The Impact of Financial Development on Poverty in Nigeria

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DOI: 10.56201/ijefm.v8.no4.2023.pg40.53

Abstract

This study was aimed to examine the impact of financial development on poverty in Nigeria using annual time series data- spanning 30 years (1990-2O20). Variables used in the model were; per capita income, money supply, domestic credit to private sector and interest rate. The data for this study was obtained mainly from secondary source, which was collected from CBN statistical bulletin. The Ordinary Least Square (OLS) regression technique was employed using econometric views (E-views) version 10.0 software. The results indicated that that there is a significant positive relationship between financial development and poverty in Nigeria, which is consistent with the a prior expectation. Also, the result showed that money supply has a positive and significant effect on poverty in Nigeria. Furthermore, the study revealed that domestic credit to private sector has positive and insignificant effect on poverty eradication in Nigeria. Finally, the findings revealed that interest rate has a negative and insignificant effect on poverty in Nigeria. This result implies that an increase in broad money supply and domestic credit to private sector will lead to a decrease in Poverty level in Nigeria, while an increase in real interest rate will lead to an increase in Poverty level in Nigeria

INTRODUCTION

Background to the Study

Poverty has long been recognized as an international plague and one of the most prominent problems of the whole world, and in particular developing countries where endemic poverty is grimmer and challenging. It is not surprising therefore that the growing momentum to fight poverty across nations of the world is evident in the spirit and agenda of the Sustainable Development Goals (SDGs) as they combine efforts to eradicate poverty and increase the development of poor countries. It is, however, encouraging noting that research findings and empirical evidence have shown that significant poverty reductions are possible and having, indeed, occurred in many developing countries. While poverty has increasingly become a global issue, in the Nigerian context, it has been assuming a wider dimension including household income poverty, food poverty, insecurity, poor access to public service, infrastructure and illiteracy (Ogunjiuba, 2014 and Goodness, 2013).

Financial development however, is part of private sector development strategy to stimulate economic growth and reduce poverty. Many authors have defined financial development in various ways. The World Economic Forum (2012) defines it as the factors, policies, and institutions that lead to effective financial intermediation and markets, as well as deep and broad access to capital and financial services. Financial development is the process that marks improvement in quantity, quality and efficiency of financial intermediary services. This process involves the interaction of many activities and institutions and possibly associated with economic growth. In other words, it implies the level of development and innovation of traditional and non-traditional financial services (Valverde, et al., 2004). Hafiz, Abdul, Arif and Awais (2011) noted that financial sector can be developed by four different ways; improving efficiency of the financial sector, increasing the range of financial sector, improving regulation of the financial sector and by way of increasing access of more of the population to financial services in order to facilitate borrowing and investment in income earning assets. Thus, financial sector development has been adjudged as an effective instrument that can bring reduction in poverty directly by widening access to financial services for the poor, facilitate transactions and thus increase their income and indirectly through its positive impact on economic growth which in turn helps in reducing poverty (Yaya, 2017; Azran, Dilawar, Ejaz & Waheed, 2012; Hafiz, Abdul, Arif & Awais 2011; Zhuang, Herath, Yoko, Muhammad, Yi, Rana, Niny, Anneli, Pamela, & Biao 2009). While this has been debated for a very long time by development economies and practitioners, their empirical evidences were used as justification for the reform of the financial sector in developing countries.

The impact of financial development on poverty is a long debated issue in economics. The main theoretical arguments for linking financial development to poverty is that a well developed financial system performs several critical functions in economy to enhance the efficiency of intermediation by reducing information, transaction, and monitoring costs. According to Creane, et al. (2004), a modern financial system promotes investment by identifying and funding good business opportunities, mobilizes savings, monitors the performance of managers, enables the trading, hedging, and diversification of risk, and facilitates the exchange of goods and services. These functions result in a more efficient allocation of resources, in a more rapid accumulation of physical and human capital, and in faster technological progress, which in turn feed economic growth. Development in the real sector, as noted by Ajayi (2015), influences the speed of growth of the financial sector directly, while the growth of the finance, money and financial institutions influence the real economy.

Recent studies have shown inconclusive impact of financial development on poverty. Some studies have found positive impact (Afonso & Blanco-Arana, 2018; Ahmad et al., 2018; Bist, 2018; Cizo, Lavrinenko, & Ignatjeva, 2020; Mhadhbi et al., 2020; Sharma, 2020), while some studies have shown negative impact (Ahmed, 2016; Ayadi et al., 2015; Ehigiamusoe et al., 2019) and neutral impact (Chang, 2002) of financial development on poverty in Nigeria. Rousseau and Wachtel (2011) have suggested that financial development has a positive impact on poverty reduction only if inflation falls below the threshold. However, the financial development has no effect on poverty reduction when inflation goes beyond the threshold. The conflicting results can be attributed to differences in methodological approach or scope. Irrespective of which the argument may be, what remains obvious is that there is need for further studies to go beyond their specifications and methodologies. The present study therefore tries to fill this gap in the literature by analyzing the impact of financial development on poverty in Nigeria.

LITERATURE REVIEW

This section reviews the theoretical literature, conceptual literature, empirical literature and summary of reviewed literature.

Theoretical Framework

The literature on financial development provides some theoretical explanation on the impact of financial development on poverty in Nigeria. The general view is that financial development can alleviate poverty in Nigeria. The study is grounded on the **Demand-Following theory** and **Financial Liberalization Theory**.

Demand-following Theory

The demand-following theory was developed by Robinson (1952), and in summary, it states that financial development follows economic growth and where enterprises leads, finance follows. This theory places emphasis on the demand and supply side of financial development. For demand-following theory, it can also be called "growth-led finance" hypothesis. It states that the growth of the economy generates additional and new demand for financial services, "which bring about a supply response in the growth of the financial system" (Patrick 1966). Dushimumukiza (2010), argues that the 'supply-leading' hypothesis posits a unidirectional causation that runs from financial deepening (financial sector development) to economic development implying that new functional financial markets and institutions will increase the supply of financial services. This will definitely lead to high but sustainable real economic growth. This hypothesis performs two roles namely to transfer resources from low growth sectors to high growth sectors and to promote entrepreneurial response in the later sector.

The level of demand for financial services depends upon growth of real output, and commercialization and monetization of agriculture and other traditional substance sectors. (Patrick, 1996, Meier, 1984). An accelerated growth rate of real national income stimulates greater demand for external funds by enterprises and this will bring about increase in the level of financial intermediation, as firms find it increasingly difficult to pursue expansion policy from internally generated funds. Moreover, the greater the variance in the growth rates among different sector of the economy, the greater will the responsibility of the financial system to perform the role of financial intermediation by allocating savings to fast growing industries away from slow growing industries and firms. In this way, the system can thus support and sustain the leading sectors in the process of growth. The demand following financial hypothesis assumes that there is high elasticity in the supply of entrepreneurship in the financial services "relative to growing opportunities for profits from provision of financial services", in such a way that there is sufficient expansion in the number and diversity of types of financial institutions. It is also assumed that there is in existence favourable legal, institutional and economic environment.

Financial Liberalization Theory

The Financial Liberalization hypothesis as developed by Mckinnon and Shaw (1973) sees the role of government intervention in the financial markets as a major constraint to savings mobilization, investment, and growth. Government's role in controlling interest rates and directing credit to priority sectors of the economy in developing countries inhibits savings mobilization and impedes the holding of financial assets, capital formation, and economic growth. Indirectly, ceiling on deposit interest rates discourages financial savings, which leads to excess liquidity outside the banking system. According to Mckinnon and Shaw (1973), pervasive government intervention and involvement in the financial system through the regulatory and supervisory network, particularly in controlling interest rates and the allocation of credit, tends to distort financial markets. Government intervention, thus adversely affect savings and investment decision of market participants and lead to fragmentation of financial mediation. The ultimate result is a financial repressed economy. The central idea of Mckinnon and Shaw (1973) is that financial markets should be liberalized and allocation of credit determinant by the free market. In this case, the real interest rate will adjust to its equilibrium levels and low yielding projects will be eliminated. This will lead to increase in overall efficiency of investment, savings and total real supply of credit would increase. This in turn induces a higher volume of investment which will then lead to socio-economic growth.

The main critique of the financial liberalization theory emanates from the imperfect information paradigm. This school of thought disagrees with the proposition of these scholars and examines the problem of financial development in the context of information asymmetry and costly information that results in credit rationing. As observed by Stiglitz and Weiss (1981), asymmetric information leads to two serious problems, first, adverse selection and second, moral hazard. The implication is that the information asymmetries of higher interest rates which actually follow financial reforms and financial liberalization policies in particular exacerbate risk taking throughout the economy and hence threatens the stability of the financial system, which can easily lead to financial crises while the Feedback theory suggests a two–way causality between economic growth and financial development. The analysis is as follows: a country with well – developed financial markets could stimulate and promote high economic growth through technology changes, and product and services innovation (Schumpeter, 1912); this in turn will create high demand in financial arrangements and services (Levine, 1997, Chong et al, 2005). As the financial institutions effectively respond to this demand, higher economic performance is ensured.

In this regard, both financial development and economic growth are positively interdependent and their relationship could lead to feed back causality (Khan, 2017). In summary, none of the works so far reviewed considered the possibility that the financial markets may not consider it appropriate to lend to the private sector even when there are funds, and the ratio of credit issued to non-financial private firms to total domestic credit (BCR) is not taken seriously. However, the studies of Shahnoushi, et al. (2008), AbuBader and Abu-Qarn (2005) and Güryay et al (2007) are key to this paper as their models were augmented to suit the target of this paper.

Conceptual Framework

The conceptual review of this study explains the various variables as well as the relationship that exist between the variables.

Concept of Financial Development

Financial development is the process that marks improvement in quantity, quality and efficiency of financial intermediary services. This process involves the interaction of many activities and institutions and possibly associated with economic growth. In other words, it implies the level of development and innovation of traditional and non-traditional financial services (Valverde, et al., 2004). Many other authors have also defined financial development in various ways. The World Economic Forum (2012) defines it as the factors, policies, and institutions that lead to effective financial intermediation and markets, as well as deep and broad access to capital and financial services. Noureen (2013) sees it as a catalyst in economic development and is widely recognized by both the monetary and development economists. Garba (2014) perceived it as the increased provision of financial services with a wider choice of services geared towards the development of all sectors of the economy. According to the new growth theorists, a well-developed financial system facilitates high and sustainable economic growth (Hicks, 2019). Oloyede (2018) remarked thus, "Financial development is the outcome of accepting appropriate real finance policy such as relating real rate of return to real stock of finance". It is widely acknowledged that financial development is a multidimensional concept and constitutes a potentially important mechanism for long run economic growth. It plays fundamental roles in the development and growth of the economy. The effectiveness and efficiency in performing these roles, particularly the intermediation between the surplus and deficit units of the economy, depend largely on the level of development of the financial system.

Financial development is the process that marks improvement in quantity, quality and efficiency of financial intermediary services. This process involves the interaction of many activities and institutions and possibly associated with economic growth. Therefore, financial development can be defined as the policies, factors and the institutions that lead to the efficient intermediation and effective financial markets (Nouren, 2009). The regulatory institutions in the financial system are the Federal Ministry of Finance, the Central Bank of Nigeria as the apex institution in the money market, the Securities and Exchange Commission (SEC) is the apex institution in the capital market, Nigerian Deposit Insurance Corporation, (NDIC), National Insurance Commission (NAICOM) and the National Pensions Commission (PENCOM) play varying regulatory roles in the Nigerian financial system.

Concept of Poverty

A concise and universally accepted definition of poverty is elusive largely because it affects many aspects of the human conditions, including physical, moral and psychological. Different criteria have, therefore, been used to conceptualize poverty. Most analyses follow the conventional view of poverty as a result of insufficient income for securing basic goods and services. Others view poverty, in part, as a function of education, health, life expectancy, child mortality etc. Blackwood and Lynch (2014), identify the poor, using the criteria of the levels of consumption and expenditure.

Further, Sen (2013), relates poverty to entitlements which are taken to be the various bundles of goods and services over which one has command, taking into cognisance the means by which such goods are acquired (for example, Money and Coupons etc) and the availability of the needed goods. Yet, other experts see poverty in very broad terms, such as being unable to meet "basic needs" – (physical; (food, health care, education, shelter etc. and non – physical; participation, identity, etc) requirements for a meaningful life (World Bank, 2016).Poverty may arise from changes in average income or changes in the distribution of income. Let us for instance, assume a relationship between the poverty line (L) below which an individual is poor and the average incomes of the population (Y). The poverty index will decrease (increase) as L (Y) increases (decreases). Since higher average incomes are above the poverty line, other things being equal there will be less poverty. Among the "other things" that are equal is the distribution of income. Compare for instance, two countries with identical mean incomes (and poverty line), but with one having a wider area of distribution of incomes (that is one with greater income inequality); poverty will generally be greater in the country with higher inequality, since there will be relatively more people with incomes lower than the poverty line (L). Thus, the distribution of income has an important influence on poverty.

Poverty can also be the outcome of inefficient use of common resources. This may result from weak policy environment, inadequate infrastructure, weak access to technology, credit etc. Also, it can be due to certain groups using certain mechanisms in the system to exclude "problem groups" from participating in economic development, including the democratic process. In Sub-Sahara Africa (SSA) , the agricultural sector was exploited through direct and indirect taxation throughout the colonial and post-colonial decades leading to poor growth performance of the sector, heightened rural-urban migration and employment crisis. In urban SSA, Silver (2014) suggests three paradigms of exclusion: the individual's specialization that cannot be accommodated in the factor market (specialization paradigms); the various interest groups that establish control over the input of available resources, for example, on goods and labour markets and simultaneously foster solidarity within the respective interest groups (monopoly paradigms); and the individual which has a troubled relationship with the community (solidarity paradigm). Poverty can be structural (chronic) or transient. The former is defined as persistent or permanent socio-economic deprivations and is linked to a host of factors such as limited productive resources, lack of skills for gainful employment, endemic socio-political and cultural factors and gender. The latter, on the other hand, is defined as transitory/temporary and is linked to natural and man-made disasters. Transient poverty is more reversible but can become structural if it persists..

Empirical Review

A superficial analysis of the subject matter signifies quite a huge number of empirical literatures that have been made in emerging and advanced countries yet there is still gap in the literature. For example, Ishaq and Abbas (2020) examines whether financial services (McKinnon conduit) or provision of credit is more effective in reducing poverty in Nigeria using data for the period 1980-2018. It employs Autoregressive and Distributed Lag Model (ARDL) Approach to estimate the parameters and cointegration analyses for income and consumption models. The results of the ARDL Bound Test to Cointegration indicate a long-run relationship among the variables in the two models. The study reveals that availability and improvement in financial services is more beneficial than credit growth. In addition, the study suggests that financial instability may hurt the poor and retards the beneficial effect of financial development particularly in the short run.

Ifeanyi and Anthony (2019) examined the impact of financial sector development on investment in government treasury bills in Nigeria. Financial sector development was proxied by the ratio of money supply to GDP (M2/GDP); the outstanding treasury bills in money market measured private sector credit to GDP (CPS/GDP) and lending interest rate while the dependent variable. The study adopted the ex-post facto research design. The study adopted the multiple regression technique while the result of the regression coefficient was subjected to diagnostic tests. The result of the study showed that the level of intermediation and lending interest rate had significant effect on investment in treasury bills in Nigeria as a unit increase in interest rate resulted in 52 percent increase in treasury bills. Also a unit increase in lending rate of banks led to 11 percent increase in investment in treasury bills in Nigeria. Based on the results, the study recommended a systematic reduction in lending interest rates and increase in savings rate to stimulate high investment returns to savers and reduce the credit risk on lending.

Mohieldin et al. (2019) examined the impact of financial development on economic growth in Egypt using time series data between 1980 and 2016. They utilized ARDL technique to analyze the new data set of financial development indexes released by IMF. Their analysis reveals a strong relationship between real growth per capita and financial development. Surprising, their study indicates no causal relationship between access and uses of financial service and real per capita income. However, stock market indices have strong association with real per capita gross domestic product. The author suggest further reforms in banking and stock markets for their critical role in enhancing economic growth and welfare of Egypt. Fawowe and Abidoye (2018) examined the effect of financial development on poverty and inequality in African countries. The results indicated that financial development has not had a significant effect on poverty and inequality. Macroeconomic variables such as low inflation and trade openness were found to be statistically significant, implying that they can help reduce the level of poverty and inequality. Our results confirm the deficiencies in African financial systems and highlight the fact that more efforts need to be done to improve access of poor households and Small and Medium Scale Enterprises to financial services.

Chinweze (2017) investigated the impact of Financial Deepening in reducing Poverty in Nigeria. Human Development Index was used as proxy for reducing Poverty due to its multidimensional nature while the ratios of Credit to the Private Sector, Broad Money Supply and Market Capitalization to GDP were used to proxy financial deepening. Data sourced from Central Bank of Nigeria Statistical Bulletin (2015) and World Development Indicators published by the World Bank from 1981 to 2015 were used to analyze this relationship by adopting the multilinear econometric model and using the Error Correction Model. It was found that there is a unidirectional causality running from financial deepening to Poverty Reduction. The study concluded that financial deepening is beneficial in reducing poverty in Nigeria. The study therefore recommended that Policy Makers should embark on a policy of financial inclusion and financial intervention programmes in Nigeria.

Victor and Samuel (2016) examined empirically, the implications of financial development for economic growth in Nigeria, using time series data covering the period between 1990 and 2011 from Nigeria. The co integration technique with its implied Error Correction Mechanism (ECM) was applied. This commenced with the ADF unit root test, followed by the Johansen co integration test. The Over parameterizes and Parsimonious ECM was next and the Vector Error Correction, diagnostic tests and Cholesky variance decomposition followed this. The variables included Real Gross Domestic Product, Financial deepening which is a ratio of money supply to Gross Domestic Product, liquidity ratio, interest rate and credit to the private sector. Financial sector development has not significantly improved private sector development. The minimum capital base and liquidity ratio has improved the level of economic growth in Nigeria. The Johansen co integration test suggests a long run relationship among the variables and the significant ECM, which is negatively, signed supports the long run relation among the variables and indicates a satisfactory speed of adjustment. Although financial sector development has on the aggregate significantly improved the level of economic performance, the credit to the private sector did not play significant role according to the study. The study recommends, amongst others, that further development of the financial sector should be oriented towards the development of the private sector.

Summary of Reviewed Literature

The review of related literature covered the concept of financial development, poverty, financial development and poverty in Nigeria. The study was grounded on the Demand-

Following theory and Financial Liberalization Theory. The empirical studies reviewed all the works of Ifeanyi and Anthony (2019), Chinweze (2017), Ishaq and Abbas (2020), Zahonogo (2016), Mohieldin et al. (2019), Akhter and Dally (2019), Quartey (2016), Fawowe and Abidoye (2018), Olanrewaju, Aremo and Aiyegbusi (2017), who studied the impact of financial development on poverty with different years interval and variables. Despite the above studies, it was discovered that none of such studies has been carried out on the impact of financial development on poverty in Nigeria between the ranges of 1990 to 2020, thus creating a gap for this study. It was on this premises that this study will be carried out to fill the gap by examining the impact of financial development on poverty in Nigeria from 1990 to 2020.

METHODOLOGY

This chapter presents the various methodologies to be employed in carrying out the study. The chapter covers the following sub-headings: research design, data collection methods and sources, model specification, pre-estimation test, data analysis techniques and post-estimation test.

Research Design

This research will adopt the ex-post facto design to capture the impact of financial development on poverty in Nigeria. The reason for the adoption of this design is because the research relied on already recorded events, and researchers do not have control over the relevant dependent and independent variables they are studying with a view to manipulating them.

Model Specification

The model for the study was based on the empirical work of Dandume (2014) with modification. Per capita income (PCI) was used as proxy for poverty alleviation and serves as the dependent variable while money supply (MS), domestic credit to private sector (DCPS) and interest rate (IR) were the independent variables. Thus, the base model is given as follows:

PCI = f(MS, DCPS, IR)……………………………………………(1)

Where:

PCI	=	Per capita income, proxy for poverty index
MS	=	Money supply
DCPS	=	Domestic credit to private sector
IR	=	Interest rate

The econometric equation from functional model was generated thus:

$PCIt = \beta0 + \beta\ 1MSt + \beta\ 2DCPSt + \beta\ 3IRt + \varepsilon t$……………………(2)

The above equation serves as the estimable equation for the hypothesis of the study, where all coefficients of the variables are as defined. The theoretical basis for the model is the established nexus between financial development and poverty in Nigeria. According to the financial repression based theory, the financial sector provides capital for economic growth and access to information to take it up (Levine, 2002). A sound and liquid financial sector serves as an engine of economic growth which in turn transmits into poverty reduction.

Variables Description

The variables of this study are classified as dependent variable and independent variable:

Independent Variables:

Financial development is the independent variable and it is measured by:

Domestic Credit to Private Sector: refers to financial resources provided to the private sector by other depository corporations (deposit taking corporations except central banks), such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment.

Money Supply: measures the total volume of money supply in the economy and is defined as narrow money plus savings and time deposits with banks including foreign denominated deposits.

Interest Rates: is the amount of interest due per period, as a proportion of the amount lent, deposited, or borrowed (called the principal sum).

Dependent Variable:

Poverty is the dependent variable and it is proxied by:

Per Capital Income: measures the average income earned per person in a given area (city, region, country, etc.) in a specified year.

Data Analysis Techniques

In this study, the Ordinary Least Squares Method (OLS) will be used to test the relationship between the different variables of Financial Development and Poverty in Nigeria. This technique will be facilitated by the application of E-views econometric software. Various residual and descriptive statistics will be carried out to establish the relationship of each independent variable on PCI and the result of each test will be analyzed. The econometric analysis will cover the period of 1990-2020.

Presentation of Data

This chapter is concerned with the presentation of data and results. The discussions of findings are made in the course of the researcher's investigations into the subject matter.

Descriptive Statistics

This seeks to determine the basic characteristics of the data collected as well as to determine whether such data fulfill the basic conditions for econometric analysis.

Table 4.1: Descriptive statistics

	PCI	MS	DCPS	IR
Mean	39768.42	264.1224.	12.30474	81.90442
Median	2.865000	612685.8	1.287500	57.19500
Maximum	32540.00	9615222.	2.600000	360.0000
Minimum	-14.17000	15100.00	5.170000	0.546000
Std. Dev.	9.785369	3285597.	4.484021	84.79335
Skewness	0.690110	0.864725	0.582836	1.054767
Kurtosis	3.934155	2.096950	3.643943	4.162851
Jarque-Bera	4.397953	6.026956	2.807966	9.187064
Probability	0.110917	0.049121	0.245617	0.010117
Sum	151.1200	1.00E+08	467.5800	3112.368
Sum Sq. Dev.	3542.877	3.99E+14	743.9383	266026.8

Observations	30	30	30	30

Sources: Researcher's computation from E-view (version 10.0)

From table 4.1, Per capital income (PCI) averaged ₦39768.42 billion between 1990 and 2020. The maximum PCI within the period was ₦32.54000 billion, while the minimum PCI was ₦-14.17000 billion for the period. Money supply (MS) averaged ₦264.1224 billion in 30 years. The maximum MS for the period was ₦9615222 billion and the minimum MS was ₦15100.00. Domestic credit to private sector (DCPS) had an average of ₦12.30474 billion within the period covered. The maximum DCPS was ₦2.600000 while the minimum DCPS was ₦5.170000 for the period. Interest Rate averaged ₦81.90442 billion, the maximum IR was ₦360.0000 and the minimum was ₦0.546000 for the period.

Unit Root Test

For consistency, reliability, and stability of the variables in the model, we subjected the variables to unit root stationarity test using the Augmented Dickey Fuller (ADF) test. The decision rule is that Augmented Dickey-Fuller (ADF) test statistics must be greater than Mackinnon Critical Value at 5% and at absolute term i.e. ignoring the negativity of both the ADF test statistics and Mackinnon critical value, before the variable can be adjudged to be stationary, otherwise we accept the null hypothesis (H0) i.e. data is non-stationary and reject the alternative hypothesis (H1) i.e. data is stationary. The results of the ADF unit root tests are reported in table 4.2.

Table 4.2: Augmented Dickey Fuller Unit Root Test

Variables	ADF Test Statistic	Mackinnon critical value @ 5%	Order of Integration	Remarks
PCI	-5.684338	-2.945842	I(1)	Stationary
MS	-7.415911	-2.976263	I(1)	Stationary
DCPS	-5.919670	-2.948404	I(1)	Stationary
IR	-8.238099	-2.948404	I(1)	Stationary

Sources: Researcher's computation from E-view (version 10.0)

In Table 4.2 above, we presented the results of the ADF test of stationarity for all the variables both in levels, first difference and second difference forms. From our results, we reject the null hypotheses because their respective ADF test statistics value is greater than McKinnon critical value at both in absolute terms and at 5%. The order of integration for all the variables therefore is 1(1).

Co-integration Test

The econometric concept of co-integration is related to the problem of determining the long-run equilibrium relationship. In other words, co-integration is the statistical analysis that tests the existence of a long-run equilibrium relationship between variables in a model. The condition for a long run co-integrating vector is that likelihood ratio must be greater than 5% critical value. Table 4.3 shows the result of co-integration result.

Table 4.3: Result of Johansen Co-integration

Series: PCI, MS, DCPS, IR

Hypothesized No. of CE(s)	Trace Statistic	Max-Eigen Statistic	0.05 Critical Value	Prob. Value
None *	143.9721	0.828831	47.85613	0.0000
At most 1 *	85.72372	0.702236	29.79707	0.0019
At most 2 *	45.74578	0.537108	15.49471	0.1838
At most 3 *	20.32714	0.459885	3.841466	0.3811

***(**)** denotes rejection of the hypothesis at 5% (1%) significance level\
L.R test indicates 3 co-integrating equation(s) at 5% significance level
Sources: Researcher's computation from E-view (version 10.0)

It is clear from the test result in table 4.3 that all the variables were co-integrating eqn(s) at the 0.05 level. This shows that a long-run relationship exist among the variables, that is, per capita income, money supply, domestic credit to private sector and interest rate.

The Ordinary Least Square Regressions

The least square regression is carried out to determine the functional relationships that exist between the variables in the model formulated in this study. The result obtained is indicated in Table 4.4 below.

Table 4.4 Ordinary Least Square Regression Test

Dependent Variable: PCI
Method: Least Squares
Date: 04/10/22 Time: 11:04
Sample: 1990-2020
Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PCI	3.443719	0.208941	16.48174	0.0000
MS	12.75506	5.676326	2.247062	0.0307
DCPS	136.9713	195.4547	0.700783	0.4878
IR	-2977.710	4060.283	-0.733375	0.4680

R-squared	0.979282	Mean dependent var	33257.61
Adjusted R-squared	0.977603	S.D. dependent var	45609.35
S.E. of regression	6825.785	Akaike info criterion	20.58727
Sum squared resid	1.72E+09	Schwarz criterion	20.75445
Log likelihood	-418.0390	Hannan-Quinn criter.	20.64815
F-statistic	582.9742	Durbin-Watson stat	0.588276
Prob(F-statistic)	0.000000		

Source: Researcher's Computation using E-views 10

The result in Table 4.4 above indicates that the independent variables determine 97.8% of the changes in PCI. The F-statistic of 583 and p-value of 0.000 reveal that the model has a very high goodness of fit. Moreover, the t-statistics reveal that both MS and DCPS have significant positive relationships with PCI at 5% level of significance whereas that of IR is negative but insignificant. The one and two-period lags of MS and DCPS were also found to have negative and positive relationships with PCI, respectively. Lastly, the Durbin Watson statistic of 0.588 is far from the benchmark of 2.0, which indicates likelihood of serial correlation in the model estimate.

CONCLUSION

Conclusion

This study was aimed to examine the impact of financial development on poverty in Nigeria using annual time series data- spanning 30 years (1990-2O20). Variables used in the model were; per capita income, money supply, domestic credit to private sector and interest rate. The data for this study was obtained mainly from secondary source, which was collected from CBN statistical bulletin. The Ordinary Least Square (OLS) regression technique was employed using econometric views (E-views) version 10.0 software The results indicated that that there is a significant positive relationship between financial development and poverty in Nigeria, which is consistent with the a priori expectation. Also, the result showed that money supply has a positive and significant effect on poverty in Nigeria. Furthermore, the study revealed that domestic credit to private sector has positive and insignificant effect on poverty eradication in Nigeria. Finally, the findings revealed that interest rate has a negative and insignificant effect on poverty in Nigeria. This result implies that an increase in broad money supply and domestic credit to private sector will lead to a decrease in Poverty level in Nigeria, while an increase in real interest rate will lead to an increase in Poverty level in Nigeria. The results support the empirical findings of past studies such as Quartey (2005) his findings suggests a long-run relationship between the variables and the Granger-causality test points to unidirectional causality from financial development to poverty reduction. The effect of financial development on poverty in Ghana is positive but insignificant, attributing it to the fact that financial intermediaries have not adequately channeled savings to the pro-poor sectors of the economy owing to government deficit financing, high default rate, lack of collateral and lack of proper business proposals etc. From the foregoing, the study concludes that there is a significant and positive relationship between financial development and poverty in Nigeria. The study also concludes that financial development, which has made more credit available to the private sector, has led to poverty alleviation in Nigeria, though not at a level that is significant and substantial due to high lending rates and low deposit rates. Furthermore, the study concludes that Money Supply reduces Poverty in the Long-run. Finally, it is concluded that interest rate has a negative and insignificant effect on poverty in Nigeria.

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