

Financial Deepening and Entrepreneurial Growth in Nigeria

Emmanuel Isaac John^{1*} Prof. Steve Nkemdilim Ibenta²

1. Department of Banking and Finance, Arthur Jarvis University, Akpabuyo, Cross River State, Nigeria

2. Department of Banking and Finance, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

This research was financed by Arthur Jarvis University, Akpabuyo, Cross River State, Nigeria – July, 2017.

Abstract

The study examined the relationship between financial deepening and entrepreneurial growth in Nigeria. It used secondary data collected from Central Bank of Nigeria Statistical Bulletin spanning 1986 to 2016. The study employed Pearson Correlation in establishing relationships between the variables. The results revealed that the ratio of money supply to Gross Domestic Product (M_2 /GDP) has a positive but not significant relationship with entrepreneurial growth; the ratio of credit to private sector to GDP (CPS/GDP) has a positive (not significant) relationship with entrepreneurial growth; and the ratio of deposit money banks' branches to GDP (DMBB/GDP) has a negative and significant relationship with entrepreneurial growth. Thus, the study concludes that money supply and credit to private sector are better indicators of financial deepening that can affect entrepreneurial growth positively in Nigeria. The study therefore recommends an effective manipulation of money supply to increase capital flows to the real sector of the economy to trigger entrepreneurial growth. In addition, the Central Bank of Nigeria should further compel commercial banks to grant more credit facilities to entrepreneurs (private sector), including the young graduates and new entrepreneurs without collaterals to enable them invest in viable projects. Also, more venture capital firms should be established to assist in funding small, early-stage, emerging firms that have high growth potentials resulting in creation of value and wealth.

Keywords: Financial Deepening, Entrepreneurial Growth, Nigeria

1. Introduction

Nigeria has recently paid a great deal of attention to expanding the breadth and depth of its financial market (Ohwofasa and Aiyedogbon, 2013). Examples of such recent financial developments include facilitating consolidation of the banking sector, continuous deregulation of bank lending and deposit interest rates, rapid use of credit and debit cards, increasing use of payment technologies like ATM machines and electronic transfer of deposits, expanding internet banking services, e-banking, and mobile banking technology etc. Prior to June, 2004, there were eighty-nine commercial banks, among other financial intermediaries, with capitalization of less than 10 million USD and 3,330 branches, in which the top ten banks accounted for about 50 percent of the industry's total assets/ liabilities (Soludo, 2004). Some other issues include managerial inefficiency, operational incompetency, poor corporate governance and unhealthy competition. Thus, these culminated in gross performance, which was below expectation which hindered the financial sector from delivering financial services optimally to the satisfaction of both investors and customers (Shittu, 2012).

The Central Bank of Nigeria (CBN) has initiated several policies to ensure that the financial sector in Nigeria maintain a considerable depth and remain liquid with a view to competing effectively within the global financial market. In 2004, the CBN implemented a reform programme aimed at consolidating the banking sector. The reform led to an increase in the minimum capital requirements for the commercial and micro-finance banks respectively. At the end of the consolidation exercise, 25 commercial banks emerged. This was further reduced to 24 banks at the end of December 2007 which further reduced to 22 licensed commercial banks as at 2017. In the post consolidation era, there are fewer banks with improved capital base of ₦25 billion each. However, the fear of systemic risk lingers, the supply of credit to investors and entrepreneurs is still questionable (Ohwofasa and Aiyedogbon, 2013). Consequently, the growth of entrepreneurship is relatively low. Thus, this research paper examines the relationship between financial deepening and entrepreneurial growth in Nigeria. The specific objectives of the study include:

1. To examine the relationship between the ratio of money supply (M_2) to Gross Domestic Product (GDP) and entrepreneurial growth in Nigeria
2. To determine the relationship between the ratio of credit to private sector (CPS) to GDP and entrepreneurial growth in Nigeria
3. To assess the relationship between the ratio of deposit money banks' branches (DMBB) to GDP and entrepreneurial growth in Nigeria

This study covers the main financial deepening indicators and their relationship with entrepreneurial growth for the period 1986 to 2016. The use of 1986 as the base year is due to the financial liberalization reform which took place that year. This reform aimed at reducing excessive controls and regulations relating to interest and exchange rates thereby promoting a market-based system of credit allocation, enhancing competition and efficiency in the financial system. The variables used to represent financial deepening include the ratio of money

supply to GDP, the ratio of credit to private sector to GDP and the ratio of deposit money banks' branches to GDP.

The study is significant to the following stakeholders:

1. The monetary authority: This study is important to the monetary authority as it shows how deep the Nigerian financial sector is, and the relationship with entrepreneurial growth in the economy. It helps the monetary authority in benchmarking the effectiveness of the various policies implemented in the country's financial sector geared towards the development and deepening of the financial sector.
2. Banks: The research report mirrors the activities of banks as regards to their financial intermediation role as it is the key issue in deepening the financial sector of the economy. The study further recommends the way forward.
3. Investors: The outcome of this work enlightens the investors on the extent of financial development of the economy. This helps them to make proper investment decisions.
4. Researchers: Researchers interested in carrying out further research in this field of study would find this study useful as their reference material.
5. Lecturers/students: This research work makes a good study material for lecturers and students on issues relating to financial deepening and growth of entrepreneurship.

2. Review of Related Literature

Conceptual Review

Financial deepening entails the ability of financial institutions to facilitate financial intermediation; create and develop financial services and render these services at affordable rate in an economy to facilitate growth of business enterprises. Nzotta and Okereke (2009) ascertained that financial deepening is the ability of financial institutions in an economy to effectively mobilize savings for investment purposes. The financial deepening vigorously attracts the reservoir of savings and idle funds and allocates same to entrepreneurs, businesses, households and government for investments projects and other purposes with a view of returns which forms the basis for economic development (Toruam, Chiawa and Abur, 2013).

In the opinion of Nnanna and Doggo (1998), financial deepening generally entails an increased ratio of money supply to Gross Domestic product. The study further explained that financial deepening is thus measured by relating monetary and financial aggregates such as M1, M2 and M3 to the Gross Domestic Product (GDP). The World Bank (1989:27) defines it as an increase in the stock of asset. Shaw (1973:8) opines that it is a process involving specialization in financial functions and institutions through which organized domestic institution and markets relate to foreign markets.

According to Nzotta (2004:169) the financial system serve as a catalyst to economic development through various institutional structures. The system vigorously seek out and attract the reservoir of savings and idle funds and allocate same to entrepreneurs, businesses, households and government for investments projects and other purposes with a view of returns. The financial system plays a key role in the mobilization and allocation of savings for productive uses, provide structures for monetary management, the basis for managing liquidity in the system. It also assists in the reduction of risks faced by firms and businesses in their productive processes, improvement of portfolio diversification and the insulation of the economy from the vicissitudes of international economic changes (Nzotta and Okereke, 2009).

Since the era of the structural adjustment programme (SAP) in 1986, the monetary authorities have implemented various policies aimed at deepening the financial system and reducing the level of financial repression in the system. These policies were geared toward effective financial intermediation for entrepreneurial growth. In spite of various reforms in the Nigerian banking sector, the sector still have not addressed the financial gaps in the system (Toruam, Chiawa and Abur, 2013). Financial reforms in Nigeria started with the Banking Ordinance of 1952. In 1986 the banking industry was deregulated. The 1986 reform of the financial system resulted in a policy shift from direct control to a market based financial system, especially as regards monetary management, risk management and asset holding capabilities of the institutions. A number of other reforms followed including the consolidation exercise in the banking industry in 2005 and insurance 2007. The capital market has also experienced a lot of reforms over the years, especially as regards the capital requirements of the operators, the operational and ethical standards of the institutions and the modalities of the market mechanism (Nzotta et al, 2009).

The need for financial deepening necessitated financial reforms which have been a reoccurring feature in the Nigerian financial system. The reforms became necessary due to the challenges faced in the financial system. The challenges according to Nzotta and Okereke (2009) include systemic crisis, globalization, technological innovation, and financial crisis. The reforms always seek to act proactively to strengthen the system, prevent systemic crisis, strengthen the market mechanism, and ethical standards.

Entrepreneurship is the process of designing, launching and running a new business, which is more often than not, initially a small business, offering a product(s), process or service(s) for sale or hire. Entrepreneurship

has been described as the capacity and willingness to develop, organise and manage a business venture along with any of its risks in order to make a profit. The people who create these businesses are called entrepreneurs. Entrepreneurial growth is a necessary ingredient for a country's economic growth and development. The effective functioning of micro, small, medium and large scale businesses contributes a lot to gross domestic product, creates employment, increases investment and raises the standard of living of the people in the economy. The financial institutions through their intermediation activities provide credit facilities to entrepreneurs for the operation of their businesses.

Theoretical Review

This section reviews supply-leading hypothesis, demand-following hypothesis and development hypothesis. However, this study is anchored on supply leading hypothesis.

Supply-leading hypothesis

The supply-leading hypothesis suggests that financial deepening triggers economic growth. The existence and development of the financial markets and services results in a higher level of savings and investments, thus, enhances the efficiency of capital accumulation and utilization. This hypothesis holds that well-functioning financial institutions can promote overall economic efficiency, create and expand liquidity, mobilize savings, enhance capital accumulation, transfer resources from traditional (non-growth) sectors to the more modern growth inducing sectors, and also promote a competent entrepreneur response in these modern sectors of the economy (Ohwofasa and Aiyedogbon, 2013). The work of Dernirguc-Kunt & Levine (2008) as cited in Torruam, Chiawa and Abur (2013), in a theoretical review of the various analytical methods used in finance literature, found strong evidence that financial development is important for growth. To them, it is crucial to motivate policymakers to prioritize financial sector policies and devote attention to policy determinants of financial development as a mechanism for promoting growth. According to Torruam et al (2013), the hypothesis promotes entrepreneurial response.

Demand following hypothesis

The demand-following hypothesis view the development of the financial markets as a response to economic growth implying that economic growth generates demand for financial products. According to Ohwofasa and Aiyedogbon (2013), this implies that any early efforts to develop financial markets might lead to a waste of resources which could be allocated to more useful purposes in the early stages of growth. As the economy advances, this triggers an increased demand for more financial services and thus leads to greater financial development. As the real sector grows, the increasing demand for financial services stimulates the financial sector. In summary, demand-following hypothesis explains that financial deepening is merely a by-product or an outcome of growth in the real side of the economy, a contention recently revived by Ireland (1994) and Demetriades and Hussein (1996). According to this alternative view, any evolution in financial markets is simply a passive response to a growing economy.

Development hypothesis

This theory asserts that the state of development of the financial infrastructure influences economic growth. In the opinion of Wairagu (2016), the dearth of a developed financial infrastructure hampers economic growth. Nzotta and Emeka, (2009) stated that the theory basically positions itself as a necessary model for the conceptualization of a business model in a free market. This means that financial development of an economy has an effect on entrepreneurship.

Empirical Review

Karimo and Ogbonna (2017) examined the direction of causality between financial deepening and economic growth in Nigeria for the period 1970-2013. The study adopted the Toda-Yamamoto augmented Granger causality test. The results showed that the growth-financial deepening nexus in Nigeria follows the supply-leading hypothesis. According to the study, this means that it is financial deepening that leads to growth and not growth that leads to financial deepening. The study recommended among others that policy effort should be geared towards removing obstacles that undermine the growth of credit to the private sector, and must restore investors' confidence in the stock market operations.

Ho, Huang, Shi and Wu (2017) studied the effect of financial deepening on innovation efficiency for various democratic levels of political institutions using panel data from 69 countries spanning 1970-2010. The study found that financial deepening promotes innovation only when a country's political institutions are sufficiently democratic. This result, according to the study, is stronger for countries with lower incomes than for countries with higher incomes.

Olawumi, Lateef and Oladeji (2017) examined the effect of financial deepening on the profitability of selected commercial banks in Nigeria using secondary data. Findings revealed that each component of financial deepening indicators has a strong relationship and are statistically significant. This provides empirical evidence that financial deepening made positive contributions to the level of profitability of the selected commercial banks in Nigeria. This paper concluded that contributions of each component of financial deepening to selected commercial banks performance is strong and are statistically significant.

Wairagu (2016) studied the effects of financial deepening on entrepreneurial growth in Kenya. The financial deepening indicators comprised of credit received by entrepreneurs/SMEs, the affordable nature of interest rates, savings culture coupled with the financial sector regulation. This research study employed a descriptive survey design and data were derived from both primary and secondary sources. Primary data were collected with the aid of a questionnaire while secondary data were gathered from expressive documentary analysis. The collected data were afterwards coded before the actual analysis with the useful aid of the Statistical Package for Social Sciences (SPSS). The results of the study were then presented in tabular form by particular use of line graphs and bar graphs. Major study findings indicated that the growth rate of the loans accessed by entrepreneurs/SMEs was on an unchanging progress in the period between 2006 and 2016. The four notable determinants (credit access, interest rates affordability, savings culture together with financial sector regulation) also had a confirmatory correlation with the expanded (growth) rate of entrepreneurs/SMEs. The researcher recommended effective enhancement of the distribution and apportionment policies to keep guard against bad debts and untoward wastage of funds. According to the study, there is also the necessity to initiate a proper and workable policy to make certain that the loans advanced to clients are equitably dispersed across the SMEs country wide to make sure that the rewards of economic and financial development are secured by a much wider population among other notable recommendations. The study further recommended the realignment of the interest rates in tandem with the existing parliamentary laws to prevent the exploitation of entrepreneurs/SMEs by the financial lending institutions. The researcher suggested that a study be carried out to give a model to guide the establishment of the appropriate lending rate that can ensure a steady positive entrepreneurial growth in the country.

Nwanna and Chinwudu (2016) examined financial deepening and economic growth in Nigeria from 1985 to 2014. The paper focused on the impact of stock market and bank deepening variables such as money supply, market capitalization, private sector credit and financial savings have on economic growth of Nigeria. The study used annual time series data from 1985 to 2014 obtained from the Central Bank of Nigeria statistical bulletin. Ordinary least square (OLS) econometric technique was employed in the study. The result of the analysis revealed that both bank based and stock market financial deepening proxies have significant and positive effect on economic growth. The study recommended that there should be improvement by encouraging more participation in the stock market, easing restrictions on international capital and entry into stock market to ensure more companies are listed.

Obafemi, Oburota and Amoke (2016) assessed the relationship between financial deepening and investment in Nigeria. Secondary data spanning from 1970 to 2013 was used for the empirical analysis. It adopted the Gregor-Hansen Endogenous structural break methodology and the supply-leading hypothesis in building the model. The study also employed the Unit Root Test, Co Integration Test and Granger Causality Test. It discovered a unidirectional causality, running from financial deepening to investment. It also found that the financial deepening has a statistically significant impact on domestic investment. Based on these empirical findings, the study recommended increased integration of the credit and thrift societies, cooperatives, rural saving organization etc into the mainstream formal financial sector in order to shore up the mobilization of savings for investment. It also recommended subsidizing the operational cost of financial intermediation so as to narrow the gap in interest rate spread. According to the studies, these steps when judiciously executed will ultimately promote financial deepening by easing the rigidities involved in mobilizing and accessing of credit for investment purpose.

Alrabadi and Kharabsheh (2016) investigated the dynamic relationship between financial deepening and economic growth in Jordan over the period (1992-2014). Vector auto regressive regressions, Granger causality and Johansen-Juselius cointegration tests were employed to achieve the objectives of the study. Using quarterly data, the results indicated no statistically significant effect of financial deepening on economic growth on the short run. However, the cointegration tests showed a statistically significant long run equilibrium relationship between the two variables regardless of the proxy used for financial deepening. Moreover, the Granger causality test showed 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 the economic growth to financial deepening was found when the amount of deposits and money supply (M2) were used as proxies of financial deepening.

Dabwor and Abimiku (2016) assessed empirically whether or not financial deepening has played a significant role in poverty alleviation effort in Nigeria for the period 1990 to 2013 using both quantitative and descriptive analyses. The paper estimated three models in which poverty rates for the rural areas, urban areas as well as national poverty rates were regressed on financial development indicators. The paper found that the coefficient of ratio of broad money supply to GDP reduces poverty rate in Nigeria. The study also found that the ratio of market capitalization to GDP and ratio of foreign direct investment in equities to GDP have positive impact on rural and urban poverty reduction respectively. However, the ratio of credit to the private sector and the ratio of total stock traded to GDP revealed opposite impact on poverty alleviation at all levels. The

descriptive analysis indicated that poverty rate in Nigeria has been unacceptably high in spite of abundant natural and human resources. The paper therefore, recommended the need for urgent reforms in the financial sector that would facilitate development in both the money and capital markets to improve liquidity; reduce interest rate spread to attract deposits and broaden financial access to the poor.

Okafor, Onwumere, and Chijindu (2016) conducted a causality and impact analysis on financial deepening indicators and economic growth in Nigeria for a 33-year period covering 1981 – 2013. The study used the Phillips-Peron test for unit root to ascertain whether the variables are stationary or not. The VEC residual normality test and the Histogram-Normality test were utilized in other to determine if the data set were normally distributed. Test for a long run relationship was conducted with the aid of the Johansen cointegration test. The Error Correction Model as well as the Granger causality test was also employed. The findings revealed that there is a long run relationship between economic growth, broad money supply and private sector credit, with high speed of adjustment towards long run equilibrium. The results also revealed that while broad money has positive and non-significant impact on economic growth, private sector credit has negative and non significant impact on growth. The Granger causality test results showed that neither broad money supply nor private sector credit is granger causal for economic growth and vice versa. The study therefore recommended that private sector friendly policies should be implemented to ensure that investors do not only have access to credit but such credit should be at affordable cost, i.e. at a relatively low interest rate. Monetary and fiscal policies should be harmonized in other to achieve the economic goal of sustained growth and stability.

Agyei (2015) examined the causal relationship between financial development and economic growth in Ghana. This was done using modern time series econometric procedures by employing four proxies of financial development and applying Granger causality test, Cointegration and Vector Error Correction Model (VECM). The empirical results showed a uni-directional relationship between financial development and economic growth and that the direction of causality is sensitive to the choice of proxy of financial development. It was discovered that, the issue as to whether finance follows in the direction of economic growth or lead to economic growth depends on the proxy of financial development. According to the study when Credit to the private sector (CPSY) was used to proxy financial development, finance leads economic growth. On the other hand, when the ratio of broad money to GDP ($M2+Y$) was used as a proxy for financial development, finance follows growth. The empirical Cointegration results supported a positive long run relationship between financial development and economic growth.

Aye (2015) investigated the role of financial development on economic growth in Nigeria using a bootstrap rolling window estimation approach. The study covered the period 1961-2012. The tests revealed the periods where financial deepening had predictive power for economic growth, as well as the periods where economic growth had predictive power for financial deepening. The results highlighted the risk of misleading conclusions based on the standard Granger causality tests which neither accounted for structural breaks nor time variation in the relationship between financial deepening and economic growth.

Alenoghena (2014) examined the contributions of capital market and financial deepening to economic growth in Nigeria over the period of 1981 to 2012. The analysis involved examining the stochastic characteristics of each time series variable by testing their stationarity using Augmented Dickey Fuller (ADF) test and estimating the error correction mechanism model. Several variables were adopted as proxies for capital market and financial deepening. The study revealed that Stock Market Capitalisation (MCAP), Narrow Money Diversification (NMD; involving credit to private sector) and Interest Rate (INT) significantly impacted the promotion of economic growth of the country during the period of study. Though, other measures of liquidity represented by Financial Development (FID) and Monetisation Ratio (MTR) were not significant in explaining the trend in economic growth, they exhibited very strong coefficients in the process. It was recommended that government and other stake holders in the economy should take measures to further improve the liquidity of the financial market to enhance overall economic efficiency in the country. The study added that policy targets should be specific on the expansion of credit to the producing sectors of the economy and further monetization of the economy by extending financial services to deficient locations.

Madichie, Maduka, Oguanobi and Ekesiobi (2014) used Ordinary Least Squares (OLS) techniques, Augmented DickeyFuller unit root test, Johansen cointegration test, error correction technique, and the Granger causality test to investigate the impact of financial development on economic growth in Nigeria covering the period 1986-2012. The empirical results revealed that all the variables used are integrated of the same order, $I(1)$; there is evidence of the existence of a long run relationship among the variables used; the normalized cointegration coefficients revealed that financial development affects economic growth negatively in the long run. However, the short run impact of financial development on economic growth is positive. This, according to the study, means that the finance-led growth hypothesis is valid in Nigeria only in the short run. The study also found evidence of stability of both long run and short run relationship between the real GDP and financial development in Nigeria and the adjustment process to restore equilibrium after disturbance is effectively slow (6.50 percent of discrepancies is corrected in each period). Also, the paper found that causality runs from

economic growth to financial development and there is no bi-directional causality between growth and finance which lends support to the demand-leading hypothesis. Based on these findings, the study recommended among other things that: the government should device a means to energise the micro finance sector so as to make credits available and accessible to micro entrepreneurs who are often deprived of credits by the conventional credit markets.

Bakang (2014) investigated the effects of financial deepening on economic growth in the Kenyan banking sector. The study achieves this objective using quarterly time series data from 2000 to 2013. Financial deepening, the independent variable was captured by four indicators which include Liquid Liabilities (LL) as ratio to nominal Gross Domestic Product (GDP); Credit to the Private Sector (CPS) as ratio to nominal GDP; Commercial Bank Assets as ratio to commercial bank assets plus Central Bank Assets (CCBA); and Commercial Bank Deposits (CBD) as ratio to nominal GDP. The dependent variable, economic growth, was measured by real GDP. The study found that banking sector in Kenya has an important role to play in the process of economic growth. Specifically, the empirical results revealed that liquid liabilities, credit to the private sector, central bank assets and commercial bank deposits have positive and statistically significant effects on GDP. The study recommended the reinforcement of existing policies that will encourage the public to save more money with commercial banks. This, as explained by the study should be in the area of increasing the interest rate paid to depositors on their deposits in order to incite them to save more. The study also recommended the intensification of financial inclusion policies through increased access and usage of formal banking services while reducing banks transaction costs.

Ohwofasa and Aiyedogbon (2013) studied the impact of financial deepening on economic growth in Nigeria for the period 1986 to 2011. Vector autoregressive (VAR) methodology and its derivatives, impulse response function and variance decomposition, were employed to scrutinize the relationship between financial deepening and economic growth. The findings showed that the series are co-integrated and that long run relationship existed between the variables. The results of the VAR estimates revealed among other things that a one year lag of economic growth, gross national saving as a ratio of GDP (lag 1) and exchange rate (lag 1) have significant positive impact on current economic growth while the impact of GCF (lag 1) on the current level of economic growth was negative and statistically significant. It was also empirically discovered that PSC/GDP (lag 2) and GNS/GDP (lag 2) happened to be key determinants of M2/GDP. Similarly, the key determinants of PSC/GDP include its year 1 and 2 lagged values and GNS/GDP (lag 2) with GNS/GDP (lag 2) and PSC/GDP (lag 2) exhibiting negative impact. Finally, on the current level of GNS/GDP, it is 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. These findings were further corroborated by the results of the impulse response function and variance decomposition. Among the recommendations of the study was that savings should be stimulated in order to place more funds in the hands of banks to intermediate to investors seeking funds. The study added that lending rate should be reasonable so as not to deter investors to borrow to embark on viable investment projects.

Torruam, Chiawa and Abur (2013) examined the causal relationship between financial deepening and Economic Growth in Nigeria for the period 1990-2011. The stationarity properties of the data and the order of integration of the data were tested using both the Augmented Dickey-Fuller (ADF) test and the Phillip-Perron (PP) test. The variables tested stationary at first differences. The Johansen approach of cointegration was applied to test for the long-run relationship among the variables. The result indicated four (4) cointegrating relationships between the variables; the Granger-causality suggests that there is unidirectional causality running from economic growth to financial deepening in Nigeria. The study concluded that financial deepening has an impact on economic growth in Nigeria. According to the study, it implies that developing the financial sector in Nigeria, improves financial structures and ensures efficient delivery of financial services to the private sector to invest to attract more private sector participation for increase output. The study recommended that policy makers should design the policies which will promote the financial and capital markets by removing obstacles that impede their growth and strengthen for healthy and competitive financial system.

Aye (2013) assessed the dynamic causal relationship between financial deepening, economic growth and poverty in Nigeria using annual time series covering 1960 to 2011 periods. The Johansen co-integration test was used to examine the long-run relationship between finance, growth and poverty. The short and long run causality between these variables was tested using a modified Hsiao-Granger causality within a Vector Autoregressive (VAR) and Vector Error Correction Model (VECM) framework. The results indicated no evidence of long run equilibrium relationship between finance, economic growth and poverty. Therefore, the study focused on short-run causality. Also, the results showed a short-run unidirectional causality from growth to poverty conditional on finance. The study also found evidence of causality from poverty to financial deepening conditional on growth. The study suggested that a more balanced policy approach that also takes into account other fundamental growth factors such as institutions, investment in physical and human capital may help strengthen the finance-growth-poverty dynamics.

Chukwuka (2012) examined the causal relationship between financial deepening and economic growth in the Nigeria for the period 1986 to 2010 using Vector Auto Regressive model. The study found that financial deepening does not impact economic growth in short run but in the long run. The study also found that GDP have a positive and significant impact on Deposit Money Banks' Assets, money supply and private sector credit. It recommended that monetary authorities should continue with the policy reforms to consolidate the emerging confidence in the financial system.

Okereke (2011) investigated how the recent financial deepening processes in Nigeria have impacted on aggregate welfare. Private per capita consumption expenditure was used to measure aggregate welfare in this study which serves as a macroeconomic measure of indicators of aggregate welfare. In the study, financial deepening is represented by two variables, the degree of financial intermediation/development (MS2/GDP) and the ratio of private sector credit to gross domestic product (PSC/GDP). Three modelled equations, with justifications for each, were estimated and analysed. With a time series data spanning from 1975 to 2010, a country specific regression was used. A dummy variable approach for structural differences was used for the analysis in the first Model after the necessary conditions of non-stationarity and cointegration had been satisfied, while the Autoregressive Distributed Lag-Error Correction Model (ARDL-ECM) was used for the analysis of the second and third Models. The empirical findings showed that there are structural differences in the level of financial deepening in the country between the pre and post recent financial reform periods in Nigeria, the bank size represented by (DMBA/GDP) and bank branch distribution represented by (NBBT) are the outstanding and significant determinants of financial deepening in Nigeria. The study added that financial deepening has no direct significant impact on aggregate welfare, but can go through the financial accessibility indicator-bank branch distribution. The policy implications derived from the findings is that, the country should come up with more policies to improve financial deepening/intermediation and there is need to formulate financial reform policies that will have a proportionate beneficial welfare impact on the poor.

Nzotta and Okereke (2009) examined financial deepening and economic development in Nigeria between 1986 and 2007. The study made use of secondary data, sourced for a period of 22 years. Nine explanatory variables were specified for the study based on theoretical underpinnings. Two stages least squares analytical framework was used for the analysis. A trend analysis was also done in the study. At the end of the study, it was found that financial deepening index is low in Nigeria over the years. The study also found that the nine explanatory variables, as a whole were useful and had a statistical relationship with financial deepening but four of the variables; lending rates, financial savings ratio, cheques/GDP ratio and the deposit money banks/GDP ratio had a significant relationship with financial deepening. The paper concluded that the financial system has not sustained an effective financial intermediation, especially credit allocation and a high level of monetization of the economy. The paper recommended that the regulatory framework should be restructured to ensure good risk management, corporate governance and stemming systemic crisis in the system.

Kargbo and Adamu (2009) assessed the relationship between financial development and economic growth in Sierra Leone for the period 1970-2008. The method of principal components was employed to construct a financial sector development index (FSDI) used to proxy development in the sector. Using the autoregressive distributed lag (ARDL) approach, the study found a unique cointegrating relationship among real GDP, financial development, investment and real deposit rate. The results suggested that financial development exerts a positive and statistically significant effect on economic growth and investment is an important channel through which financial development feeds economic growth.

Gap in Literature

The only known empirical study (to the best of the researchers' knowledge) on financial deepening and entrepreneurial growth is the one done by Wairagu in 2016 in Kenya. Other research works focus on financial deepening and economic growth, financial deepening and banks' performance, etc. In Nigeria, to the best of the researchers' knowledge, no study has assessed the relationship between financial deepening and entrepreneurial growth. Thus, this study fills the gap in knowledge.

Wairagu (2016) and other studies in this area fail to capture the number of Deposit Money Banks' Branches as one of the financial deepening indicators. Therefore, this research report fills the gap in knowledge in that regard.

3. Research Methodology

This study employed quantitative research design. The study focused on the financial deepening indicators of the Nigerian economy and their relationship with entrepreneurial growth. The time frame considered for this study was 1986 to 2016.

The study used secondary data derived from Central Bank of Nigeria Statistical Bulletin, 2016.

The model for this study is stated as follows:

$$EG = f(M_2/GDP, CPS/GDP, DMBB/GDP) \quad - \quad - \quad - \quad - \quad - \quad (i)$$

$$EG = a_0 + a_1M_2/GDP + a_2CPS/GDP + a_3DMBB/GDP + e \quad - \quad - \quad - \quad - \quad (ii)$$

Where:

EG = Entrepreneurial Growth proxied by Ratio of Trade to GDP

M_2/GDP = Ratio of Money Supply to GDP

CPS/GDP = Ratio of Credit to Private Sector to GDP

DMBB/GDP = Ratio of Deposit Money Banks' Branches to GDP

a_0 = Intercept

$a_1 - a_3$ = Coefficients

e = Error Term

EG is the dependent variable, while M_2/GDP , CPS/GDP and DMBB/GDP are the independent variables. Pearson Correlation was used to establish the relationships between the variables.

Apriori Expectation

M_2/GDP is expected to have a positive and significant relationship with entrepreneurial growth. The justification is that an increase in money supply should trigger more economic activities in a country.

CPS/GDP is also expected to have a positive and significant relationship with entrepreneurial growth. The reason is that access to credit enables entrepreneurs to run their businesses effectively.

Also, DMBB/GDP is expected to have a positive and significant relationship with entrepreneurial growth because increase in banks' branches is expected to increase access to financial services as branches are established closer to most businesses.

4. Data Presentation, Analysis and Discussion of Results

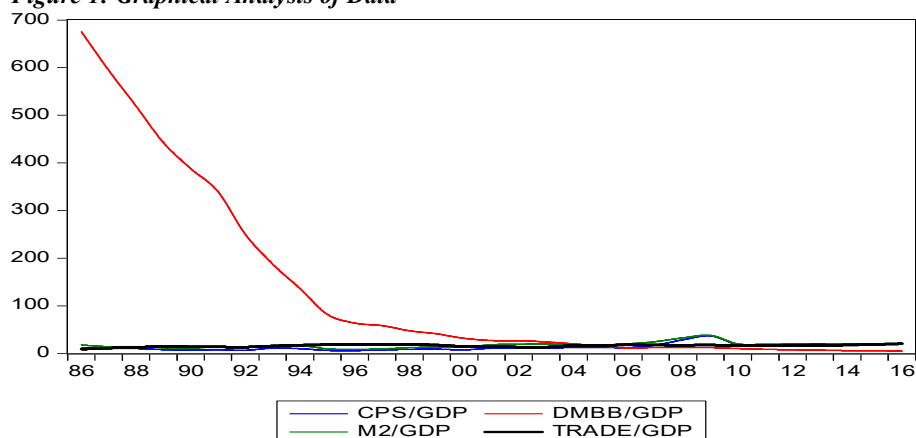
Table 1: Ratio of Money Supply to GDP; Credit to Private Sector to GDP; Deposit Money Banks' Branches to GDP and Trade to GDP in Nigeria (1986 – 2016)

Year	M_2/GDP (%)	CPS/GDP (%)	DMBB/GDP (%)	Trade/GDP (%)
1986	17.7	11.3	675.3	9.1
1987	14.3	10.9	594.5	11.5
1988	14.6	10.4	519.8	12.5
1989	12.0	8.0	442.5	14.9
1990	11.2	7.1	388.1	13.9
1991	13.8	7.6	339.4	13.6
1992	12.7	6.6	250.1	13.3
1993	15.2	11.7	187.3	15.5
1994	16.5	10.2	136.3	17.4
1995	9.9	6.2	81.8	18.3
1996	8.6	5.9	63.7	18.3
1997	9.9	7.5	58.5	18.5
1998	12.2	8.8	47.6	18.7
1999	13.4	9.2	41.2	17.7
2000	13.1	7.9	31.8	14.8
2001	18.4	11.1	27.0	15.3
2002	19.3	11.9	26.6	13.2
2003	19.7	11.1	24.4	13.4
2004	18.7	12.5	20.2	16.6
2005	18.1	12.6	15.7	16.2
2006	20.5	12.3	11.3	18.5
2007	24.8	17.8	12.7	17.9
2008	33.0	28.6	12.7	17.3
2009	38.0	36.9	12.3	17.8
2010	20.2	18.6	10.6	16.5
2011	19.3	16.9	8.7	16.4
2012	19.4	20.4	7.8	16.5
2013	18.9	19.7	7.1	17.1
2014	19.9	19.2	6.2	17.6
2015	20.1	19.8	5.8	19.2
2016	21.3	20.8	5.4	20.4

Source: Computed by the authors using CBN Statistical Bulletin 2016

The data presented in Table 1 showing M_2/GDP , CPS/GDP, DMBB/GDP and Trade/GDP for the period 1986 to 2016 was used for the analysis. The results of the analysis is presented in Figure 1, Table 2 and Table 3.

Figure 1: Graphical Analysis of Data



Source: E-views 8.0

The graph (Figure 1) shows that DMBB/GDP maintained a declining trend throughout the period under review. It started with 675.3% in 1986 and declined seriously to 63.7% in 1996. It then declined gently to 5.4% in 2016. The implication is that, though Nigeria had more bank branches in 1986 and later, due to liberalisation and deregulation of the financial sector, the growth in the number of commercial bank branches was not commensurate with their contribution to economic growth. CPS/GDP was 11.3% in 1986 and maintained a relatively flat trend till 2009 where it rose to 36.9%. It declined thereafter to 18.6% in 2010 and maintained a comparatively flat trend to 20.8% in 2016. This means that credit to private sector was high in 2009 relatively to Gross Domestic Product in Nigeria. M₂/GDP stood at 17.7% in 1986 and continued a more or less flat movement till 2009 where it rose to 38%. It declined a year later to 20.2% in 2010 and maintained a rather flat trend to 21.3% in 2016. This connotes that Money Supply was also high in 2009 relatively to Gross Domestic Product. Trade/GDP was 9.1% in 1986 and increased steadily to 18.7% in 1998. It later decreased to 13.2% in 2002 before it rose gently to 20.4% in 2016.

Table 2: Descriptive Statistics

	CPS/GDP	DMBB/GDP	M ₂ /GDP	TRADE/GDP
Mean	13.53226	131.3677	17.57097	16.06129
Median	11.30000	27.00000	18.10000	16.50000
Maximum	36.90000	675.3000	38.00000	20.40000
Minimum	5.900000	5.400000	8.600000	9.100000
Std. Dev.	6.996208	195.3914	6.237050	2.540561
Skewness	1.509562	1.576627	1.412374	-0.748471
Kurtosis	5.404656	4.148216	5.748567	3.176425
Jarque-Bera	19.24257	14.54599	20.06452	2.934615
Probability	0.000066	0.000694	0.000044	0.230545
Sum	419.5000	4072.400	544.7000	497.9000
Sum Sq. Dev.	1468.408	1145334.	1167.024	193.6335
Observations	31	31	31	31

Source: E-views 8.0

The descriptive statistics presented in Table 2 shows that DMBB/GDP has the highest mean value of 131.37, followed by M₂/GDP which has 17.57. Note that the Mean describes the average value for each data series in the model. The Median explains the middle or centre point for each data series in the model. From Table 2, the median is 11.30 for CPS/GDP, 27.00 for DMBB/GDP, 18.10 for M₂/GDP and 16.06 for Trade/GDP. DMBB/GDP has both the highest Maximum value of 675.30 attained in 1986 and the lowest Minimum value of 5.40 recorded in 2016.

Standard deviation is a measure of dispersion or spread in the series. From the analysis, DMBB/GDP has the highest Standard Deviation as it recorded 195.39, implying that it is the most volatile variable in the model as it has the highest percentage of dispersion from the mean. Skewness measures the asymmetry or symmetry of the distribution of the series around its mean. A Skewness of zero (0) depicts a symmetrical distribution. On the other hand, a positive skew portrays an asymmetrical distribution with higher values; it has a long tail to the right. However, a negative skew illustrates an asymmetrical distribution with lower values, which has a long tail

to the left. From Table 2, three variables, CPS/GDP, DMBB/GDP and M_2 /GDP with 1.5, 1.6 and 1.4 respectively, are skewed a little to the right, while Trade/GDP which has -0.7 is skewed slightly to the left. In conclusion, Trade/GDP meets the rule of thumb of not greater than 1.0 and not less than -1.0. Thus, it has a normal distribution.

Kurtosis measures the peakedness or flatness of the distribution of a series. The kurtosis of a normal distribution is 3. If it exceeds 3, it means that the distribution is peaked or leptokurtic relative to the normal. Conversely, if it is less than 3, it shows that the distribution is flat or platykurtic relative to the normal. From Table 2, CPS/GDP, DMBB/GDP and M_2 /GDP are leptokurtic because they have 5.4, 4.1 and 5.7 respectively. Trade/GDP has the value of 3.2 which is approximately 3, depicting a normal distribution. Jarque-Bera tests whether the series is normally distributed or not. The test statistic measures the difference of the skewness and kurtosis of the series with those from a normal distribution. In JB statistic, the null hypothesis which states that the distribution is normal is rejected at 5% level of significance. From the results of the analysis presented in Table 2, Jarque-Bera statistic is 19.2 with a Probability of 0.000066 for CPS/GDP; 14.5 with a Probability of 0.000694 for DMBB/GDP; 20.1 with a Probability of 0.000044 for M_2 /GDP and 2.9 with a Probability of 0.2 for Trade/GDP. Therefore, we reject the hypothesis of a normal distribution for CPS/GDP, DMBB/GDP and M_2 /GDP. Nevertheless, the hypothesis of a normal distribution is accepted in the case of Trade/GDP.

Table 3: Correlation Results

		M_2 /GDP	CPS/GDP	DMBB/GDP	Trade/GDP
M_2 /GDP	Pearson Correlation	1	.928**	-.350	.194
	Sig. (2-tailed)		.000	.053	.295
	N	31	31	31	31
CPS/GDP	Pearson Correlation		1	-.381*	.333
	Sig. (2-tailed)	.000		.035	.067
	N	31	31	31	31
DMBB/GDP	Pearson Correlation	-.350	-.381*	1	-.768**
	Sig. (2-tailed)	.053	.035		.000
	N	31	31	31	31
Trade/GDP	Pearson Correlation	.194	.333	-.768**	1
	Sig. (2-tailed)	.295	.067	.000	
	N	31	31	31	31

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS version 20

From the results of the analysis presented in Table 2, M_2 /GDP has a positive relationship with entrepreneurial growth proxied by Trade/GDP. This is shown by a coefficient of 0.194 meaning that an increase in money supply will result in an increase in entrepreneurial growth. However, the result is not statistically significant. M_2 /GDP has a positive and significant relationship with CPS/GDP shown by a coefficient of 0.928. This implies that an increase in money supply will lead to an increase in credit to private sector. However, M_2 /GDP has a negative relationship with DMBB/GDP shown by a coefficient of -0.350. The result deviates from the apriori expectation because M_2 /GDP failed to have a significant positive relationship with entrepreneurial growth as expected.

CPS/GDP has a positive relationship with entrepreneurial growth. This is shown by a correlation coefficient of 0.333. The implication is that an increase in credit to private sector will result in an increase in entrepreneurial growth. This is due to the importance of credit to the operation of business firms. However, the result is not statistically significant. This result does not comply with the apriori expectation which anticipated a positive and significant relationship between CPS/GDP and entrepreneurial growth.

DMBB/GDP has a negative and significant relationship with entrepreneurial growth evidenced by a coefficient of -0.768 significant at 1%. This means that an increase in the number of Deposit Money Banks' branches may not favour entrepreneurial growth; rather, it may be detrimental to the growth of entrepreneurship. The possible reason is that the funds that should be lent to entrepreneurs may be diverted to opening new branches. The result does not tally with the apriori expectation.

Testing the Hypotheses

Decision Rule:

1. Accept the null hypothesis (reject the alternative hypothesis) if the result is not positive and significant at 5% level.
2. Reject the null hypothesis (accept the alternative hypothesis) if the result is positive and significant at 5% level.

Hypothesis 1

H₀: There is no significant positive relationship between the ratio of money supply to GDP and entrepreneurial growth in Nigeria.

H₁: There is a significant positive relationship between the ratio of money supply to GDP and entrepreneurial growth in Nigeria.

The results of the study revealed that M₂/GDP has a positive but not significant relationship with entrepreneurial growth. Therefore, the null hypothesis is accepted; the alternative hypothesis is rejected.

Hypothesis 2

H₀: There is no significant positive relationship between the ratio of credit to private sector and entrepreneurial growth in Nigeria.

H₁: There is a significant positive relationship between the ratio of credit to private sector and entrepreneurial growth in Nigeria.

From the results of the analysis, CPS/GDP has a positive (not significant) relationship with entrepreneurial growth. Thus, the null hypothesis is accepted while the alternative hypothesis is rejected.

Hypothesis 3

H₀: There is no significant relationship between the ratio of deposit money banks' branches to GDP and entrepreneurial growth in Nigeria.

H₁: There is a significant relationship between the ratio of deposit money banks' branches to GDP and entrepreneurial growth in Nigeria.

The results of the study showed that DMBB/GDP has a negative and significant relationship with entrepreneurial growth. Hence, the null hypothesis is accepted; the alternative hypothesis is rejected.

5. Conclusion and Recommendations

Considering the findings, the study concludes that money supply and credit to private sector are better indicators of financial deepening that can affect entrepreneurial growth positively in Nigeria if properly applied. Establishing more bank branches is not the solution, instead, extending more credit to the private sector (the entrepreneurs) and increasing the supply of money is the way forward to entrepreneurial growth.

The following recommendations were given:

1. Monetary authorities should implement policies geared towards increasing money supply to achieve increased capital flows to the real sector of the economy as this will trigger entrepreneurial growth.
2. Central Bank of Nigeria should further compel commercial banks to grant more credit facilities to entrepreneurs (private sector), including the young graduates and new entrepreneurs without collaterals to enable them invest in viable projects.
3. Venture capital firms should be established to assist in entrepreneurial growth resulting in creation of value and wealth.

Contributions to Knowledge

In Nigeria, other studies on financial deepening focus on economic growth or other issues other than entrepreneurial growth. As such, this study serves as a pioneer research report in Nigeria on the relationship between financial deepening and entrepreneurial growth. This study contributes to literature and knowledge globally.

Suggestion for further Research

Credit to private sector is not free but given at a cost. Therefore, further studies in this area should capture the lending rate of banks and how it affects the growth of entrepreneurship.

Acknowledgements

We are grateful to the Chancellor of Arthur Jarvis University, Akpabuyo, Sir Arthur Jarvis Archibong for his support. We thank the following distinguished personalities at Arthur Jarvis University for their encouragements and contributions at various stages of the research: the Vice-chancellor, Prof. Julian O. Osuji, the Dean, Faculty of Humanities, Management and Social Sciences, Prof. Offiong A. Offiong, the Registrar, Mr. Idim E. Ekanem, the Bursar, Mr. Peter Agbafor among others. We are grateful.

References

- Agyei, C. K. (2015). Financial Development and Economic Growth: The Causal Relationship in Ghana. MBA Thesis submitted to Department of Accounting and Finance, Kwame Nkrumah University of Science and Technology, Ghana
- Alenoghena, R. O. (2014). Capital Market, Financial Deepening and Nigeria's Economic Growth: Cointegration and Error Correction Model Approach. *Global Journal of Commerce & Management Perspective (Published by Global Institute for Research and Education)*, Vol. 3, No. 1, Pp. 18-26
- Alrabadi, D. W. H. & Kharabsheh, B. A. (2016). Financial Deepening and Economic Growth: The Case of Jordan. *Journal of Accounting and Finance*, Vol. 16, No. 6

- Aye, G. C. (2013). Causality between Financial Deepening, Economic Growth and Poverty in Nigeria. *The Business & Management Review*, Vol. 3, No. 3
- Aye, C. G. (2015). Causality between Financial Deepening and Economic Growth in Nigeria: Evidence from a Bootstrap Rolling Window Approach. *Journal of Economics, Business and Management*, Vol. 3, No. 8
- Bakang, M. L. N. (2014). Effect of Financial Deepening on Economic Growth in Kenya. *International Journal of Business and Commerce*, Vol. 4, No. 7, Pp. 1-50
- Chukwuka, O. (2012). An Empirical Analysis of Financial Deepening and Economic Growth in Nigeria. A Thesis Submitted to the Postgraduate School of Ahmadu Bello University, Zaria, Nigeria for the Award of Master of Science Degree in Economics
- Dabwor, T. D. & Abimiku, A. C. (2016). Poverty incidence in Nigeria: Does Financial Deepening Matter? *Journal of Economics and International Finance*, Vol. 8, No. 6, Pp. 56-65
- Demeriades. P. O. & Hussein, K. A. (1996). Does Financial Development Cause Economic Growth?: Time-Series Evidence from 16 Countries. *Journal of Development Economic*, pp. 387-411.
- Ho, C., Huang, S., Shi, H. and Wu, J. (2017). Financial Deepening and Innovation Efficiency: The Role of Political Institutions. Asian Development Bank Institute Working Paper No. 694
- Kargbo, S. M. & Adamu, P. A. (2009). Financial Development and Economic Growth in Sierra Leone. *Journal of Monetary Economic Integration*, Vol. 9, No. 2
- Karimo, T. M. & Ogbonna, O. E. (2017). Financial Deepening and Economic Growth Nexus in Nigeria: Supply-Leading or Demand-Following? *Economics*, Vol.5, No. 4
- Levine, R. (2002). "Bank-Based or Market-based Financial Systems: which is Better?" *Journal of Financial International*, 11(4): 398-428
- Madichie, C., Maduka, A., Oguanobi, C. & Ekesiobi, C. (2014). Financial Development and Economic Growth in Nigeria: A Reconsideration of Emperical Evidence. *Journal of Economics and Sustainable Development*, Vol. 5, No. 28
- Nnanna, O. J. & Dogo, M. (1998), "Structural Reform, Monetary Policy and Financial Deepening: The Nigerian Experience" *Economic and Financial Review*, Vol. 36 No. 2, June. Pp 1-29.
- Nzotta, S. M. & Okereke, E. J. (2009). Financial Deepening and Economic Development in Nigeria: An Empirical Investigation. *African Journal of Accounting, Economics, Finance and Banking Research*, Vol. 5(5): 52-66
- Obafemi, F. N., Oburota, C. S. & Amoke, C. V. (2016). Financial Deepening and Domestic Investment in Nigeria. *International Journal of Economics and Finance*, Vol. 8, No. 3
- Ohwofasa, B. O. & Aiyedogbon, J. O. (2013). Financial Deepening and Economic Growth in Nigeria, 1986 – 2011: An Empirical Investigation. *Journal of Economics and Development Studies*, Vol. 1, No. 1, Pp. 24-42
- Okafor, I. G., Onwumere, J. U. J. & Chijindu, E. H. (2016). Financial Deepening Indicators and Economic Growth in Nigeria: A Causality and Impact Analysis. *Asian Journal of Economics, Business and Accounting*, Vol. 1, No. 2, Pp. 1-11
- Okereke, S. F. (2011). An Econometric Analysis of the Impact of Financial Deepening on Aggregate Welfare in Nigeria. An M.Sc. Thesis Submitted to Department of Economics, University of Nigeria, Nsukka
- Olawumi, S. O., Lateef, L. A. & Olade, E. O. (2017). Financial Deepening and Bank Performance: A Case Study of Selected Commercial Banks in Nigeria. *Jourenal of Mathematical Finance*, Vol. 7, Pp. 519-535
- Olofin, S. & Afangideh, U. J. (2010). Financial Structure and Economic Growth in Nigeria. *Nigerian Journal of Securities and Finance*, Vol. 13 No. 1 Pp 47-68
- Shaw, E. S. (1973). *Financial Deepening in Economic Development*, Oxford
- Shittu, A. I. (2012). Financial Intermediation and Economic Growth in Nigeria. *British Journal of Arts and Social Sciences*, Vol.4 No.2.
- Soludo. C. (2004). *Consolidating the Nigerian Banking Industry to meet the Challenges of the 21st Century*. Being an Address Delivered to the Special Meeting of the Bankers' Committee, held on July 06, 2004 at the CBN Headquarter, Abuja.
- Torruam, J. T. Chiawa, M. A. & Abur, C. C. (2013). Financial Deepening and Economic Growth in Nigeria: An Application of Cointegration and Causality Analysis. Third International Conference of Intelligent Computational Systems (ICICS'2013), April 29-30, Singapore
- Wairagu, R. (2016). Effects of Ffinancial Deepening on the Entrepreneural Growth in Kenya: A Case Study of SMEs within Nairobi County. A Masters Degree Thesis Submitted to the School of Business, University of Nairobi
- World Bank (1989). *World Development Report*.