

## Financial Sector and Economic Development of Nigeria and South Africa

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### Abstract

*The study examines the financial sector and economic development of selected countries of Sub-Saharan Africa: the case of Nigeria and South Africa. The study covered the period of thirty-two years from 1990 to 2022. The specific objectives were to examine the effect of capital market capitalization on the economic development of Nigeria and South Africa, to examine the effect of the total value of equity traded on the economic development of Nigeria and South Africa, to ascertain the effect of bank deposit liabilities on the economic development of Nigeria and South Africa and to find out the effect of money supply on economic development of Nigeria and South Africa. The study adopted ex-post facto research design. The data is sourced from Central Bank of Nigeria Statistical Bulletin, World data, harts.com and Absa Group Limited in South Africa. Adopting the Auto-Regressive Distributed Lag (ARDL) modeling technique, the study revealed among others that whereas a significant short run relationship exists between financial sector (MCAP, TVET, BDL, MS) and all the selected economic development indicators (PI, HDI, GC, GDPC) in Nigeria, there is a significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and only two of the selected economic development indicators (HDI, GDPC) in South Africa. Similarly, whereas a significant long run relationship exists between financial sector (MCAP, TVET, BDL, MS) and all the selected economic development indicators (PI, HDI, GC, GDPC) in Nigeria, there is a significant long run relationship between financial sector (MCAP, TVET, BDL, MS) and only two of the selected economic development indicators (GC, GDPC) in South Africa. On the basis of these findings, the study concluded that though Nigeria outperformed South Africa under most of the indicators of economic development; most worrisome was the poor contribution of financial sector to poverty reduction in both Nigeria and South Africa. Thus, prominent among the recommendations the urgent need for both countries to make policies that will enhance the smooth functioning of the financial institutions, capital and money markets in their countries, since this can reduce the poverty index of their country.*

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**Keywords:** Market Capitalization, Equity Traded, Bank Deposit Liabilities, Economic Development

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## INTRODUCTION

Challenges of economic development in the developing countries have been well documented in literature using different factors as predictors of economic development. Despite the efforts of the scholars to formulate valid models that explain monetary and fiscal variables that determine economic development, the challenges continue to exist. The African financial system however remains largely underdeveloped compared to the developed financial market due to a number of factors, which include the adoption of financially repressive policies, poor macroeconomic policy management and political corruption, together giving rise to bank insolvencies, low savings rates and inefficient resource allocation. The underdevelopment has meant that the Nigerian economy struggles to accelerate economic development and reduce poverty. The objective of the financial sector reforms such as the banking sector consolidation and recapitalization was to reposition the Nigerian banking sector for effective and efficient intermediation that will enhance the realization of macroeconomic goals. The essence of the liberalization was to abolish interest rate ceiling, high reserve requirements and qualitative restrictions in the credit allocation mechanism but the effect of the liberation on the access to external finance to economic development remain a knowledge gap. Despite the widespread financial sector reforms that have taken place, the African financial sector still exhibits some level of inefficiency, illiquidity, thinness and limited range of financial instruments and investment opportunities. Owing to widespread over-regulation of the financial systems, the country continues to experience high levels of capital flight and financial intermediation bottlenecks (Odior, 2013). Financial intermediation is ineffective as evidence have shown that significant proportion of Nigerian has no access to financial services thereby increasing the level of banking density.

In addition, informal savings channels are prevalent in view of the grossly inadequate formal financial systems and leading to capital flight, low level of domestic resource mobilization and untapped resources in the informal sectors with considerable financing gap, which adversely affected development and poverty alleviation in African countries (Anyanwu, 2014). The South African financial system contains a highly developed and well-capitalized banking and financial sector which, however, caters mainly to the advanced segment of the South African economy. This first-world financial sector is highly concentrated – relying on competition among four large banks – and exists side by side with a developing economy very similar to those found throughout Sub-Saharan Africa, which is severely under-serviced. The challenge is therefore how the financial sector can promote economic growth, and expand products and services to meet the needs of the population that make little use of the financial system and the small and medium sized enterprises (SMEs) that do not utilize the banking system and capital markets to obtain funds for growth, while at the same time safeguarding financial stability.

To address this challenge, the South Africa Financial Sector Development and Reform Program (FSDRP) was launched in July 2014 with an initial contribution from the Swiss State Secretariat for Economic Affairs (SECO) and is scheduled to complete in June 2018. The objective of the FSDRP is to assist the Government in strengthening financial stability and improving financial inclusion, through analytical and advisory services. Significant proportion of Nigerians are financially excluded as financial services are lacking in rural area of Nigerian communities. The consequences are the continuous existence of financial dualism and financial leakages in the economy. Significant proportion of the money supply is outside the banking sector making it difficult for the monetary authorities to control the volume of money in

circulation. The over-regulation and control of the financial system restrict the ability of the financial system to efficiently fund investment. The factors that determine economic development of developing countries have long been a matter of concern among policy makers and economists. Achieving sustainable economic development has been the policy thrust of Nigerian government. This led to the formulation of development plans and rolling plans in the pre and post-independence eras which has expanded fiscal operations with deficit financing over the years. There are various studies on the effect of financial development, most of the studies are country specific studies Hao (2016); Ezirim and Muoghali (2001); Toby and Zaagha (2020); Zaagha (2020); Adelagan (2010); Obamuyi (2012); Michael (2012); Akani, Lucky and Anyamaobi (2016); Akani, Lucky and Uzah (2016) Obilor (2013) and Iheanyi (2012). All these divergent views give enough reasons to investigate the impact of financial sector development on economic development of Nigeria and South Africa.

## LITERATURE REVIEW

### Financial Sector Development

Financial sector development is often understood to mean that; sectors and agents are able to use a range of financial markets for savings and investment decisions (Shaw, 1973). Encompassing long maturities; financial intermediaries and markets are able to deploy larger volumes of capital and handle larger turnover, without necessitating large corresponding movements in asset prices (market liquidity); and the financial sector can create a broad menu of assets for risk-sharing purposes (hedging or diversification).

Financial sector development provides alternative sources of funding during times of international stress, limiting adverse spill-overs, as evidenced in the global crisis. At the same time though, deepening can occur too quickly, leading to credit booms and subsequent busts. It is an increased ratio of money supply to GDP or given price index. In other terms, it is an improvement or increase in the areas of financial services focused to all societal levels in any community. Role of financial sector development in the growth processes of any country's economy is vital. Shaw and McKinnon (1973) refer financial sector development as the improvement or increase in the pool of financial services that are tailored to all the levels in the society. That it also refers to the increase in the ratio of money supply to Gross Domestic Products or price index which ultimately postulates that the more liquid money is available in the economy, the more opportunities exist in that economy for continued and sustainable growth. Financial deepening implies the ability of financial institutions to effectively mobilize savings for investment purposes. It enables the commercial banks perform their intermediary functions and achieve its operational objectives.

### Market Capitalization Ratio

Capital Market capitalization refers to the total naira market value of a company's outstanding shares. Commonly referred to as market capitalization, is calculated by multiplying a company's shares outstanding by the current market price of one share, the investment community uses this figure to determine a company's size, as opposed to using sales or total asset figures (Osinubi, 2004). Capital market capitalization is measured in relationship to Broad Money Supply which signifies percentage of Broad Money Supply that is invested in the Nigeria capital market. Beck & Levine(2004) have shown that with market capitalization, there is no theory suggesting that mere listing of shares will influence resource allocation and

economic growth. (Levine & Zervos, 1998) also indicate that market capitalization is not a good predictor of economic growth. However, (Yartey, 2008) differs on this issue and opined that the assumption behind this measure is that overall market size is positively correlated with the ability to mobilize capital and diversify risk on an economy-wide basis. For these unsettled discussions, we shall use market capitalization as a ratio of GDP, total value of shares traded ratio and turnover ratio, each at a time to determine the performance of each of them, and avoid multi-collinearity in the model since (Demiguc-Kunt & Levine, 1996) has observed that different measures of stock market development are highly correlated.

### **Total Value Traded**

Rousseau and Wattle (2000) and Beck and Levine (2004) used this measurement and it is given as the ratio of total value of shares traded to GDP. It measures the degree of trading relative to the size of the economy. It reflects stock market liquidity on an economy wide basis. Total value traded is used to refer to the ability of investors to buy and sell securities easily. It is an important indicator of stock market development because it signifies how the market helps in improving the allocation of capital and thus enhancing the prospects of long-term economic growth. This is possible through the ability of the investors to quickly and cheaply alter their portfolio thereby reducing the riskiness of their investment and facilitating investments in projects that are more profitable though with a long gestation period. Two main indices are often used in the performance and rating of the stock market: total value traded ratio; and turnover ratio.

### **Bank Deposit Liabilities**

Bank deposits remain the largest source of liabilities for banks. Below are the various forms through which banks accept deposits from its customers;

- i. Checking accounts: A deposit account held at a bank or other financial institution, for the purpose of securely and quickly providing frequent access to funds on demand, through a variety of different channels. Because money is available on demand these accounts are also referred to as demand accounts or demand deposit accounts.
- ii. Savings accounts: Accounts maintained by retail banks that pay interest but cannot be used directly as money (for example, by writing a cheque). Although not as convenient to use as checking accounts, these accounts let customers keep liquid assets while still earning a monetary return.
- iii. Money market account: A deposit account with a relatively high rate of interest, and short notice (or no notice) required for withdrawals. In the United States, it is a style of instant access deposit subject to federal savings account regulations, such as a monthly transaction limit.
- iv. Time deposit: A money deposit at a banking institution that cannot be withdrawn for a preset fixed 'term' or period of time. When the term is over it can be withdrawn or it can be rolled over for another term, generally speaking, the longer the term the better the yield on the money. The implications of bank-based and market-based financial systems for resource allocation and economic growth are highlighted by Allen and Gale (2000) and Levine (2001). The importance of the financial markets is to allow borrowers borrow funds directly from the lenders by selling financial instruments such as securities to the borrowers. Although financial markets are not likely to attract small savers, a well-developed stock market allows risk diversification and better resource allocation. As opposed to financial

markets, the bank-based models suggest the indirect financing role of the financial intermediation that allows funds to be mobilized from large number of small savers to large number of borrowers.

### **Money Supply**

The total volume (stock) of money in circulation among the public at a particular point of time is called money supply. Money supply is the entire stock of currency and other liquid instruments in circulation in an economy at a particular time. The money supply can include cash, coins, and balances held in checking and savings account, and other near money substitutes. Economists are of the view that detailed analysis of money supply remains key variable towards understanding macroeconomic paradigm and a tonic that guides macroeconomic policy. Whereas monetization ratio includes money-based indicators or liquid liabilities like broad money supply to GDP ratio, intermediation ratio consists of indicators concerning bank-based measures like bank credit to the private sector and capital market-based measures such as capitalization ratio of stock market (Ndebbio, 2004).

### **Interest Rate**

Interest rate spread (IRS) in an economy is crucial for growth and development, as numerous authors suggest a critical link between the efficient intermediate and economic growth. Efficient intermediation benefits real economy by allowing higher expected return to a saver and providing more opportunity by cheap investable funds (Quaden, 2004). Higher interest rate spread discourages a potential saver and is a barrier for a potential investor, since the cost of intermediating between a saver and an investor has strong implication for effective mobilization of funds. Inefficiency of financial intermediary causes high intermediation cost and increases loss of productive funds in intermediary process. This leads to a reduction in lending, investment and economic growth. The interest rate spreads (measured as the difference between deposit and lending rates) not only indicate the level of inefficiency of the banking sector but show the level of development of the financial system. Bank interest rate spreads have several important implications for growth and development of any economy. Specifically, high interest rate spreads tend to discourage potential savers and thus limiting the quantum of funds available to potentials investors. A reduction in lending arising from low savings often leads to low investment and thus the economic growth rate. Incidentally, interest rate spreads in Nigeria increased by a large amount over the study period.

### **Economic Development**

Economic development is the process by which a nation improves the economic, political, and social well-being of its people. The term has been used frequently by economists, politicians, and others in the 20th and 21st centuries. The concept, however, has been in existence in the West for centuries. "Modernization, westernization, and especially "industrialization is other terms often used while discussing economic development. Economic development has a direct relationship with the environment and environmental issues Economic development is very often confused with industrial development, even in some academic sources.

Whereas economic development is a policy intervention endeavor with aims of improving the economic and social well-being of people economic growth is a phenomenon of market productivity and rise in gross domestic products. Consequently, as economist Amartya points

out economic growth is one aspect of the process of economic development. According to Rana et al. (2015) economic growth and development is a two-way relationship. According to them, the first chain consists of economic growth benefiting human development, since economic growth is likely to lead families and individuals to use their heightened incomes to increase expenditures, which in turn furthers human development. At the same time, with the increased consumption and spending, health, education, and infrastructure systems grow and contribute to economic growth.

### **Income Distribution (GINI Coefficient)**

The Gini index, or Gini coefficient, is a measure of the distribution of income across a population developed by the Italian statistician Corrado Gini in 1912. It is often used as a gauge of economic inequality, measuring income distribution or, less commonly, wealth distribution among a population.

### **GINI Index Implications**

The GINI coefficient or index is a prominent measure of income inequality. It leverages a scale of 0 to 1 to derive deviation from perfect income equality. A GINI index of 0 would imply perfect income equality, while an index of 1 would imply complete income disparity. The World Bank is the main organisation that provides the GINI index data. However, data is only available for 130 countries. Numerous other organisations provide statistics on income inequality and the ranking of countries using the World Bank's GINI index data.

While the GINI index may seem, at first glance, to be an indicator of a fairly abstract concept, in many cases net income has a direct effect on quality of life. A look at some of the world's poorest areas provides a glimpse of slums and poverty that few of us want to experience firsthand, and offers a striking contrast to the living conditions of the rich.

### **Gross Domestic Product per Capita (GDP/CAP)**

Governments can use per capita GDP to understand how the economy is growing with its population. GDP per capita analysis on a national level can provide insights into a country's domestic population influence. Overall, it is important to look at each variable's contribution to understand how an economy is growing or contracting in terms of its people. There can be several numerical relationships that affect per capita GDP. If a country's per capita GDP is growing with a stable population level it can potentially be the result of technological progressions that are producing more with the same population level. Some countries may have high per capita GDP but a small population which usually means they have built up a self-sufficient economy based on an abundance of special resources.

### **Poverty Rate**

Poverty is about not having enough money to meet basic needs including food, clothing and shelter. However, poverty is more, much more than just not having enough money. The World Bank Organization describes poverty in this way:

“Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. Poverty has many faces, changing

from place to place and across time, and has been described in many ways. Most often, poverty is a situation people want to escape. So poverty is a call to action for the poor and the wealthy alike call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities. The National Bureau of Statistics (NBS) recently released the “2019 Poverty and Inequality in Nigeria” report, which highlights that 40 percent of the total population, or almost 83 million people, live below the country’s poverty line of 137,430 naira (\$381.75) per year. The NBS report is based on data from the latest round of the Nigerian Living Standards Survey, conducted in 2018-2019 with support from the World Bank’s Poverty Global Practice and technical assistance from the LSMS program. The Nigerian Living Standards Survey (NLSS) is the official survey that is the basis for measuring poverty and living standards in the country and is used to estimate a wide range of socio-economic indicators including benchmarking of the Sustainable Development Goals. Between September of 2018 and October of 2019, the National Bureau of Statistics conducted the latest round of the NLSS, a decade after the previous one.

### **Human Development Index**

The Human Development Index is a statistical tool used to measure countries overall achievements in its social and economic dimensions. This paper tried to find out major factors affecting Human Development Index like health index, education index and income index. It was developed and launched by Pakistani economist Mahbub-ul-Haq, followed by Amartya Sen, an Indian economist, in 1990. Human Development Index is a comprehensive tool devised by the United Nations for measuring the levels of social and economic developments of the different countries and ranking them accordingly. It is a comparative measure of life expectancy, education, literacy and standard of living. Essentially, Human Development Index, HDI, makes use of four parameters for measuring and ranking countries according to their social and economic development which includes the Life Expectancy at Birth, Expected Years of Schooling, Mean Years of Schooling and Gross National Income per Capita (Shah, 2016).

### **Supply Leading Hypothesis**

This theory was authored by Schumpeter (1911) and later adopted by scholars such as McKinnon (1973); Shaw (1973); Gupta (1984); Fry (1988); Greenwood and Jovanovich (1990) and Bencivenga and Smith (1991). This theory postulates that financial development in any country causes economic growth. In an economy with no friction in the transaction, information and monitoring costs, no financial intermediaries are needed. According to the theory, if transaction, information and monitoring costs are sufficiently high, then, no exchange among economic agents is necessary. These desires led to the emergence of financial institutions and markets that make up the financial sector. According to this theory, a well-developed financial sector will ensure reduced transaction, information and monitoring costs thereby increasing the efficiency of intermediation.

### **Demand Following Hypothesis**

Moving away from the neoclassical state equilibrium analysis, to a highly developed financial system, consisting of financial intermediaries, leads to a demand following phenomena (Patrick, 1960). Under this, in response to the demand from real economy, there are the development of modern financial institutions, their financial assets and liabilities, and related financial services. This model postulates that the developments of the real economy will in

itself induce increase in demand for financial services. The increase demand for financial services will spontaneously generate or lead to the introduction of new financial institutions and markets which will satisfy that increased demand for financial services.

This Theory is important to this study as it provides a different view that the developments in financial deepening does not necessarily lead to economic growth. It also provides an alternative explanation suggesting that economic growth drives deepening of the financial sector. The evolutionary development of the financial system is a continuous result of the pervasive, widespread process of economic development. The financial system is influenced by economic environment, institutional framework and also by individual motivations, attitudes, tastes and preferences. The demand for financial services is a function of growth of real output, commercialization, monetization of agriculture and other traditional subsistence sectors.

### **Financial Repression Theory**

Governments and particularly developing country governments have intervened extensively in order to divert large amount of funds to the priority sectors such, state owned enterprises, small and medium scale firms and to a lesser extent housing, exports and underdeveloped regions. One way that government's finance expenditures in excess of tax revenues is to force the private sector, insurance companies, pension funds, commercial banks and other public financial institutions to buy government securities at below market yields as generally returns on government securities is much below the market rates of interest.

Another way in which government can borrow at low rates of interest is by setting high liquid asset ratios and ensuring that government securities are the only eligible assets that satisfy this requirement. Also, by setting high reserve requirements, the government can borrow indirectly from the banking system at a zero. Finally, governments may set ceilings on interest rates to limit competition from the private sector for loanable funds (Fry, 1997 and Giovannini and de Melo, 1990). Thus; financial repression is not a precise concept since the controls imposed on financial markets are a combination of price and quantity restrictions.

### **Empirical Review**

**Osakwe, Ogbonna & Obi-Nwosu (2020)** examined a comparative study of the stock market capitalization on economic growth in Nigeria and South Africa for the period 2000-2018. The impressive growth recorded by Nigeria and South Africa Capital markets performance indicators are expected to transform their economies to the desired level. The study relies on time series OLS regression to analyze the data. The study found that the relationship between market capitalization ratio to GDP and economic growth is positive for South Africa but insignificant for Nigeria. Thus, the economic growth is positively correlated with the size of both countries' capital markets, though the size of South Africa capital market has better contribution to economic growth compared to Nigeria. The study recommends that there is a need to increase the size of the markets in both countries by increasing the number of financial instruments available to investors so as to increase trading as well as improve liquidity in the markets.

**Yousuo & Ekiou (2020)** investigated the impact of financial deepening on economic growth in Nigeria for a period of thirty-eight years from 1981 to 2018, with four specific objectives;

examining the effects of the monetized, credit, savings and stock markets criteria on the economic growth taking cognizance of the impact of administrative regimes. Time series data were employed sourced from the Central Bank of Nigeria statistical bulletin of 2018 edition, the classical least square of multiple regressions with the application of dummy variable to capture the effects of the various Regimes was adopted in analyzing the data. The results show that financial deepening has both short and long-term effects on economic growth, the estimated regression line is significance as confirm by the f-statistics. The stock market, credit criteria have positive and significant effect on economic growth, savings criteria has negative and significant effects on economic growth, while the monetized criteria have positive and insignificant effects on growth in the short run. The unit root test shows that all the variable data have unit root, the selected processes of financial deepening are the true determinant of economic growth in Nigeria with high degree of effectiveness in the civilian regime. We then recommend that stringent measures should be taken to enhance the effects of the financial subsector of the economy in order to foster its role in promoting and sustaining growth in the economy.

**Okoro *et al.*, (2021)** attempted to give a better understanding of the type of relationship by analysing post-SAP (Structural Adjustment Programme) time-series data since the notable financial reforms began with SAP in Nigeria. The study employed the Johansen Cointegration, error correction and granger causality as estimation techniques to determine the nexus between financial deepening and economic growth. The variables contained in the model include the ratio of credit to the private sector to gross domestic product (CPS) which proxy bank-based financial deepening, the proportion of market capitalisation to gross domestic product (MCAP) which proxy for stock market development. The result of the analysis revealed that the Nigerian economic growth is influenced by financial deepening positively and significantly, especially the bank-based financial depth.

**Khalaf & Saqfalhait (2019)** examined the impact of micro-finance institutions on economic growth in Arab countries. To test the effect of MFIs on economic growth in Arab countries, the paper employed panel data model for six Arab countries over the period 1999- 2016, the choice of the sample was based on data availability. The Stationarity, correlations and Hausman Specification test results revealed that MFIs have no effect in improving economic growth in Arab countries. The findings from the results were important for policymakers and stakeholders whose interests were to see to the improvement of regulations and strategies to strengthen the micro-finance sector as key player in the financial system in Arab countries.

**Onwubu & Okorie (2018)** evaluated the influence of micro-finance bank loan and advances on industrial output in Nigeria over the period of 2008 to 2014. The study employed secondary data from the central bank of Nigeria statistical bulletin. The multiple regression model of ordinary least square method was employed as ran via STATA 11 econometric software. The study revealed that micro-finance bank loans and advances showed significant impact on industrial output in Nigeria over the study period. The study therefore recommended a reduction in the cost of capital by the Nigerian government.

**Nwude & Anyalechi (2018)** examined the impact of micro-finance activities on rural economic growth and savings in Nigeria for the period 2000–2015. The ordinary least square regression was also deployed as the technique of analysis. The findings showed that the introduction of micro finance banking in Nigeria have not contributed to agricultural productivity but had

assisted in increasing rural savings habits in Nigeria. As a way of improving economic growth in Nigeria the recommendations were; that conscious effort should be geared towards the provision of basic infrastructure by the government; micro finance institutions should be encouraged to embark on relationship lending; diversification of some farm productive resources, especially risk relating to climate change should be diversified to increase productivity.

**Ofeimun & Nwakoby (2018)** examined the relevance of micro financing of small businesses in Nigeria. The data for the study was obtained from the Micro-finance banks and CBN annual reports for the period 1990 to 2015. The study adopted the ordinary least square regression as the basic techniques of analysis. The study also employed both normality and the multi-collinearity tests to examine the features of the data for analysis. The study, using the results of the micro financing of SMEs statistics and exploratory variables in a regression model showed that micro loan disbursed and micro loan spread have a significant positive relationship with small business growth in Nigeria during the period under review. The study also found a significant negative relationship between inflation rate and micro loan lending rate and small business growth as well as an insignificant relationship between micro loan spread and small business growth in Nigeria. The study therefore concluded that micro financing of small businesses by micro finance banks has a great effect in stimulating the economy. The study recommended amongst others that lending should be directed to the preferred sectors like agriculture and mining so as to stimulate growth in the economy.

**Adelegan, (2018)** examined the dynamic linkages between domestic investment, domestic credit to the private sector and gross domestic product (GDP) in Nigeria over the period of 1970 to 2015. The Vector Autoregressive (VAR) model, its accessories of impulse response functions (IRFs) and variance decomposition composition (VDC) were use. Findings indicate that the relationship between growth and domestic credit to the private sector is positive and insignificant. Also, the results show that increase in PLR reduces output for the period under study, but this was not statistically significant. In addition, the relationship between PDI and PDI is positive but statistically insignificant. Finally, the negative relationship between exchange rate and private domestic investment suggests that the appreciation of the real exchange rate discourages domestic private investment. The study recommends among others that monetary and fiscal policies should be better coordinated to ensure that macroeconomic fundamentals are moving in the right direction.

**William, Zehou, & Hazimi (2019)** investigated the factors that influence domestic credit to the private sector in Ghana. The study uses the Johansen co-integration and vector autoregression model to analyze panel data spanning the period from 1961 to 2016. Findings from the study revealed that though there is no long-run association among the variables, there exist significant short-run relationship between domestic credit to the private sector, broad money and gross capital formation. Further diagnostic tests showed that gross capital formation Granger causes both domestic credit to the private sector and broad money, and domestic credit to the private sector Granger-causes broad money. They concluded that money supply and gross capital formation are necessary factors to address in the quest for developing the financial strength of domestic banks in providing credit facilities to the private sector for economic growth.

**Courage & Leonard (2019)** examined the effect of commercial bank sectorial credit to the manufacturing and agricultural sub-sectors on economic growth in Nigeria with time series data from 1981 to 2015, using co-integration and error correction mechanism. The study specifies a three equation model to analyze the variables which include; real GDP, bank sectorial credit to manufacturing and agriculture subsectors, monetary policy rate, financial market development, sourced from CBN statistical bulletin and also the interaction variables, Empirical result revealed that commercial bank credit to the manufacturing and agricultural sub-sectors significantly affects economic growth in Nigeria both in the short run and in the long run. Furthermore, development of the financial sector enhances the growth effects of commercial banks credit to the manufacturing and agricultural subsectors of the economy. The study recommends that the Nigerian apex financial authorities should encourage banks via deliberate policy to increase credits to these sub-sectors of the economy.

**Olorunmade, Samuel, & Adewole, (2019)** examined the determinant of private sector credit and its implication on economic growth in Nigeria. The fluctuation in the supply of money and credit is the basic causal factor at work in cyclical process; when money supply falls, prices decrease, profit decrease, production activities become sluggish and production falls and when money supply expands, price rise, profit increase and the total output increases and finally growth takes place. Sample regression analysis was used to analyze data obtained from Central Bank of Nigeria statistical bulletin from 2000 to 2017. It was revealed in the determinant of credit supply that there was significant relationship between Total credits to private sector and money supply in Nigeria. The study also finds that there was significant relationship between private sector credit and economic growth in Nigeria. They recommend that there should be persistence increase of money supply to Nigerian economy in order to increase the flow of credit to the real sector of the Nigerian economy, financial institutions should distribute more credit to the real sector for productive purposes in order to increase Gross domestic product.

**Akani, Lucky & Anyamoabi (2016)** examined the effect of banking sector development on Nigerian capital formation. The objective is to investigate the extent to which various banking sector reforms affect Nigerian capital formation. Time series data was collected from the publications of Central Bank of Nigeria statistical bulletin from 1980-2014. The study has Nigerian Capital Formation (CF) as the function of Percentage of Bank credit to Gross Domestic Product (BC\_GDP), Percentage of Bank investment to Gross Domestic Product (BI\_GDP), Percentage of Bank deposit to Gross Domestic Product (BD\_GDP), Percentage of Bank Total Assets to Gross Domestic Product (BTA\_GDP) and Prime Lending Rate (PLR).

The study used the Ordinary Least Square (OLS) Method of co-integration test, Augmented Dickey Fuller Unit Root Test, Granger causality test in a Vector Error Correction Model setting to examine the relationship between the dependent and the independent variables. The study revealed that in the static regression result that all the independent variables have positive relationship with the dependent variable except prime lending rate. The Unit Root Test shows that the variables are non-stationary at level but stationary at difference. The co-integration result indicates long run relationship between the dependent and the independent variables. The granger causality test shows multivariate relationship running from the independent variables to the dependent variable and from the dependent variable to the independent variables while the vector error correction result shows adequate speed of adjustment to equilibrium. The study

concluded that banking sector development have significant effect on Nigerian capital formation.

**Lucky & Uzah (2016)** examined factors that determine Nigerian capital formation. The objective was to test Jhingan's propositions for sources of capital formation in Nigeria. Time series data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin. Nigerian Gross Fixed Capital Formation (GFCG/GDP) was modeled as the function of Broad Supply (M2/GDP), Credit to Private Sector (CPS/GDP), Gross National Savings (GNS/GDP), Commercial Banks Lending Rate, Exchange Rate (EXR), Inflation Rate (INFR), External Debt (EXTD/GDP), Public Expenditure (PEX/GDP), Government Revenue (GR/GDP), Terms of trade (TT/GDP) and Operating Surplus (OPS/GDP). Cointegration Test, Augmented Dickey Fuller Unit Root Test, Granger Causality Test and Vector Error Correction Model were used to test the dynamic relationship between the variables. Findings proved that M2/GDP, GNS/GDP, EXR, EXTD/GDP, TT/GDP have negative and insignificant effect on capital formation while CPS/GDP, LR, INFR, PEX/GDP, GR/GDP and OPS/GDP have positive and insignificant effect. The model summary revealed 86.0% explained variation and f-statistics 12.38458 probability of 0.000004. The study concludes that the variables have significant impact on Nigerian Gross Fixed Capital Formation and confirm the Jhingan's proposition. It was recommended that the financial sector should be deepened, policies should be directed to discourage capital flight and government expenditure should be directed towards infrastructural development as against consumable goods to enhance capital formation in Nigeria.

**Akani, Lucky & Kingsley (2016)** examined the relationship between Nigeria financial sector development and macroeconomic stability from 1980 – 2014. The objective is to investigate the extent and the direction of relationship between various components of financial sector development and macroeconomic stability in Nigeria. Time series data were sourced from Central Bank of Nigeria (CBN) statistical bulletin. The study modeled percentage of Nigerian Gross Domestic Product to Balance of Payment (GDP/EXT) as our dependent variable total commercial banks credit to Gross Domestic Product (TCBC/GDP), Broad Money Supply to Gross Domestic Product (M2/GDP), Credit to Core Private Sector to Gross Domestic Product (CPS/GDP), Stock Market Capitalization to Gross Domestic Product (MKT/GDP) and Total savings to Gross Domestic Product (TS/GDP) as our independent variables. The study employed Cointegration Test, Augmented Dickey Fuller Unit Root Test, Granger Causality Test and Vector Error Correction Model were used to examine the extent to which the independent variables affect dependent variable. The static regression result shows that all the independent variables have positive effect on the dependent variables. The Augmented Dickey Fuller result shows non stationarity at level and stationarity at first difference. The cointegration result shows long run relationship, the Granger Causality Test showed multivariate relationship running through the independent to the dependent variable and the dependent to the independent variables. The vector error correction result shows adequate speed of adjustment to equilibrium. The study concluded that Nigerian financial sector development have significant relationship with macroeconomic stability.

**Alrabadi & Kharabsheh (2020)** investigated the dynamic relationship between financial deepening and economic growth in Jordan from 1992-2014 using vector auto regressive regressions, Granger causality and Johansen-Juseliusco-integration. Using quarterly data, the results indicate no statistically significant effect of financial deepening on economic growth in

the short run, while the co-integration tests revealed a statistically significant long run equilibrium relationship between the two variables regardless of the proxy used for financial deepening. Moreover, the Granger causality test show a bi-directional causality between economic growth and financial deepening when the latter is measured by the amount of credit granted to private sector, however, a one-way causal relationship from economic growth to financial deepening when the amount of deposits and money supply (M2) are used as proxies of financial deepening.

### Research Gaps

The empirical review of financial development indicators and economic development has yet to provide a convincing causal link among measures of financial development indicators and economic development. A reasonable conclusion based on previous research is that both financial development indicators matter in determining economic growth. This is in line with theoretical assumptions such as the financial repression theory, economic development theories, and financial intermediation theories. It could be deduced from the theories that financial development indicators affect economic development. These studies also show divergence in results of the direction of causality between financial development and economic growth in the long-run. These views may vary due to changing dynamics of financial policies in the countries studied and the response of these economies to policies, level of development and governance equally vary substantially. All these divergent views give enough reasons to investigate the impact of financial sector development on economic development of Nigeria and South Africa.

### METHODOLOGY

This study adopted *ex-post facto* research design approach in analyzing data. *Ex-post facto* research is systematic empirical inquiry in to a research problem which the researcher does not have direct control of the independent variables because their manifestations have already occurred. This study employed secondary data sourced mainly from the Central Bank of Nigeria (CBN) 2022 statistical bulletin and World Bank data base. Data for this study comprises total market capitalization, total equity traded, bank deposit liabilities, and money supply as independent variables while poverty index, human capital development, gini index and per capita income as dependent variables.

### Model Specification

The study adopted the Ordinary Least Square method and granger causality. The study models are specified below:

#### MODEL I

$$PI = \beta_0 + \beta_1 MCAP + \beta_2 TVET + \beta_3 BDL + \beta_4 MS + \mu \dots (1)$$

$$\beta_0 = \text{Constant}$$

$$\beta_1 - \beta_6 = \text{Parametric estimate for the explanatory variable}$$

The justification for these models is to estimate the effect of financial sector development on Economic Development.

The functional form is expressed as:

$$PI = f(MCAP, TVET, BDL, MS) \dots\dots(2)$$

Parametric form of eqn 3.2 is expressed as:

$$PI_t = \beta_0 + \beta_1MCAP + \beta_2TVET + \beta_3BDL + \beta_4MS + \mu \dots (3.3)$$

Converting eqn. (ii) to logarithm form, we have:

$$LnPI_t = \beta_0 + \beta_1LnMCAP + \beta_2LnTVET + \beta_3LBDL + \beta_4LnMs + \mu \dots (3.4)$$

Where;  $\mu$  = Error Term

$PI$  = Poverty index;

MCAP = Market capitalization

TVET = Total value of Equity Traded;

BDL = Bank Deposit liabilities, and

MS = Money Supply.

**Apriori expectation:**

$$\beta_1 \dots\dots\dots B_4 < 0$$

Explanatory variables are expected to have negative signs (-)

**MODEL 2**

$$HDI = \beta_0 + \beta_1MCAP + \beta_2 TVET + \beta_3BDL + \beta_4MS + \mu \dots (3.5)$$

$$\beta_0 = \text{Constant}$$

$$\beta_1-\beta_6 = \text{Parametric estimate for the explanatory variable}$$

The justification for these models is to estimate the effect of financial sector development on Economic Development.

The functional form is expressed as:

$$HDI = f(MCAP, TVET, BDL, MS) \dots\dots (3.6)$$

Parametric form of eqn3.6 is expressed as:

$$HDI_t = \beta_0 + \beta_1MCAP + \beta_2TVET + \beta_3BDL + \beta_4MS + \mu \dots (3.7)$$

Converting eqn. (ii) to logarithm form, we have:

$$LnHDI_t = \beta_0 + \beta_1LnMCAP + \beta_2LnTVET + \beta_3LBDL + \beta_4LnMs + \mu \dots (3.8)$$

Where;  $\mu$  = Error Term

HDI = Human development index;

MCAP = Market capitalization

TVET = Total value of Equity Traded;

**BDL** = Bank Deposit liabilities, and

**MS** = Money Supply.

**Apriori expectation:**

$$\beta_1 \dots \beta_4 > 0$$

Explanatory variables are expected to have positive signs (+).

**Data Analysis Procedure**

Ordinary Least Squares (OLS) was employed using the multiple regression method for a period of 32 years, annual data covering 1990 – 2022. Statistical evaluation of the global utility of the analytical model, so as to determine the reliability of the results obtained were carried out using the coefficient of correlation (r) of the regression, the coefficient of determination (r<sup>2</sup>), the student T-test and F-test.

**Stationarity (Unit Root) Tests**

The study investigated the stationarity properties of the time series data using the Augmented Dickey Fuller (ADF) test. According to Nelson and Plosser (1982) and Chowdhury (1994) while dealing with time series, it is necessary to analyze whether the series are stationary or not. Since regression of non-stationary series on other non-stationary series leads to what is known as spurious or nonsense regression causing inconsistency of parameter estimate. Therefore subject all the variables to unit root test using the augmented Dickey Fuller (ADF) test specified in Gujarati (2004) as follows.

$$\Delta y_t = \beta_1 + \beta_2 + \delta y_{t-1} + \alpha \sum_{i=1}^m \Delta y_{t-i} + \epsilon_t \dots (3.17)$$

**Where:**

$\Delta y_t$  = change time t

$\Delta y_{t-1}$  = the lagged value of the dependent variables

$\epsilon_t$  = White noise error term

If in the above  $\delta = 0$ , then we conclude that there is a unit root. Otherwise there is no unit root, meaning that it is stationary. The choice of lag will be determined by Akaike information criteria.

**Co-integration Test (The Johansen' Test)**

It has already been warned that the regression of a non-stationary time series on another non-stationary time series may lead to a spurious regression. The important contribution of the concept of unit root and co-integration is to find out if the regression residual are stationary. Thus, a test for co-integration enables us to avoid spurious regression situation. This study employed Johansen Multivariate Co-Integration Test to ascertain if there is the existence of a long run equilibrium relationship among time series variables.

### Error Correction Model

The error correction mechanism (ECM) as developed by Engle and Granger is a means of reconciling the short-run behavior of an economic variable with its long-run behavior (Gujarati and Porter, 2009). According to Hylleberg and Mizon (2016), the error correction formulation provides an excellent framework within which it is possible to apply both data information and the information available from economic theory

### RESULTS AND DISCUSSION

**Table: 1: Descriptive Statistics for the Aggregate Financial Sector and Economic Development Indicators for Nigeria and South Africa**

STATISTIC	LOGGDP/PCi	LOGPI	LOGHDI	LOGMS	LOGMcAP	LOGGINI	LOGBDL	LOGTVET
Mean	2.990731	1.420238	-0.32074	3.473599	3.322235	1.616185	0.996173	5.185357
Median	3.219060	1.469822	-0.32148	3.579545	3.709346	1.631444	1.200317	5.670792
Maximum	3.491222	1.654177	-0.26841	4.615563	4.635576	1.720159	2.551804	7.079983
Minimum	2.079181	1.008600	-0.40561	1.675962	1.212188	1.535294	-1.70502	1.825426
Std. Dev.	0.427780	0.185807	0.037960	0.908503	1.066955	0.057024	1.227949	1.592305
Skewness	-0.58544	-0.92276	-0.16723	-0.37173	-0.52366	0.072024	-0.9876	-0.56688
Kurtosis	1.968152	2.628071	2.087810	1.836046	1.948454	1.856841	3.476866	2.193708
Jarque-Bera	3.349058	4.873422	1.297939	2.622849	3.028623	1.825397	5.677085	2.661314
Probability	0.187396	0.087448	0.522584	0.269436	0.219960	0.401439	0.058511	0.264304
Sum	98.69413	46.86784	-10.5845	114.6288	109.6338	53.33409	32.87371	171.1168
Sum Sq. Dev.	5.855861	1.104777	0.046112	26.41211	36.42859	0.104054	48.25146	81.13393
Observations	33.00000	33.0000	33.00000	33.00000	33.00000	33.00000 0	33.00000	33.00000

Source: *Source: Author Computation 2023 (E-Views 10).*

The descriptive analysis displayed the basic features of the time series data presented in table 1 above. The mean value of the descriptive statistics measures the central tendency to estimate the centre, or average, of a data set. From the descriptive analysis in table 4.3 above, the mean value of Gross Domestic Product Per Capita income (GDP/PCI) for the period was 2.990731 billion. The maximum amount of Gross Domestic Product Per Capita income (GDP/PC) was 3.49122 billion while the minimum Gross Domestic Product Per Capita Income (GDP/PCI) was when the figure dropped to ₦2.079181 billion. A standard deviation is a measure of how dispersed the data is in relation to the mean. A low, or small, standard deviation indicates data are clustered tightly around the mean, and high, or large, standard deviation indicates data are more spread out. The standard deviation in Gross Domestic Product Per Capita income (LOGGDP/PCI) for the period of this study was 0.427780 which is indicative of the fact that the data are clustered tightly around the mean skeleton is a measure of symmetry, or more precisely, the lack of symmetry. As revealed in this study, skewness had a negative value of (-0.585442), meaning the data is skewed to the left. Kurtosis describes the shape of a distribution, but it refers to the degree of presence of outliers in the distribution as indicated by the Kurtosis,

which was  $1.968152 < 3$ , which is the normal value. This indicates that the degree of peakedness within the period of this study was normally distributed as most of the values hover around the mean.

Also, the mean value of the poverty index (LOGPI) for the period was 1.420238%. The maximum percentage of poverty index (LOGPI) was 1.65% while the minimum percentage of poverty index (LOGPI) was 1.008%. The standard deviation in the poverty index (LOGPI) was 0.185807, which was low and implies that the data are clustered tightly around the mean. As revealed by the skewness, the skewness of the poverty index (LOGPI) had a negative value of (-0.92276), meaning the data is skewed to the left... As indicated by the Kurtosis, which was  $2.628071 < 3$ , which is the normal value, this indicates that the degree of peakedness within the period of this study was normally distributed as most of the values hover around the mean.

The mean value of market capitalization (LOGMCAP) for the period was 3.322235 billion. This implies that the average value of market capitalisation (LOGMCAP) was 3.322235 billion. The maximum value of market capitalization (LOGMCAP) for the period was 4.635576 billion while the minimum amount of Market capitalisation (LOGMCAP) was 1.212188 billion. The standard deviation of market capitalization (LOGMCAP) was 1.066955, which was low and implies that the data are clustered tightly around the mean. For skewness, market capitalization (LOGMCAP) had a negative value of (-0.52366), meaning the data is skewed to the left. For Kurtosis, which was  $1.94 < 3$ , this indicates that the degree of peaking within the period of this study was normally distributed as most of the values hovered around the mean.

The mean amount of Gini coefficient/ income distribution (LOG GINI) for the period was 1.616185 billion. This implies that the average value of the Gini coefficient/ income distribution (LOG GINI) was 1.720159 billion. The maximum amount of Gini coefficient/ income distribution (LOG GINI) for the period was 1.720159, while the minimum amount of Gini coefficient/ income distribution (LOG GINI) was 1.535294 billion. The standard deviation of the Gini coefficient/ income distribution (LOG GINI) was 0.05, which was low and implies that the data are clustered tightly around the mean. For skewness, the Gini coefficient/ income distribution (LOG GINI) had a positive value of (0.07), meaning the data is skewed to the right. For Kurtosis, which was  $1.85 < 3$ , this indicates that the degree of peakedness within the period of this study was normally distributed as most of the values hovered around the mean.

The mean amount of Bank Deposit liabilities (LOG BDL) for the period was 0.996173 billion. This implies that the average amount of Bank Deposit liabilities (LOG BDL) was 0.996173 billion. The maximum amount of Bank Deposit liabilities (LOG BDL) for the period was 2.551804 billion, while the minimum amount of Bank Deposit liabilities (LOG BDL) was -1.70502 billion. The standard deviation of Bank Deposit liabilities (LOG BDL) was 1.22, which was low and implies that the data are clustered tightly around the mean. For skewness, Bank Deposit liabilities (LOG BDL) had a negative value of (-0.98), meaning the data is skewed to the left. For Kurtosis, which was  $3.47 > 3$ , this indicates that the distribution is peaked and possesses thick tails.

Finally, the mean value of the total value of Equity Traded (LOGTVET) for the period was 5.185357 billion. This implies that the average total value of Equity Traded (LOGTVET) was 5.185357 billion. The maximum total value of Equity Traded (LOGTVET) for the period was 4.521966 billion, while the minimum amount of total value of Equity Traded (LOGTVET) was 1.82 billion. The standard deviation of the total value of Equity Traded (LOGTVET) was 1.59 equity, which was low and implies that the data are clustered tightly around the mean. For skewness, the total value of equity traded (LOGTVET) had a negative value of (-0.56), meaning the data is skewed to the left. For Kurtosis, which was  $2.19 < 3$ , this indicates that the degree of peaking within the period of this study was normally distributed as most of the values hovered around the mean.

### Unit Root Test

The test for stationarity of the data was carried out based on the Augmented Dickey Fuller (ADF) unit root technique to ensure that none of series is integrated beyond order one i.e. I(1) or first difference. The results obtained from the unit root are as summarized in table 4.6.

The results of the ADF test revealed a mixed order of level 1(0) and first difference 1(1). Whereas both the gross domestic product per capita (GDPC) and money supply (MS) were stationary at level, all other variables; poverty index (HDI), Gini coefficient (GC), market capitalization (MCAP), total value of equities traded (TVET) and bank deposit liabilities became stationary at first difference 1(1). Consequently, with the mixed integration of order level 1(0) and first difference 1(1), it then follows that the Autoregressive Distributed Lag (ARDL) Modeling technique should be employed for evaluating all the models for Nigeria.

**Table 4.6: Unit Root Test Results for Nigerian Models**

variables	ADF Test-statistic	Critical Values	Probability	Order of integration
PI	-5.860437	1% -3.661661 5% -2.960411 10% -2.619160	0.0000	1(1)
HDI	-5.056790	1% -3.679322 5% -2.967767 10% -2.622989	0.0003	1(1)
GC	-4.902714	1% -3.661661 5% -2.960411 10% -2.619160	0.0004	1(1)
GDPC	-3.161813	1% -3.653730 5% -2.957110 10% -2.617434	0.0319	1(0)
MCAP	-4.310159	1% -3.661661 5% -2.960411 10% -2.619160	0.0019	1(1)
TVET	-6.989990	1% -3.661661 5% -2.960411 10% -2.619160	0.0000	1(1)
BDL	-4.224975	1% -3.661661 5% -2.960411	0.0024	1(1)

		10% -2.619160		
MS	-4.539524	1% -3.653730 5% -2.957110 10% -2.617434	0.0024	1(0)

**Source: Author Computation 2023(E-Views 10).**

### **Financial Sector and Economic Development of Nigeria and South Africa**

For both Nigeria and South Africa, economic development was evaluated from four basic aspects namely, Poverty Index, Human Development Index, Income distribution or Gini Coefficient and the Gross Domestic Product Per Capita. Consequently, these economic development indicators formed the models of the study. However, the financial Sector in this study, was viewed from four key explanatory variables of total market capitalization (MCAP), total value of equities traded (TVET), total bank deposit liabilities (BDL) and total money supply (MS). Perhaps, it is instructive to note that besides these four explanatory variables, efforts were also made to include such variables as total bank credit to the private sector (BCPS) and interest rate spread (IRS) in the analysis. However, after much iteration, both variables were dropped given the problem of insufficient number of observations and near single matrix issue.

### **Test for Short Run Model Significance for Nigeria and South Africa**

Considering the results of the global statistics in table 4.7, we have the F-statistics for Nigeria as 36.52 with attached probability of 0.000, 41.81 with attached probability of 0.000, 18.09 with attached probability of 0.001 as well as 173.47 with attached probability of 0.000, respectively for the Poverty Index (PI), Human Development Index (HDI), Gini Coefficient Models (GC) and Gross Domestic Product Per Capita (GDPC). Since all these attached probabilities less than 0.05 or 5% critical, (i.e.,  $0.000, 0.000, 0.001, 0.000 < 0.05$ ), the null hypotheses therefore, were all rejected in favour of the alternate hypotheses. Hence, under the short run analysis, it was concluded that there is a significant relationship exists between financial sector and economic development in Nigeria. Stated differently, a significant short run relationship exists between the selected financial sector explanatory variables (MCAP, TVET, BDL, and MS) and economic development indicators for all the models (PI, HDI, GC, and GDPC). To support these results, the models posted very level of explained variation; 97.68%, 97.66%, 98.51% and 98.74%. These results indicate that the models well-fitted and robust, as also show by the Durbin-Watson statistics.

Still referring to the results of the global statistics in table 4.7, we have the F-statistics for South Africa as 2.78 with attached probability of 0.129, 11.888 with attached probability of 0.000, 2.19 with attached probability of 0.069 and 26.18 with attached probability of 0.000, respectively for the Poverty Index (PI), Human Development Index (HDI), Gini Coefficient Models (GC) and Gross Domestic Product Per Capita (GDPC). Since not all these attached probabilities were less than 0.05 or 5% critical, (i.e.,  $0.129, 0.000, 0.069, 0.000 < 0.05$ ), the null hypotheses therefore, were, rejected under the Human Development Index (HDI) and Gross Domestic Product Per Capita (GDPC) and conversely accepted under the Poverty Index (PI) and Gini Coefficient Models (GC) to conclude that in South Africa, while a significant short relationship exists between financial sector (MCAP, TVET, BDL, MS) and Human Development Index (HDI), financial sector (MCAP, TVET, BDL, MS) and Gross Domestic Product Per Capita (GDPC), there is no significant short relationship existing between financial

sector(MCAP, TVET, BDL, MS) and Poverty Index(PI) and between financial sector(MCAP, TVET, BDL, MS) and Gini Coefficient (GC), financial sector(MCAP, TVET, BDL) in South Africa. However, the changes in the explanatory variables have been able to explain high levels of the changes in the dependent variables, under all the models; 92.74%, 74.82%, 64.03% and 98.50% respectively for the MCAP, TVET, BDL, MS models.

**Test for Long Run Model Significance for Nigeria**

To test for the long run significant co-integrating relationship between financial sector and economic development of Nigeria, we refer to the results in table 4.8. This table displays the summarized results of the bounds tests and error correction mechanism for the four models under consideration. Recall that essentially, the bounds tests were carried out to confirm if a long run significant co-integrating relationship exists between each of the dependent variables (PI, HDI, GC, GDPC) and the independent or explanatory variables (MCAP, TVET, BDL, MS). Therefore, the null hypothesis that there is no significant co-integrating long run relationship between financial sector and economic development in Nigeria was being tested under the aforementioned models. Reading from table 4.8, we have the F-statistics of 4.168914, 3.609540, 4.134657 and 3.628881 at 5% level of significance all being greater than both the lower bound I(0) value of 2.56 and the upper bound I(1) value of 3.49 (i.e.  $2.56 < 4.168914, 3.609540, 4.134657, 3.628881 > 3.49$  or lower bound  $< \text{F-statistic} >$  upper bound).

On this basis therefore, the null hypotheses were all rejected in preference to their alternates accepted in all the models to conclude therefore, that a significant long run co-integrating relationship exists between each of the dependent variables (PI, HDI, GC, GDPC) and the independent or explanatory variables (MCAP, TVET, BDL, MS). in Nigeria.

Hence, we have the following resulting co-integrating equations;

**PI = 3.691 + 0.502MCAP - 0.014TVET + 0.050BDL - 0.464MS .....4.1**

(0.0010) (0.1990) (0.9342) (0.2379) (0.1162)

**HDI = -1.343 - 0.057MCAP - 0.016TVET + 0.002BDL + 0.146MS .....4.2**

(0.0000) (0.0318) (0.1615) (0.4146) (0.1162)

**GC = 4.441 + 0.334MCAP - 0.047TVET + 0.015BDL - 0.345MS .....4.3**

(0.0000) (0.0000) (0.0147) (0.0019) (0.0000)

**GDPC = 3.792 + 0.056MCAP - 0.215TVET - 0.083BDL - 0.032MS .....4.4**

(0.0000) (0.6693) (0.0180) (0.0000) (0.8154)

**Table 3: Summary of the ARDL Bounds test and Error Correction Results for Models**

PI MODEL				
Test Statistic	Value	Significance Level	I(0)	I(1)
F-statistic	4.168914	10%	2.2	3.09

<b>k</b>	4	5%	2.56	3.49**
		2.5%	2.88	3.87
		1%	3.29	4.37
<b>ECM</b>	<b>-0.460838</b>	<b>0.078306</b>	<b>-5.885070</b>	<b>0.0001</b>
<b>HDI MODEL</b>				
<b>F-statistic</b>	3.609540	10%	2.2	3.09
<b>k</b>	4	5%	2.56	3.49**
		2.5%	2.88	3.87
		1%	3.29	4.37
<b>ECM</b>	<b>-1.041116</b>	<b>0.192037</b>	<b>-5.421436</b>	<b>0.0001</b>
<b>GC MODEL</b>				
<b>F-statistic</b>	4.134657	10%	2.2	3.09
<b>k</b>	4	5%	2.56	3.49**
		2.5%	2.88	3.87
		1%	3.29	4.37
<b>ECM</b>	<b>-3.277381</b>	<b>0.485972</b>	<b>-6.743977</b>	<b>0.0005</b>
<b>GDPC MODEL</b>				
<b>F-statistic</b>	3.628881	10%	2.2	3.09
<b>k</b>	4	5%	2.56	3.49**
		2.5%	2.88	3.87
		1%	3.29	4.37
<b>ECM</b>	<b>-0.704194</b>	<b>0.061629</b>	<b>-7.723435</b>	<b>0.0000</b>

Note: (\*\*) indicates that the test statistics are significant at 5% level.

Source: Researchers' Computation using E-view 10.0

#### Error Correction Mechanism for Nigeria

Furthering the analysis, after confirmation of a significant long run co-integrating relationship between financial sector and economic development in Nigeria, there is therefore, the need to estimate the speed of adjustments of the models in order to ascertain the long run convergence of the dependent and independent variables. Hence, the following error correction mechanism figures were observed thus; -0.460838, -1.041116, -3.277381 and -0.704194, respectively for models PI, HDI, GC and GDPC (See table 4.8).

These figures indicate the fastest speed of adjustment was recorded under the GC model with -3.277381, followed by the HDI model with -1.041116, MS model with -0.704194 and PI model with -0.460838. To say the least, all the speed of adjustments for the four models carried the right signs and are indicative of how fast the short run shocks can return to normalcy in the long run. For instance, it will take 327.73% for the short run disturbance in GC model to converge to equilibrium in the long run and 46.08% for the same to be achieved under the PI model.

#### Hypotheses testing and Estimation of the model parameters for Nigeria

Employing table 4, we sought further to estimate the individual effects of financial sector variables on the level of economic development of Nigeria under each of the models as

summarized in table 4.9 for the long run analysis. Invariably, this table shows the impact of each explanatory variable (MCAP, TVET, BDL, MS) on the dependent variables (PI, HDI, GC, GDPC), and housed in parenthesis are the associated probabilities of each explanatory variable that measure levels of significance in the models as shown equations 4.1-4.4.

Table 4.9: Test for Long Run Significance of the Explanatory Variables for Nigeria

Variable	PI Model	HDI Model	GC Model	GDPC Model
MCAP	1.353247NS (0.1990)	-2.383739*** (0.0318)	11.61295*** (0.0000)	0.433426NS (0.6693)
TVET	-0.084113NS (0.9342)	-1.478367NS (0.1615)	-3.389703*** (0.0147)	2.577593*** (0.0180)
BDL	1.237289NS (0.2379)	0.840803NS (0.4146)	5.264219*** (0.0019)	-5.441977*** (0.0000)
MS	-1.683175NS (0.1162)	6.639316*** (0.0000)	74.15836*** (0.0000)	0.236597NS (0.8154)

Note: (\*\*\*) indicates that the *p*-value of the t-statistic is significant at the 5% level, NS denotes “Not Significant”. Source: Researchers’ Computation using E-view 10.0

### The Poverty Index Model

Table 4.9 shows that for model one on poverty index, (PI), none of the explanatory variables exerted a statistically significant effect on the level of poverty index. However, while both market capitalization (MCAP) and bank deposit liability (BDL) exerted positive effects on the level of poverty index, (PI), total value of equities traded (TVET), and money supply (MS), exerted negative effects on poverty index, (PI), at least within the period, under review. Invariably, a unit change in both market capitalization (MCAP) and bank deposit liability (BDL), will translate into 0.501730 and 0.049522-unit increase respectively in the level of poverty index, (PI), while a unit change in both total value of equities traded (TVET), and money supply (MS), will result in 0.013929 and 0.464363-unit decrease respectively in the level of poverty index, (PI), in Nigeria. It is equally instructive to note that whereas both total values of equities traded (TVET), and money supply (MS) with their negative coefficients, met the a priori expectation, both market capitalization (MCAP) and bank deposit liability (BDL) failed to meet the a priori expectation, bearing positive coefficients.

### The Human Development Model

Again reading from table 4.9, whereas both market capitalization (MCAP) and money supply (MS) exerted statistically significant, total value of equities traded (TVET) and bank deposit liability (BDL) were found to be statistically insignificant with their effects on the level of human development(HDI) at least within the period, under review. Therefore, whereas, a unit change in both bank deposit liability (BDL) and money supply (MS) will contribute 0.001818 and 0.145629 unit-increase in the level of human development(HDI), a unit increase in market capitalization (MCAP) and total value of equities traded (TVET), will translate into 0.056921 and 0.015733-unit decrease respectively in the level of human development(HDI) in Nigeria. Instructively, whereas both bank deposit liability (BDL) and money supply (MS) with their positive coefficients, met the a priori expectation, both market capitalization (MCAP) and total value of equities traded (TVET), with their negative coefficients failed to meet the a priori expectation.

### **The Gini Coefficient Model**

Model 3 on Gini Coefficient, (GI), reflects the level of income distribution. Table 4.9 revealed that all of the explanatory variables exerted a statistically significant effect on the level of income distribution. However, while both market capitalization (MCAP) and bank deposit liability (BDL) exerted positive effects on the level of Gini index, (GI), total value of equities traded (TVET), and money supply (MS), exerted negative effects on Gini index, (GI), at least within the period, under review. Therefore, a unit change in both market capitalization (MCAP) and bank deposit liability (BDL), will translate into 0.333773 and 0.014624-unit increase respectively in the level of Gini index, (GI), while a unit change in both total value of equities traded (TVET), and money supply (MS), will result in 0.046842 and 0.347773-unit decrease respectively in the level of Gini index, (GI), in Nigeria. Thus, whereas both total value of equities traded (TVET), and money supply (MS) with their negative coefficients, failed to meet the a priori expectation, both market capitalization (MCAP) and bank deposit liability (BDL) met the a priori expectation, bearing positive coefficients.

### **The Gross Domestic Product per Capita Model**

Referring to table 4.9, whereas total value of equities traded (TVET) and bank deposit liability (BDL) exerted statistically significant effects, both market capitalization (MCAP) and money supply (MS) were found to be statistically insignificant with their effects on the level of gross domestic product per capita (GDPC) in Nigeria, at least within the period, under review. However, whereas, a unit change in market capitalization (MCAP), total value of equities traded (TVET) and money supply (MS) will contribute 0.056142, 0.215348 and 0.032189 unit-increase respectively in the level of gross domestic product per capita (GDPC), a unit increase in bank deposit liability (BDL), will translate into 0.082886-unit decrease in the level gross domestic product per capita (GDPC), in Nigeria. Here, only bank deposit liability (BDL) with its negative coefficient, failed to meet the a priori expectation.

### **Test for Long Run Model Significance for South Africa**

For South Africa, the long run significant co-integrating relationship between financial sector and economic development was tested on the basis of the results as posted in table 4.10, containing the summarized results of the bounds tests and error correction mechanism (where applicable) for the four models under consideration. Essentially, the bounds tests were carried out to confirm if a significant long run co-integrating relationship exists between each of the dependent variables (PI, HDI, GC, GDPC) and the independent or explanatory variables (MCAP, TVET, BDL, MS). Therefore, the null hypothesis that there is no significant co-integrating long run relationship between financial sector and economic development in South Africa was tested under the aforementioned models.

From table 4.10, we have the F-statistics of 1.766492, 2.266837, 3.883886 and 4.836348 respectively for the PI, HDI, GC, GDPC models. Therefore, at 5% level of significance, whereas the F-statistics of 1.766492 and 2.266837 for the PI and HDI, are less than both the lower bound  $I(0)$  value of 2.56 and the upper bound  $I(1)$  value of 3.49 (i.e.  $2.56 > 1.766492$ ,  $2.266837 < 3.49$  or lower bound  $< F\text{-statistic} < \text{upper bound}$ ),  $H_0$  was accepted to therefore, conclude that there is no significant co-integrating long run relationship existing between financial sector (MCAP, TVET, BDL, MS) and poverty index (PI) on one hand as well as between financial sector (MCAP, TVET, BDL, MS) and human development index (HDI) on

the other hand. In the vein, at 5% level of significance, with the F-statistics of 3.883886 and 4.836348 for the GC and GDPC models being greater than both the lower bound 1(0) value of 2.56 and the upper bound 1(1) value of 3.49 (i.e.  $2.56 < 3.883886, 4.836348 > 3.49$  or lower bound  $< \text{F-statistic} >$  upper bound),  $H_0$  was therefore rejected to conclude that there is actually a significant co-integrating long run relationship existing between financial sector (MCAP, TVET, BDL, MS) and Gini Coefficient (GI) on one hand as well as between financial sector (MCAP, TVET, BDL, MS) and gross domestic product per capita (GDPC) on the other hand. Hence, we have the following resulting co-integrating equations;

$$\begin{aligned} \text{PI} &= 3.112382 + 0.728\text{MCAP} + 0.919\text{TVET} - 0.042\text{BDL} - 0.782\text{MS} \dots\dots\dots 4.5 \\ &(0.0300) \quad (0.1201) \quad (0.0674) \quad (0.1634) \quad (0.0657) \\ \text{HDI} &= 0.735 - 0.025\text{MCAP} - 0.0889\text{TVET} + 0.005\text{BDL} + 0.049\text{MS} \dots\dots\dots 4.6 \\ &(0.0000) \quad (0.2774) \quad (0.1435) \quad (0.2541) \quad (0.1471) \\ \text{GC} &= 9.120 - 0.112\text{MCAP} + 0.854\text{TVET} - 0.169\text{BDL} - 0.061\text{MS} \dots\dots\dots 4.7 \\ &(0.0000) \quad (0.7754) \quad (0.1081) \quad (0.0072) \quad (0.8582) \\ \text{GDPC} &= 7.001 + 0.345\text{MCAP} + 0.212\text{TVET} - 0.035\text{BDL} - 0.081\text{MS} \dots\dots\dots 4.8 \\ &(0.0000) \quad (0.0009) \quad (0.0250) \quad (0.0073) \quad (0.1876) \end{aligned}$$

**Table 4.10: Summary of the ARDL Bounds test and Error Correction Results for the South Africa Models**

PI MODEL				
Test Statistic	Value	Significance Level	I(0)	I(1)
F-statistic	1.766492	10%	2.2	3.09
k	4	5%	2.56	3.49NS
		2.5%	2.88	3.87
		1%	3.29	4.37
ECM	<sup>-</sup> 1.302036	0.282798	-4.604118	0.0058
HDI MODEL				
F-statistic	2.266837	10%	2.2	3.09
k	4	5%	2.56	3.49NS
		2.5%	2.88	3.87
		1%	3.29	4.37
ECM	<sup>-</sup> 0.463090	0.114232	-4.053957	0.0058
GCMODEL				
F-statistic	3.883886	10%	2.2	3.09
k	4	5%	2.56	3.49***
		2.5%	2.88	3.87
		1%	3.29	4.37
ECM	-1.080607	0.195393	-5.530425	0.0000
GDPC MODEL				

<b>F-statistic</b>	4.836348	10%	2.2	3.09
<b>k</b>	4	5%	2.56	3.49***
		2.5%	2.88	3.87
		1%	3.29	4.37
<b>ECM</b>	<b>-0.807854</b>	<b>0.117645</b>	<b>-6.866906</b>	<b>0.0001</b>

Note: (\*\*\*) indicates that the test statistics are significant at 5% level; NS Not Significant.

**Source:** Researchers' Computation using E-view 10.0

### Error Correction Mechanism for South Africa

Having tested for the significance of long run co-integrating relationship between financial sector and economic development in Nigeria, we went a step further to estimate the speed of adjustments of the models or how fast it takes for any short run disturbance to be corrected or return to equilibrium in the long run. Hence, the following error correction mechanism figures were observed thus; -1.302036, -0.463090, -1.080607 and -0.807854 respectively for the PI, HDI, GC and GDPC (See table 4.10). These figures indicate that the fastest speed of adjustment was recorded under the PI model with -1.302036, followed by GC model with -1.80607, followed by the GDPC with -0.807854 and HDI model with -0.463090. To say the least, all the speed of adjustments for the four models carried the right signs and are indicative of how fast the short run shocks can return to normalcy in the long run. Stated differently, it will take 130.20% for the short run disturbance in PI model to converge to equilibrium in the long run and 46.30% for the same to be achieved under the HDI model.

### Hypotheses Testing and Estimation of the model parameters for South Africa

From table 4.11 we sought further to estimate the individual effects of financial sector variables on the level of economic development of Nigeria under each of the models as summarized in table 4.11 for the long run analysis. Invariably, this table shows the impact of each explanatory variable (MCAP, TVET, BDL, MS) on the dependent variables (PI, HDI, GC, GDPC), and housed in parenthesis are the associated probabilities of each explanatory variable that measure levels of significance in the models as shown equations 4.5-4.8.

### Test for Long Run Significance of the Explanatory Variables of South Africa

Variable	PI Model	HDI Model	GC Model	GDPC Model
MCAP	1.871773NS (1201)	-1.111372NS (0.2774)	-0.290195NS (0.7754)	5.128090*** (0.0009)
TVET	2.327791NS (0.0674)	-1.512189NS (0.1435)	1.701850NS (0.1081)	2.751153*** (0.0250)
BDL	-1.632921NS (0.1634)	1.168538NS (0.2541)	-3.076781*** (0.0072)	-3.569157*** (0.0073)
MS	-2.3477001NS (0657)	1.498272NS (0.1471)	-0.181515NS (0.8582)	-1.440662NS (1876)

Note: (\*\*\*) indicates that the *p-value* of the *t*-statistic is significant at the 5% level, NS denotes "Not Significant". Source: Researchers' Computation using E-view 10.0

### The Poverty Index Model

Like the case of Nigeria, table 4.11 shows that for model one on poverty index, (PI), none of the explanatory variables exerted a statistically significant effect on the level of poverty index. However, while both market capitalization (MCAP) and total value of equities traded (TVET)

exerted positive effects on the level of poverty index, (PI), bank deposit liability (BDL) and money supply (MS), exerted negative effects on poverty index, (PI), at least within the period, under review. This is to say that, a unit change in both market capitalization (MCAP) and total value of equities traded (TVET), will translate into 0.728070 and 0.918815-unit increase respectively in the level of poverty index, (PI), while a unit change in both bank deposit liability (BDL) and money supply (MS), will result in 0.041945 and 0.781500-unit decrease respectively in the level of poverty index, (PI), in Nigeria. It is equally instructive to note that whereas both bank deposit liability (BDL) and money supply (MS) with their negative coefficients, met the a priori expectation, market capitalization (MCAP) and total value of equities traded (TVET), both failed to meet the a priori expectation, bearing positive coefficients

### **The Human Development Model**

From table 4.11, the human development model (HDI) to large extent also repeated the performance of the poverty index model. First, the model revealed that none of the explanatory variables exerted a statistical significant effect on the level of human development index (HDI). However, while both market capitalization (MCAP) and total value of equities traded (TVET) exerted negative effects on the level of human development index (HDI), bank deposit liability (BDL) and money supply (MS), exerted positive effects on human development index (HDI) at least within the period, under review. This is to say that, a unit change in both market capitalization (MCAP) and total value of equities traded (TVET), will translate into 0.024737 and 0.088685-unit decrease respectively in the level of human development index (HDI), with a unit change in both bank deposit liability (BDL) and money supply (MS), resulting in 0.004924 and 0.048776-unit increase respectively in the level of human development index (HDI) in South Africa. It is equally instructive to note that whereas both bank deposit liability (BDL) and money supply (MS) with their positive coefficients, met the a priori expectation, market capitalization (MCAP) and total value of equities traded (TVET), both failed to meet the a priori expectation, bearing negative coefficients.

### **The Gini Coefficient Model**

The Gini Coefficient (GI) model revealed that only bank deposit liability (BDL) exerted a statistical significant effect on the level of income distribution as an explanatory variable, while only the total value of equities traded (TVET) exerted a positive effect on the level of income distribution of South Africa. Invariably, market capitalization (MCAP), bank deposit liability (BDL) and money supply (MS) all exerted negative effects on the level of Gini index, (GI), at least within the period under review for the South African economy. It then follows that, a unit change in market capitalization (MCAP), bank deposit liability (BDL) and money supply (MS), will translate into 0.0111761, 0.169147 and 0.060681-unit decrease respectively in the level of Gini index, (GI), while a unit change in total value of equities traded (TVET), will result in 0.853508-unit increase in the level of Gini index, (GI), in South Africa. Thus, only the total value of equities traded (TVET) with its positive effect met the a priori expectation.

### **The Gross Domestic Product per Capita Model**

The gross domestic product per capita (GDPC) model, outperformed all the other models for South Africa in terms of the effects of the individual explanatory variables on the level of gross domestic product per capita (GDPC). In fact, this model revealed that only the money supply (MS) failed to exert a statistical significant effect on the level of gross domestic product per capita (GDPC). However, while the market capitalization (MCAP) and total value of equities

traded (TVET) exerted a positive effect on the level of gross domestic product per capita (GDPC) of South Africa. Invariably, bank deposit liability (BDL) and money supply (MS) exerted negative effects on the level of gross domestic product per capita (GDPC) of South Africa, at least within the period under review. It then follows that, a unit change in market capitalization (MCAP) and total value of equities traded (TVET) will translate into 0.344606 and 0.211994-unit increase respectively in the level of gross domestic product per capita (GDPC) while a unit change in both bank deposit liability (BDL) and money supply (MS), will result in 0.035337 and 0.080661-unit decrease in the level of gross domestic product per capita (GDPC) in South Africa. Hence, both bank deposit liability (BDL) and money supply (MS) with their negative coefficients failed to meet the a priori expectation.

### **Discussion of the Results**

The study examined the financial sector and economic development of selected countries of Sub-Saharan Africa: the case of Nigeria and South Africa. The study was analyzed under four stated models; poverty index model, the human development model, the Gini coefficient model and economic growth model. The study revealed that there is a significant short run relationship between financial sector (MCAP, TVET, BDL and MS) and all the selected economic development indicators (PI, HDI, GC, and GDPC) in Nigeria.

Also, there is a significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and only two of the selected economic development indicators (HDI, GDPC) in South Africa and no significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and two of the selected economic development indicators (PI, GC) in South Africa. Furthermore, the study showed that a significant long run relationship exists between financial sector (MCAP, TVET, BDL, MS) and all the selected economic development indicators (PI, HDI, GC, and GDPC) in Nigeria.

However, there is a significant long run relationship between financial sector (MCAP, TVET, BDL, MS) and only two of the selected economic development indicators (GC, GDPC) in South Africa, with no significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and two of the selected economic development indicators (PI, HDI) in South Africa. Still on under all the models and for both Nigeria and South Africa, the variations in the explanatory variables have been able to explain over 60% of the total variations in the selected economic development indicators (PI, HDI, GC, GDPC). There is no significant short run and long run relationship between financial sector (MCAP, TVET, BDL, MS) and poverty index in South Africa.

The result of the study holds the grounds that well-functioning financial institutions, capital and money market can reduce poverty levels in a particular country. This can only be visible if the country's financial institutions, money and capital market are carrying out their activities effectively. For instance, the issuing of loans to investors at high interest rate by the financial institution in a country most a time detracts investors from applying for loans from institutions, which are serious constraints to the investors.

Consequently, such issue may not allow companies in particular countries to employ certain numbers of workers in which they are supposed to be employed and pay them as and when due. In so doing, this would help to reduce the poverty level of a particular nation. The findings

of the study are in-line with findings of Osakwe, Ogbonna & Obi-Nwosu (2020) who examined a comparative study of the stock market capitalization on economic growth in Nigeria and South Africa for the period 2000-2018. The study relies on time series OLS regression to analyze the data. The study found that the relationship between market capitalization ratio to GDP and economic growth is positive for South Africa but insignificant for Nigeria.

Supported by the study of Oluwantunsi *et al.*, (2013) who used data from the central bank of Nigeria from 1999 to 2012 to investigate the impact of capital market and economic growth in Nigeria. The result shows that all capital market variables can jointly predict economic growth, but at an insignificant rate. The result further shows that market capitalization and number of listed companies have a negative impact. More so, the result was also in consonance with Odhiambo (2009) in his study, the dynamic causal relationship between stock market development and economic growth in South Africa is examined – using the newly developed ARDL Bounds testing procedure. The result reveals that stock market development, namely stock market capitalization, stock market traded value and stock market turnover, against real GDP per capita, a proxy for economic growth. In addition, the result that the current, financial sectors in these countries are not doing very well to enhance the needed development index that is required by those countries. This may be due to the policy guidelines issued by the apex banks of these countries on the functionality of the financial system in those countries. Over the years, the apex bank in South Africa has made policies toward enhancing the effective functioning of financial institutions in the country so as to enhance the human capital development in South Africa. These include pillar to ensure that socio-economic development is achieved through human-centered, inclusive, and sustainable manner. Specifically, to seek to develop modern and well-resourced health systems that are accessible and responsive in addressing the burden of disease and emergencies.

This will see a scaling-up of efforts to fight HIV/AIDS and communicable diseases, as well as investments to address all forms of malnutrition. With a special focus on women, youth, and children, Pillar III of the RISDP 2020-2030 accords attention to enhancing opportunities for all citizens to enjoy socio-economic well-being in a context of improved food and nutrition security. Strengthening health systems with a focus on improving access to health service delivery, and is establishing regional programmes that enhance harmonization and coordination of public health matters to improve service delivery in Member States.

Also, the South Africa government in attempt to enhance human development index also introduce investment in nutrition to address all forms of malnutrition through developing regional minimum standards for food fortification to address all forms of malnutrition. Nutrition interventions, including micronutrient supplementation and dietary diversity, targeting vulnerable women of reproductive age, young children, adolescents, and the population at large, are being implemented. And to improve the living standards for South Africa citizens, while in Nigeria. The Nigerian government through various policies and programme have try to enhance human development index in the country. They include upgrade of various health facilities in the country.

The findings of the study are in line with the Agheli & Hadian (2017) and Nyasha & Odhiambo (2015) who investigated the dynamic causal relationship between bank-based financial

development, stock market development and economic growth in South Africa during the period 1980–2012. The results also indicate that there is a unidirectional causal flow from bank-based financial development to stock market development in the short run. The study, however, fails to find any causality between bank-based financial development and economic growth. Supported by Nyong (1996) who studied an aggregate index of capital market development and used it to determine its relationship with long run economic growth in Nigeria. It was found that the capital market development is negatively and significantly correlated with the long-run growth in Nigeria. Support by Nomfundo (2010) who examined the long run relationship between stock market development and economic growth in the case of South Africa. Generally, the results reveal that, the extent to which of stock market development impacts on growth is statistically weak. More so, Maduka & Onwuka (2013) result who that the Nigerian financial structure has negative and significant effect on the rate of economic growth support the findings of the study. In the same vein, Osho (2014) used time series data from 1980 to 2010 to examine the role of stock market development and economic growth in Nigeria. The result revealed that the stock market capitalization and the total value of traded ratio are negatively affecting gross domestic product. Yadirichukwu & Chigbu (2014) examined the impact of capital market on economic growth in Nigeria. The result shows that there is an inverse relationship between the stock market capitalization ratio and long-run economic growth with connect with the result.

The result of Nwaolisa *et al.*, (2013) who examined the impact of capital market on the Nigerian economic growth under a democratic rule, reveals that while total market capitalization and All-share indexes exert positive impact on the GDP growth rate, the value of the stock has a negative effect on the GDP and not is significant. The result of Osamwanyi & Kasimu (2013) of examined empirically the relationship between three sub-Saharan African countries including Nigeria. The study concludes that there is no causal relationship between stock market development and economic growth in Nigeria these findings does not support new growth theory which shows that the stock market development lead to economic growth. Also, Aye (2013) carried out annual time series studies on the causality between financial deepening, economic growth and poverty in Nigeria with data covering the period 1960 to 2001, support the findings with the result shows that there is no evidence of the long run relationship between finance and economic growth. Okonkwo (2014) examined the impact of stock market development on economic growth in Nigeria using data from 1981 to 2012. And the total value of the transaction is negatively significant. The VECM Granger causality revealed that there is unidirectional causality from listed securities to real GDP. Bidirectional causality runs from the ratio of the total traded stock to market capitalization ratio.

The result of the three models (3) revealed that bank credit to the private sector (BCPS, market capitalisation (MCAP), money supply (MS), total value of Equity Traded (TVET) have a positive and insignificant impact on the Gini coefficient/ income distribution (GINI) while Bank Deposit liabilities (BDL), and interest rate spread (IRS) has negative but insignificant impact on Gini coefficient/ income distribution (GINI). The result is in-line with that of Agheli & Hadian (2017) and Akani & Uzah (2018) examined micro financing and macroeconomic stability in Nigeria from 1992-2015. The study found that micro-finance lending to the various sectors of the economy insignificant effect on Nigerian macroeconomic stability except lending to agricultural sector and mining and quarrying. Ofeimun & Nwakoby

(2018) examined the relevance of micro financing of small businesses in Nigeria. The data for the study was obtained from the Micro-finance banks and CBN annual reports for the period 1990 to 2015. The study also found a significant negative relationship between inflation rate and micro loan lending rate and small business growth as well as an insignificant relationship between micro loan spread and small business growth in Nigeria. Andabai & Jessie (2018) examined micro-finance banks' credit and the growth of small and medium scale businesses in Nigeria; for the period 1990-2016. Secondary data were used and collected from the Central Bank of Nigeria statistical bulletin. The study concluded that the activities of micro-finance institutions have not significantly contributed to the growth and development of small and medium scale businesses (SMBs) in Nigeria.

Aliero, Abdullahi, & Adamu (2013) empirically analysed the relationship between private sector credit and economic growth in Nigeria, using time series data for the period of 1974-2010. Findings indicate that a long run equilibrium relationship exists between private sector credit and economic growth, when private sector credit was used as dependent variable. However, causality results indicate that there is no causal relationship between private sector and economic growth in Nigeria. Ohwofasa, & Aiyedogbon, (2013) assessed the level of development of financial deepening in the banking sector and the extent it has impacted on economic growth over the last two decades. The results of the VAR estimates revealed the impact of GCF (lag 1) on the current level of economic growth was negative and statistically significant. It was observed that M2/GDP (lag 1) and PSC/GDP (lag 2) exhibit significantly negative determining influence while PSC/GDP (lag 1) and the past value of GNS/GDP (lag 2) were also seen as its key determinant. Malede, (2014) examined the determinants of commercial banks' Lending in Ethiopia over a 6-year period (2005-2011). He applied the panel data analysis and OLS to find out that banks' lending decisions compared to deposit and cash required reserve which was insignificant.

Finally, the result of model four (4) revealed that bank credit to the private sector (BCPS), money capitalisation (MCAP), money supply (MS), total value of Equity Traded (TVET) have a positive and insignificant impact on Gross Domestic Product Per Capita, while Bank Deposit liabilities (BDL), and interest rate spread (IRS) has negative but insignificant impact on Gross Domestic Product Per Capita. The result is in-line with that of Agheli & Hadian (2017) and D'Pola, & Touk, (2016) empirically examine the impact of commercial bank credit on the performance of Small and Medium Size Enterprises (SMEs) in Cameroon between 1980 and 2014. The results revealed that commercial bank credit and real interest rate have a negative and significant impact on the performance of SMEs in Cameroon.

Lucky & Uzah (2016) examined factors that determine Nigerian capital formation. Findings proved that M2/GDP, GNS/GDP, EXR, EXTD/GDP, TT/GDP have negative and insignificant effect on capital formation while CPS/GDP, LR, INFR, PEX/GDP, GR/GDP and OPS/GDP have positive and insignificant effect. Akani & Momodu (2016) examined whether there is a dynamic long run relationship between financial sector development and Nigeria National Savings in addition to determining the direction of causality among the variables. Mesagan, Olunkwa & Yusuf (2018) investigated the relationship between financial sector development and manufacturing performance in Nigeria from 1981 to 2015, and discovered that credit to the private sector and money supply have insignificantly positive impact on capacity utilization

and output, but negatively impacted value added of the manufacturing sector in the short run, with slight improvement in the long where both money supply and credit to private sector exert positive impact manufactured output. Rana & Barua (2015) examined the relationship between financial development and economic growth. Amusingly, DC, trade balance, and broad money have no significant influence on nurturing economic growth.

## CONCLUSION AND RECOMMENDATIONS

### CONCLUSION

The need to investigate the impact of financial sector on economic development in Nigeria and South Africa formed the central objective of this study, spanning the period, 1990-2022. To measure economic development, the study focused on Poverty Index (PI), Human Development Index Model (HDI), Gini Coefficient and Gross Domestic Product Per Capita (GDPC). However, financial sector was proxied with Total Market Capitalization (MCAP), Total Value of Equities Trade (TVET), Total Bank Deposit Liabilities (BDL) and Money Supply (MS), for both Nigeria and South Africa. As it is customary with time series data, the unit root test was carried in order to determine the most appropriate analytical technique to use, hence, the adoption of the Autoregressive Redistributed Lag (ARDL) Modeling; being a mixed-bag scenario under integration orders 0(1) and 1(1) for the four models and both economies. Consequently, both the short run analysis and long run bounds test with its error correction mechanism test (ECM) were carried out to arrive at the following findings:

1. There is a significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and all the selected economic development indicators (PI, HDI, GC, GDPC) in Nigeria.
2. There is a significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and only two of the selected economic development indicators (HDI, GDPC) in South Africa.
3. There is no significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and two of the selected economic development indicators (PI, GC) in South Africa.
4. There is a significant long run relationship between financial sector (MCAP, TVET, BDL, MS) and all the selected economic development indicators (PI, HDI, GC, GDPC) in Nigeria.
5. There is a significant long run relationship between financial sector (MCAP, TVET, BDL, MS) and only two of the selected economic development indicators (GC, GDPC) in South Africa.
6. There is no significant short run relationship between financial sector (MCAP, TVET, BDL, MS) and two of the selected economic development indicators (PI, HDI) in South Africa.
7. Under all the models and for both Nigeria and South Africa, the variations in the explanatory variables have been able to explain over 60% of the total variations in the selected economic development indicators (PI, HDI, GC, GDPC).
8. There is no significant short run and long run relationship between financial sector (MCAP, TVET, BDL, MS) and poverty index in South Africa.

## Recommendations

On the basis of the findings and conclusions, the study therefore, offers the following recommendations;

1. Nigeria and South Africa should make policies that will enhance the smooth functioning of the financial institutions, capital and money markets in their countries. With this, there would be greater access to funds and its multiplier effects on investment to reduce the poverty index as observed in both of the two countries.
2. Akin to this, is the urgent need for both authorities of Nigeria and South Africa to fashion out policies that would enhance human capital development. Recalling that for both Nigeria and South Africa, financial sector recorded very poor performances in terms of the human development model. This may imply that either the policies on human development are not sound or being poorly implemented. Consequently, both economies need to take a second look at the existing policies on human capital development.
3. The apex banks in both Nigeria and South Africa should also take a critical look at the activities of financial institutions, capital and money in their respective countries especially as the affect economic growth in the economies. A case in point is the performance of money supply and even its relationship with bank deposit liabilities. Under both countries, the performance of both variables is not commendable and in tune with economic growth.

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