in the long run as well as in the short – run. In further findings, portfolio investment appears to have the greatest direct poverty-alleviating effect, underscoring the prominent priority given to equity financing by most developing countries. This may make these economies less vulnerable to financial shocks and thereby dramatically contributing to socially induced welfare and decreasing poverty. However, evidence indicates that poverty-alleviating channel may be blocked by increasingly fragile financial sector, which could inhibit the sector's capacity to extend credit to innovative small enterprises or individuals. Nonetheless, the poverty reducing impact of the financial sector would be heightened via increasing its depth.

The interaction term of capital inflows and financial development reflects significant and substantial decrease in poverty headcount, underlining the view that capital inflows and financial development could jointly strengthen the means to reinforcing structural economic transformation and effective industrial structure for broad – based growth and thereby accentuating poverty-reducing effect. In another way, through empirical evidence, it could be posited that the indirect role of both capital inflows and financial deepening in poverty-reducing channel is substantial and increasingly crucial. Furthermore, results show that a rise in per capita GDP leads to a decline in poverty, while a persistently high inflation rate triggers a price hike and unstable price, which can cause an inimical effect on people's welfare and poverty expansion.

As poverty incidence could be further exacerbated by the dearth of incentive and inclusive structures, in view of the analysis, overall, a number of policy implications could be offered. First, policy makers should initiate measures that could guarantee adequate financial infrastructure, including the presence of terminals which could warrant the financial inclusion of the poor. Second, there should be a drastic drive towards curbing heightened corrupt practices and strengthening corporate governance rules. Finally, ensuring that financial sector development coincides with rising inclusiveness and rates of capital inflows is critical for improved performance and poverty alleviation drive.

References

Adams, R. H. (2004). Remittances and Poverty in Gautemala. World Bank Policy Research Working Paper, No. 3418.

Adams, R. H. (2014). Evaluating the Economic Impact of International Remittances on Developing Countries Using Household Surveys: A literature review. *The Journal of Developing Studies*, 47(6), 809–828.

Adams, R. H. and Cuecuecha, A. (2013). The Impact of Remittances on Investment and Poverty in Ghana. *World Development,* 50 (October), 24–40.

Adams, R. H. and Page, J. (2005). Do International Migration and Remittances Reduce Poverty in Developing Countries? *World Development*, 33(10), 1645–1669.

Adams, S. (2009). Foreign Direct Investment, Domestic Investment, and Economic Growth in Sub-Saharan Africa. *Journal of Policy Modelling,* 31(6), 939-949. doi:DOI: 10.1016/jpolmod.2009.03.003

Agarwal, M. and Atri, P. (2015). Foreign Direct Investment and Poverty Reduction: India in Regional Context. Research and Information System for Developing Countries (RIS) Discussion Papers, www.ris.org.in.

Akinlo, E. A. and Akinlo, O. O. (2009). Stock Market Development and Economic Growth: Evidence from Seven Sub-Sahara African Countries. *Journal of Economics and Business,* 61(2), 162-171.

Akinmulegun, S.O. (2012). Foreign Direct Investment and Standard of Living in Nigeria. *Journal of Applied Finance and Banking,* No. 2(3).

Akpan, P.L. and Orok, E.O. (2010). Public Sector Spending and Rural Poverty Reduction in South Eastern States of Nigeria. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1447928.

Ali, M., Nishat, M. and Anwar, T. (2010). Do Foreign Inflows Benefit Pakistan Poor? *The Pakistan Development Review,* No. 48 (4).

Antwi, S., Mills, E. and Zhao, X. (2013). Remittances and the Poverty Nexus: Evidence from Ghana. *International Journal of Academic Research in Economics and Management Sciences,* 2(1), 206-223. http://www.hrmars.com/admin/pics/1550.pdf.

Anyanwu, J. C. and Erhijakpor, A. E.O. (2010). Do International Remittances Affect Poverty in Africa? *African Development Review,* 22(1), 51–91.

Azam, M., Haseeb, M. nd Samsudin, S. (2016). The Impact of Foreign Remittances on Poverty Alleviation: Global evidence. *Interdisciplinary Approach to Economics and Sociology,* 9(1), 264–21.

Beck, T. Demirgüç-Kunt, A. and Levine, R. (2004). Finance, Inequality and Poverty: Cross-Country Evidence. National Bureau of Economic Research Working, No. 10979, Cambridge, MA. Available from //www.nber.org/papers/w10979.

Beck, T., Demirguc-Kunt, A., and Peria, M. S. M. (2007). Reaching out: Access to and Use of Banking Services across Countries. *Journal of Financial Economics,* 85(1), 234-266.

Beyene, B. M. (2014). The Effects of International Remittances on Poverty and Inequality in Ethiopia. *The Journal of Development Studies*, 50(10), 1380–1396.

Bhandari, A.K. (2009). Access to Banking Services and Poverty Reduction: A State-Wise Assessment in India. IZA Discussion Papers, No. 4132. Available from http://hdl.handle.net/10419/35638.

Bharadwaj, A. (2014). Reviving the Globalisation and Poverty Debate: Effects of Real and Financial Integration on the Developing World. *Advances in Economics and Business*, No. 2(1).

Bhinda, N. and Martin, M. (2009). Private Capital Flows to Low Income Countries: Dealing with Boom and Bust. Debt Relief International, London.

Brookings Institution (2018). The Start of a New Poverty Narrative. Brookings Institution, USA.

Burgess, R. and Pande, R., (2005). Do Rural Banks Matter? Evidence from the Indian social Banking Experiment. *American Economic Review*, 95, 780 –795.

Calvo, C.C. and Hernandez M.A. (2006). Foreign Direct Investment and Poverty in Latin America. Leverhulme Centre for Research on Globalisation and Economic Policy, University of Nottingham.

Calvo, G., Liederman, L. and Reinhart, C.M., (1994). The Capital Inflows Problem: Concepts and Issues. *Contemporary Economic Policy*, Vol. 12, Issue 3, pp. 54–66.

Central Bank of Nigeria (2013). Statistical bulletin. Abuja: CBN Publications, 23-44.

Chakra, A. & Leon-Gonzalez (2012). The Impact of Remittance on Poverty and Inequality: A Micro-Simulation Study for Nepal. GRIPS (National Graduate Institute for Policy Studies) Discussion Papers 11-26.

Chakraborty, I. (2010). Financial Development and Economic Growth in India: An Analysis of the Post-Reform Period. *South Asia Economic Journal,* 11(2): 287.

Chor, H. P., Davin, L., Foley, C. F., Kalina, M., & Stanley, W. (2008). Host Country Financial Development and MNC Activity.

Deininger, K. and Squire, L. (1998). New Ways of Looking at Old Issues. *Journal of Development Economics,* 57(2): 259-287.

Demirgüç-Kunt, A., Córdova, E. L., Pería, M. S. M., and Woodruff, C. (2011). Remittances and Banking Sector Breadth and Depth: Evidence from Mexico. *Journal of Development Economics,* 95(2), 229-241.

Donou-Adonsou, F. and Sylwester, K., (2016). Financial Development and Poverty Reduction in Developing Countries: New Evidence from Banks and Microfinance Institutions. *Review of Development Finance*. 6, 82–90.

Dutt, A. (1997). The Pattern of Direct Foreign Investment and Economic Growth. *World Development,* Vol. 25, No. 11.

Easterly, W. and Fischer, S. (2001). Inflation and the Poor. *Journal of Money, Credit and Banking*, 33(2): 160-178.

Eller, M., Haiss, P.R. and Steiner, K. (200). Foreign Direct Investment in the Financial Sector: The Engine of Growth for Central and Eastern Europe? Vienna University of Economics and B.A., Europainstitut, WP, No. 69.

Engle, R.F. and Granger, C.W.J. (1987). Cointegration and Error Correction: Representation, Estimation and Testing. *Econometrica,* 55: 251-276.

Fagbemi, F. and Ajibike, J.O. (2018b). West African Emerging Economies: Comparative Insights on Ghana's and Nigeria's Stock Market Development. *American Journal of Economics and Business Administration,* DOI: 10.3844/ajebasp.

Farole, T. and Winkler, D. (2012). Foreign Firm Characteristics, Absorption Capacity and the Institutional Framework: The Role of Mediating Factors for Foreign Direct Investment Spillovers in Low and Middle Income Countries. Policy Research Working Paper 6265, World Bank, Washington, DC.

Fowowe, A. and Abidoye, A. (2011). A quantitative Assessment of the Effect of Financial Development on Poverty in African Countries. Available from http//www.csae.ox.ac.uk.

Fowowe, B. and Shuaibu, M.I. (2014). Is Foreign Direct Investment Good for the Poor? New Evidence from African Countries. *Eco Change Restruct*, No. 47.

Geda, A., Shimeles, A. and Zerfu, D. (2006). Finance and Poverty in Ethiopia. Unu-Wider Research Paper No. 51, United Nations University, Helsinki, Finland.

Giovannini, A. (1983). The Interest Elasticity of Savings in Developing Countries: The Existing Evidence. *World Development,* 11(7): 601-607.

Gohou, G. and Soumare, I. (2012). Does Foreign Direct Investment Reduce Poverty in Africa and are there Regional Differences? *World Development,* No. 40(1).

Goldberg, L. (2004). Financial-Sector FDI and Host Countries: New and Old Lessons. *Economic Policy Review,* Federal Reserve Bank of New York, issue Mar, P 1-17.

Gorg, H. and Greenaway, D. (2004). Much Ado about Nothing? Do Domestic Firms Really Benefit from Foreign Direct Investment? *The World Bank Research Observer*, No. 19(2).

Gupta, S., Pattillo, C. and Wagh, S. (2009), Impact of Remittances on Poverty and Financial Development in Sub‐Saharan Africa. *World Development,* 37(1), 104–115.

Hatemi‐J, A. and Uddin, G. S. (2014), On the Causal Nexus of Remittances and Poverty Reduction in Bangladesh. *Applied Economics,* 46(4), 374–382.

Honohan, P. (2004). Financial Development, Growth and Poverty: How Close are the Links? Policy Research WP 3203. The World Bank

Huang, C., Teng, K. and Tsai, P. (2010). Inward and Outward Foreign Direct Investment and Poverty Reduction: East Asia versus Latin America. *Review of World Economics*, No. 146 (4).

Hulme, D. and Mosley, P. (1996). Finance against Poverty. Routledge, London.

Israel, A.O. (2014). Impact of Foreign Direct Investment on Poverty Reduction in Nigeria. *Journal of Economics and Sustainable Development,* No. 5(20).

Jeanneney, S. and Kpodar, K. (2011). Financial Development and Poverty Reduction: Can There be a Benefit without a Cost? J. Dev. Stud. 47,143 –163.

Jeanneney, S.G. and Kpodar, K. (2008). Financial Development, Financial Instability and Poverty. CSAE WPS/2005-09, University of Auvergne.

Kale, Y. (2012). The Nigeria Poverty Profile 2010 Report. Press Briefing by the Statistician General of the Federation/Chief Executive Officer, National Bureau of Statistics, Dr Yemi Kale at the Conference Room, 5th Floor, NBS Headquarters, Central Business District, Abuja on Monday, 13th February, 2012.

Keynes, J.M. (1937). The Ex-ante Theory of the Rate of Interest. Economic Journal, December; reprinted in the General Theory and after, part II Defence and Development. London: Macmillan for the Royal Society. pp: 215–223.

Klein, M., Aaron, C. and Hadjimichael, B. (2001). Foreign Direct Investment and Poverty Reduction. OECD Global Forum on International Investment New Horizons and Policy Challenges for Foreign Direct Investment in the 21st Century, Mexico City, 26-27 November 2001.

Liu, X., Wang, C. and Wei, Y. (2009). Do Local Manufacturing Firms Benefit from Transactional Linkages with Multinational Enterprises in China? *Journal International Business Studies*, No. 40 (7).

Magombeyi, M.T. and Odhiambo, N.M. (2017). Foreign Direct Investment nnd Poverty Reduction. *Comparative Economic Research*, Vol. 20, No. 2.

Mahmood, H. and Chaudhary, A.R. (2012). A Contribution of Foreign Direct Investment in Poverty Reduction in Pakistan. *Middle East Journal of Scientific Research*, No. 12(2).

McKay, A. and Deshingkar, P. (2014). Internal Remittances and Poverty: Further Evidence from Africa and Asia. *Migrating out of poverty Research Programme Consortium*, WP 12.

McKinnon, R.I. (1973). Money and Capital in Economic Development, 1st Edn. Brookings Institution (Washington D.C, USA). ISBN-10: 0815756135. pp: 177.

Meyer, K.E. (2004). Perspectives on Multinational Enterprises in Emerging Economies. *Journal of International Business Studies,* No. 35(4).

Mookerjee, R. and Kalipioni, P. (2010). Availability of Financial Services and Income Inequality: the Evidence from Many Countries. Emerg. Mark. Rev. 11,404–408.

Nafziger, W.E. (2006). Economic Development. 4th Edn., The Edinburgh Building. Cambridge, UK: Cambridge University Press.

Narayan, P.K. and Narayan, S. (2005). Estimating Income and Price Elasticities of Imports for Fiji in a Cointegrating Framework. Economic Modelling, 22: 423-438.

Odhiambo, N.M. (2009). Is Financial Development a Spur to Poverty Reduction? Kenya‘s Experience. *International Journal of Social Economics,* 37(4): 41-53.

Odozi, J. C., Awoyemi, T. T. and Omonona, B. T. (2010). Household Poverty and Inequality: The Implication of Migrants' Remittances in Nigeria. *Journal of Economic Policy Reform,* 13(2), 191–199.

OECD (2002). Foreign Direct Investment for Development: Maximizing Benefits, Minimizing Costs. Organisation for Economic Co-operation and Development, Paris.

OECD (2012). Private Capital Flows: Foreign Direct Investment and Portfolio Investment. OECD.

Ogunniyi, M.B. and Igberi, C.O. (2014). The Impact of Foreign Direct Investment on Poverty Reduction in Nigeria. *Journal of Economics and Sustainable Development*, No. 5(14).

Okpara, G.C. (2010). Microfinance Banks and Poverty Alleviation in Nigeria. *Journal of Sustainable Development in Africa,* Vol 12, No.6

Omorogbe, V.O and Ubeagbu, D.G. (2007). Foreign Direct Investment and Poverty Reduction in Nigeria. *Journal of Research in National Development,* Vol 5, No 2.

Osemene, O.F. (2005). Government Expenditure and Poverty Reduction in Nigeria. *Ilorin Journal of Business and Social Sciences,* 10 (1), 119-131.

Perez-Moreno, S. (2011). Financial Development and Poverty in Developing Countries: a Causal Analysis. *Empir. Econ.* 41, 57–80.

Pesaran, M.H., Shin, Y. and Smith, R. (2001). Bounds Testing Approaches to the Analysis of Level Relationship. *Journal Applied Econometrics*, 16: 289-326.

Qayyum, A. Javid, M. and Arif, U. (2008). Impact of Remittances on Economic Growth and Poverty: Evidence from Pakistan. *Munich Personal RePEc Archive Paper,* No. 222941.

Quartey, P. (2008). Financial Sector Development, Savings Mobilization and Poverty Reduction in Ghana. In B. Guha-Khasnobis and G. Mavrotas, eds., Financial Development, Institutions, Growth and Poverty Reduction, Palgrave Macmillan in Association with the Unu-wider. Oxford: Oxford University Press.

Ravallion, M. and Chen, S. (1997). What can New Survey Data tell us about recent changes in Distribution and Poverty? *World Bank Economic Review*, 11(2): 357- 382.

Rewilak, J. (2017). The role of financial development in poverty reduction. *Review of Development Finance*, Vol. 7, 169–176

Rodrik, D. and Subramaniam, A. (2008). Why Did Financial Liberalization Disappoint? IMF Staff Papers, International Monetary Fund, Washington DC.

Serino, M. N. and Kim, D. (2011). How do International Remittances Affect Poverty in Developing Countries? *Journal of Economic Development,* 36(4), 17–40.

Shamim, A., Azeem P. and Naqvi, M.A. (2014). Impact of Foreign Direct Investment on Poverty Reduction in Pakistan. *International Journal of Academic Research in Business and Social Sciences,* No 4(10).

Shaw, E.S. (1973). Financial deepening in economic development. New York: Oxford University Press.

Siggel, E. (2010). Poverty Alleviation and Economic Reforms in India. *Progress in Development Studies*, 10(3), 247-259.

Sikorsky, M.T. (1996). Financial Liberalization in Developing Countries. UK: Edward Elgar.

Son, H. and Kakwani, N. (2006). Measuring the Impact of Price Changes on Poverty. Working Paper No. 33, International Poverty Centre, United Nations Development Programme, Brasilia.

Soumare, I. (2015). Does Foreign Direct Investment Improve Welfare in North Africa? Africa Development Bank.

Squalli, J. (2007). Electricity Consumption and Economic Growth: Bounds and Causality Analyses of OPEC Members. Energy Economics, 29: 1192-1205.

Sumner, A. (2005). Is Foreign Direct Investment Good for the Poor? A Review and Stocktake, Development in Practice, No. 15 (3/4).

Ucal, M.S. (2014). Panel Data Analysis of Foreign Direct Investment and Poverty from the Perspective of Developing Countries. *Social and Behavioral Science,* No. 109.

UNCTAD (2005). Economic Development in Africa: Rethinking the Role of Foreign Direct Investment. United Nations Conference on Trade and Development, Geneva.

UNCTAD (2018). World Investment Report. United Nations Conference on Trade and Development (UNCTAD), Geneva.

Uttama, N.P., (2015). Foreign Direct Investment and Poverty Reduction Nexus in South East Asia: [in:] Silber J. Poverty Reduction Policies and Practices in Developing Asia.

Vita, D.G. and A. Abbot, (2002). Are Saving and Investment Cointegrated? An ARDL Bounds Testing Approach. *Economics Letter*, 77: 293-299.

Waheed, O. O., Timothy, A. T., Adebayo, S. M. and Ayodele, O. (2013). Effects of Remittances on Poverty among Rural Households in Nigeria. *European Journal of Sustainable Development,* 2(4), 263–284.

Wang, J. and Blomstrom, M. (1992). Foreign Direct Investment and Technology Transfer: A Simple Model. *European Economic Review,* No. 36 (1).

Wijnbergen, S. (1983). Credit Policy, Inflation and Growth in a Financially Repressed Economy. *Journal of Development Economics,* 13(1): 45-65.

World Bank (2017). Financial Inclusion Insights: Financial Inclusion, Key to Reducing Poverty. World Bank, Washington, DC

Wouterse, F. (2010). Remittances, Poverty, Inequality and Welfare: Evidence from the Central Plateau of Burkina Faso. *The Journal of Development Studies*, 46(4), 771–789.

Yoshino, N., Taghizadeh-Hesary, F and Otsuka, M. (2017). International Remittances and Poverty Reduction: Evidence from Asian Developing Countries. ADBI Working Paper Series, No. 759.

Zaman, K., Khan, M.M. and Ahmad M. (2012). The Relationship between Foreign Direct Investment and Pro-Poor Growth Policies in Pakistan: *The new interface Economic Modelling,* No. 29.