

Financial Deepening and Manufacturing Sector Productivity in Cameroon (1970-2018)

Chi Aloysius Ngong¹, Charles O. Manasseh^{1*}, Osmond N. Okonkwo² and Ifeoma C. Nwakoby¹

¹Department of Banking & Finance, University of Nigeria, Enugu Campus

²Department of Economic, Alvan Ikoku Federal College of Education, Owerri

Abstract

This study assesses the relationship between financial deepening and manufacturing sector productivity in Cameroon from 1970 to 2018 using Engle-Granger two step co-integration and autoregressive distributed lag (ARDL) methods. Manufacturing value added proxies manufacturing sector productivity, while credit to the private sector, broad money supply and trade openness measure financial deepening. The results reveal a long run relationship between financial deepening and manufacturing sector productivity. The error correction term shows that financial deepening and manufacturing sector productivity converge to long run equilibrium. The ARDL results indicate that credit to the private sector and broad money supply positively impact manufacturing sector productivity while trade openness negatively impacts manufacturing sector productivity in the short run in Cameroon. Following the findings, ways to improve credit channels and liquidity flow to private firms through bank's intermediation should be encouraged by Central Bank with policies that remove bottlenecks against credit to the private sector. Hence, commercial banks and other financial institutions should provide more credit to manufacturing sector at moderate cost. The Cameroon government should encourage monetary authorities of the Central and commercial banks to create an enabling environment for prospective investors to invest in the manufacturing sector. The government should diversify financing into the capital market which is almost nonexistent. Hence, policies that promote investors' confidence through legal framework of stock market development should be implemented.

Key Words: Financial deepening, manufacturing sector, Cameroon

Jel code: E23, G32

Article Received: 18 October 2020, Revised: 3 November 2020, Accepted: 24 December 2020

1.

Introduction

Financial deepening (FD) is often referred to as financial institutions' ability to expand financial services provision to all sectors in an economy. Financial deepening justifies the expansion of financial services provision by financial intermediaries with broad services directed towards the society's development (Ohwofasa & Aiyedogbon, 2013). This includes provision of a broad range of financial assets towards societal development in all facets. Furthermore, financial deepening involves financial intermediaries' capability to effectively mobilize savings and deposits for productive investments in an economy. Generally, financial deepening is the ultimate aggregate supply of financial assets in an economy to improve productivity in various sectors of an

economy (Wikipedia). The aim of financial deepening is to improve the economic conditions by increasing competitive efficiency in financial markets which equally benefits the non-financial sectors in an economy (Nwanna & Chinwudu, 2016).

Nzotta & Okereke (2009) stated that financial deepening is the financial institutions' ability to effectively mobilize savings for investments and financial intermediaries serve as vehicles for financial deepening. Financial intermediaries intercede between the surplus economic units which are the providers of financial resources and deficit economic units which use financial capital (Thakor, 2007). These institutions mobilize funds from households, firms, and other financial intermediaries

with surplus and idle financial resources then lend to households, firms and other financial intermediaries that has profitable investment opportunities but limited by funds. Financial deepening assists financial intermediaries to mobilize and channel domestic savings to productive uses effectively thereby promoting production and economic growth in a country. Additionally, financial deepening reduces the extent and information asymmetry significance (Stiglitz & Greenwald, 2003). It also allows for risk transformation and monitoring (Diamond, 1984). Financial intermediation depth or shallowness is essential to any economy since financial deepening (FD) promotes growth through the demand and supply channels in an economic system, using either the supply-leading or demand-following hypothesis (Godsmith, 1969; McKinnon, 1973; Shaw, 1973; Robinson, 1952).

In applying Kaldor's first law which unveils a causal relationship between the manufacturing output growth and GDP growth, (Libanio 2006) defined manufacturing sector as an engine of growth in an economy. According to (Adebayo 2010), the manufacturing sector refers to the industries involved in the processing and manufacturing of new commodities with value addition. Dickson (2010) defines manufacturing sector as a sub sector that accounts for a greater share of the industrial sector in a country. According to (Dickson 2010), the final manufactured products of firms are salable commodities or consumption goods as well as goods further production. Over several decades, Cameroon is has been struggling to industrialize its manufacturing sector. Currently, the challenge is to shift from natural resource dependent economy with more imported goods and services to a manufactured goods exporter. According to (Gui-Diby & Renard, 2015), there is high necessity to increase the industrial levels of African countries to minimize the negative effects of primary goods dependency. When this is achieved, it augments household consumption given the demand for manufactured products which motivate economic growth. In reality, the financial sector inefficiency plays a key role on the slow pace of manufacturing sector growth. Schumpeter (1912) stated that financial development is closely related to industrialization. Mckinnon & Shaw (1973) argue that financial development leads economic growth. The views are that financial deepening and savings boost

investments in the manufacturing sector thus, stimulating economic growth.

Cameroon and other emerging economies are making several efforts to revitalize the financial systems in order to improve the financial services supply to all sectors of the economy which enhances productivity. Doumbe & Zhao (2017) confirmed that financial development impacts the industrial productivity. Hence, the role of finance in promoting the manufacturing sector and economic growth through adequate investments need not to be overemphasized. According to (Akinmulegun & Oluwole 2014), the manufacturing sector in a nation could literally be assumed to have vast potentials for a mark economic development due to abundant labour force alongside the agrarian nature of the economy. Accordingly, the financial sector of an economy is recognized as the required medium through which finance is sourced for productive investments.

Globally, the financial sector is the largest in terms of earnings (Sutton & Jenkins, 2007). The sector is highly regulated due to its economic relevance serving as a backbone to the other sectors of the economy. The financial sector mobilizes financial resources from the surplus units in the economy and redirects the resources to the deficit units. The financial sector eases business operations, productivity and economic expansion (Aderibigbe, 2004). Popeil (1990) suggested that financial deepening is an end product of appropriate real financial policy and the broadened markets. The Cameroon government has made several attempts with various financial policies introduction to expand the breadth and depth of the financial system in essential financial services and available financial assets. To ensure financial deepening, the Cameroon government came up with Cameroon growth and employment strategy document in 2009 in addition to the poverty reduction strategy paper. This policy document spans from 2009 to 2019 while anchoring the government's vision 2035 agenda.

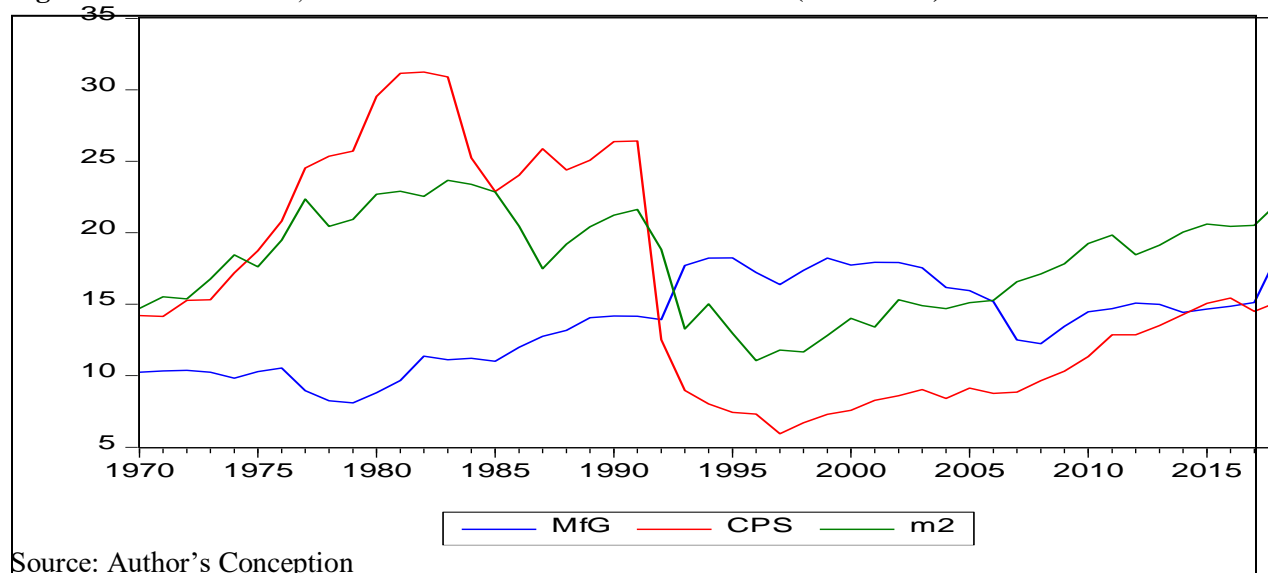
Like many other developing countries Cameroon operated from 1960s to 1980s a heavily controlled financial system. Interest rates were set administratively and usually negative in real terms, monetary policy conducted primarily via direct credit allocation and refinancing, the money markets poorly developed with bond and equity markets

virtually absent (Mbu, 2016). The commercial banks were often lending to the government treasury and other priority sectors with limited attention to lend to firms for profitability. There were tightly regulated capital flows and restricted foreign investments in the financial sector (Claudio & Martine, 2000). These inefficiencies and distortions in the financial system became visible and the emergence of severe macroeconomic difficulties in late 1980s exacerbated the situation. The situation triggered an overhauling program in the entire Cameroon banking and financial system. One of the measures taken involved the creation of the Central African Banking Commission (COBAC) by the Central African Economic and Monetary Community (CEMAC) which started in Cameroon in 1993. COBAC exercises its authority in all the CEMAC states regulating the credit institutions to comply with the laws and regulations laid down by the Monetary Authorities, Bank of Central African States (BEAC) and COBAC itself while sanctioning institutions that violate such provisions. The banking legislations in Cameroon have several policies regulating the banking sector added to the COBAC list. These include Law No 85/002 of 31 August 1985 involving the creation of credit institutions ratified by Law No 88/006 of July 1988 and Law N° 90/019 of August 10, 1990. It eliminated majority of the poor banking practices, suppressed the preferential discount rates while repealing minimum lending rate. Still in 1990, Law No 90/6 of October 26, 1990 permitted banking institutions not to pay registration fees and stamp duties on all Deeds and Judgments concerning transfer and resale of immovable property (Official Gazettes of the Republic of Cameroon, 1980-90).

The OHADA treaty is most recently harmonized legislation which governs business activities in the CEMAC zone. This treaty took effect in Cameroon in 1998 and sets out the conditions for the integration, operation and dissolution of companies including banking and other financial institutions. To increase access to finance by majority of Cameroonians who operate mainly outside the traditional financial and banking services, the Law governing micro finance institutions (MFIs) in the

CEMAC region was introduced (Law No.01/02/CEMAC/UMAC/ COBAC). In 2010, the Cameroonian government floated the first treasury bonds in the Douala Stock Exchange (DSX) market which was created in 2001 (Mbu, 2016). The interest rate policy was modified to retain a positive differential rate with Cameroon foreign partners like France and West African Monetary Union (UMOA), which liberalized the interest rates to increase banks profit margin. Accordingly, decision No.001/MM/96 of 12 January 1996 change lending and deposits rates to be negotiable between credit institutions and the customers within the limits defined by BEAC. The minimum capital for commercial banks and other financial institutions in Cameroon rose from 5 billion FCFA and 1 billion FCFA in 2010 to 10 billion FCFA and 2 billion FCFA respectively in 2014 (Mbu 2016; MinFi 2014).

The other initiatives applied by the financial regulatory authorities involved E-banking services like the deployment of automated teller machine (ATM), point of sale (POS) and mobile money services. In spite of all these measures to improve the depth and breadth of the Cameroon financial system with extensive provision of satisfactory financial services to various sectors of the economy, Cameroon's financial deepening in recent times is still not encouraging. This is evident by wide fluctuations in broad money ratio to gross domestic product (M2/GDP). Figure 1 show financial deepening trends over 48 years measured by ratio of broad money to GDP and credit to the private sector percentage GDP. Broad money ratio rose from 14.7% in 1970 to a maximum of 23.7% in 1983. It declined to 17.5% in 1987, rose again to 21.6% in 1991 when it fell sharply to 11.1% in 1996. From there it trends upwards to 22.1% in 2018. Credit to the private sector rose from 14.2% in 1970 to a maximum of 31.2% in 1982 where it decreased to 26.4% in 1991. From there it fell drastically to 5.9% in 1996 and then started trending upwards to 15.2% in 2018. The manufactured value added percentage of GDP fluctuates from 10% in 1970 to a maximum of 18.2% in 1995, declines to 12.2% in 2008, before sloping upwards to 18.2% in 2018. All the three variables trend far below average.

Figure 1: Trends of M₂, Credit to the Private Sector and MFG (% of GDP)

Hence, this motivated research to determine the relationship between financial deepening and the manufacturing sector productivity in Cameroon. The study would be relevant to the government of Cameroon, managements of financial institutions and other stakeholders for policy and decision making. The remaining portion of the study is set out into section two: literature review, section three: data and methodology, results and discussion in section four and conclusion in section five.

2. Literature Review

2.1 Theoretical review

Theories are logical statements or group of statements which evidenced a justification to some phenomena. Theories systematically elucidate a relationship between some phenomena. Theories present generalized justifications to happenings therefore, studies require applicable research theories for clarification (Kombo & Tromp, 2009; Smyth, 2004). According to (Trochim, 2006), theories direct research, decide variables to be used alongside the statistical associations in a study. The underlying theories of this study are:

2.1.1 Supply-leading Theory

The connection between finance and growth was propounded by (Schumpeter 1911) with much controversy in developed and developing economies. Schumpeter (1911) argued that a well functioning

financial sector facilitates growth in the real sector which motivates economic growth. This implies that output growth depends on how well the financial sector is deepened and as the financial sector deepens, financial services supply increases. The path where financial deepening promotes output growth is explained by the supply-leading hypothesis or finance-led growth hypothesis. The supply-leading hypothesis proposes that financial deepening leads development in the real sector. According to (Odhiambo, 2008) the supply-leading theory suggests that financial deepening propels the real sector of the economy. The supply-leading theory posits that financial sector deepening precedes manufacturing sector growth. This implies financial deepening leads the manufacturing sector growth stimulating productivity via effective financial intermediation. According to (Patrick, 1966) it implies mobilizing limited financial resources from small savers and channelling them to investors for investments with expected rate of return. Hence, the supply-leading hypothesis states that with financial sector development, savings are transformed into investment through financial institutions, which ensure efficient allocation of funds that greatly enhance productivity growth via the multiplier effect. Mckinnon & Shaw, (1973), postulate that a well-developed financial sector minimizes transaction and monitoring costs with asymmetric information hence, improves financial intermediation. A well-developed financial sector enhances the creation of financial services with

accessibility in anticipation to demand by real sector participants in the economy.

2.1.2 Demand-following hypothesis

The demand-following hypothesis contradicts the supply-leading theory in relation to the link between financial deepening and manufacturing sector productivity. This was pioneered by (Robinson 1952) stating that financial deepening depends on growth in an economy. The demand following or growth-led finance hypothesis suggests that causality flows from growth to financial deepening. According to (Calderón & Liu, 2002) increasing financial services demand deepens the financial sector as the economy progresses. Singh (1999) holds that when an economy grows, macroeconomic activities increase resulting in financial sector deepening. The demand-following hypothesis posits that the real sector inclusive of manufacturing sector drives financial sector development. The demand-following theory justifies that the real sector financial services demand serves motivates the creation of financial institutions in an economy. Arestis & Demitriades (1997) corroborated that financial sector development is influenced by the real sector's growth level in an economy. This implies that financial sector deepening is motivated by real sector growth. Real sector growth induces financial services demand which is satisfied by new financial institutions creation (Odhiambo, 2009). The demand-following theory stipulates that with economic growth, all economic sectors undoubtedly increase the financial services demand, which further expands the financial system. Patrick (1966) propounded another dimension on the relationship between financial deepening and growth which incorporates the supply-leading and demand-following hypotheses. It postulated that the causal relationship between financial development and economic growth alternates with economic development. In accordance with (Patrick 1966), the supply-leading hypothesis works in the early developmental stages in an economy, then fades out as the economy grows giving way to the demand-following hypothesis.

2.1.3 Endogenous Growth Theory

The endogenous growth was propounded by economists (Arrow 1962; Romer 1986). This endogenous growth hypothesis also called new growth theory was propounded in response to the

neo-classical growth theory criticisms. The endogenous growth model explains the long-run economic growth rate based on endogenous factors contrary to the neoclassical growth theory exogenous factors. This hypothesis emphasizes technical progress from the rate of investment, capital stock size and human capital stock. The endogenous theory explains that long term growth is influenced by investment rate, size of capital and human capital stock in an economy. This theory is relevant to this study from the several ways in which financial deepening impacts productivity. The investment rate in an economy depends on investors' accessibility of investible capital which is a function of the financial system depth. Financial intermediaries determine the quality and quantity of capital stock in an economy. Thus, the adequate availability and accessibility of investible capital influences savings which translates into capital stock accumulation. In this way, the manufacturing sector can obtain funds to increase productivity.

2.2 Empirical Review

Maxwell & Oluwatosin (2012) investigated the influence of financial deepening on manufacturing output in Nigeria from 1970 to 2010, using the vector autoregressive (VAR) technique to analyze banks annual data from Central Bank of Nigeria (CBN) Statistical bulletin and annual reports. The findings show that the financial deepening indicators' coefficients do not significantly affect manufacturing output in Nigeria. Aiyetan & Aremo (2015) investigate the effect of financial sector reform development on manufacturing output growth in Nigeria from 1986 to 2012 employing Vector Autoregressive (VAR) approach. The study determines if financial sector variables motivate manufacturing sector output growth in the Nigerian economy using some key macroeconomic variables. The results show that a deepened liberal financial system enhances manufacturing sector output growth in Nigeria.

Elijah & Uchechi (2012) examine the bond between financial development and industrial production growth in Nigeria from 1970 to 2009 using secondary time series data obtained from CBN statistical bulletin employing autoregressive distributed lag (ARDL) co-integration technique. The results reveal a co-integrating relationship between financial sector development and industrial

production in Nigeria. Additionally, the findings show that the long run and short run financial sector development coefficients significantly and negatively impact industrial production. Adeusi & Aluko (2015), analyze the relevance of financial sector development on real sector productivity in Nigeria in the 21st century employing the ordinary least square (OLS) technique. The findings reveal that a strong linear relationship between financial sector and real sector productivity exists. The results indicate that financial sector development enhances real sector productivity. Aliyu & Yusuf (2013) examine the effect of financial development on real sector growth in Nigeria. The results reveal that financial sector development impacts real sector growth in Nigeria. The results further show that credit to the private sector has a significantly negative impact while liquid liabilities and size of financial intermediaries exert significantly positive impact on real sector growth.

Frances, Chukwuedo & Chukwunonso, (2016) examined the relationship between financial deepening and investment in Nigeria from 1970 to 2013 adopting the Gregor-Hansen Endogenous structural break and supply-leading theory. With Granger Causality test, the results show unidirectional causality from financial deepening to investment in Nigeria. The findings report that financial deepening significantly impact domestic investment in Nigeria. Chi & Kesuh (2020) investigate banking sector development and real estate growth in Nigerian emerging economy from 1990-2018, employing the autoregressive distributed lag (ARDL). The results show that banking sector development significantly influences real estate growth in Nigeria. Mounde (2017) investigates the causal relationship between foreign direct investment and manufacturing output in Nigeria from 1981 to 2016. The study used ex-post facto research design with sample 176 listed manufacturing companies and with Johansen co-integration test, the results show a long run relationship between foreign direct investment and manufacturing sector output. The study indicates a unidirectional causality from foreign direct investment to industrial production in Nigeria in the long run and short run.

Okoye, Nwakoby & Okorie (2016) investigate the effect of economic liberalization policy on industrial

sector performance in Nigeria from 1986 to 2014. The study used some key macroeconomic variables like exchange rate, financial deepening, trade openness and lending rate, employing vector error correction mechanism (VECM). The results reveal that financial deepening significantly and positively impacts industrial output while weak causality between financial deepening and industrial output with a bi-directional causation between trade openness and industrial output. Uchenna, Belmondo, Simplice & Ibukun (2016) examine the multidimensional financial inclusion and manufacturing firms' performance in the Nigerian economy using the matching technique. The results show that firms perform better with access to bank services but vary with type of access. This implies that financial deepening determines firms' performance through financial inclusion.

Dehkordi (2012) studies the causal relationship between financial sector and real sector in Iran from 1981-2010 to confirm the supply-leading hypothesis. The results show weak evidence to support supply-leading response in Iran with no causality between financial and real sectors. Monnin & Jokipii (2010) examine 18 Organisation and Economic Cooperation Development (OECD) countries and the results show a positive link between banking sector stability and real output growth. The Fed forecast errors show that banking sector stability (instability) results significantly underestimate (overestimate) GDP growth in the successive quarters. Samsi, Yusof & Cheong (2012) examine the interaction of financial and real sectors in Malaysia from 1986Q1 to 2011Q4. The findings unveil that real sector output is strongly connected to banking sector which is the major output growth contributor. Mert & Serap (2017) assess the causation link between financial development and Turkish manufacturing firm's growth from 1989-2010 employing a non-causality technique (Dumitrescu & Hurlin 2012). The outcomes unveil after cross sectional robustness that financial development affect firm's growth but not uniformly in the subsectors.

Akinmulegun & Akinde, (2019) study the relationship between financial deepening and manufacturing sector performance in Nigeria from 1981-2017 employing time series data from the Central Bank of Nigeria (CBN) statistical bulletin and world development indicators. The study use

error correction method (ECM) to estimate manufacturing sector performance proxied by manufacturing value added to gross domestic product, while the regressors include credit to private sector, market capitalization, value of transaction and interest rate. The results indicate that credit to private sector and market capitalization positively affects manufacturing sector performance while value of transaction and interest rate negatively affect manufacturing sector performance. Kalu, Nkwor, & Onwumere (2015) examine the relationship between financial deepening and economic growth in Nigeria from 1981 to 2013 using the Engel-Granger two-step co-integration method and error correction model (ECM). The residual analysis with OLS regression indicates co-integration between financial deepening and economic growth. The significant and negatively signed error correction model reveals that financial deepening indicators and GDP series converge to long-run equilibrium at a high rate. The results show that the financial system deepening can engineer the Nigerian economy to growth higher.

Karimo & Ogbonna (2017) examine the causality direction between financial deepening and economic growth in Nigeria from 1970–2013 using the Toda–Yamamoto augmented Granger causality test and results reveal that the growth-financial deepening connection in Nigeria follows the supply-leading hypothesis. This implies that financial deepening leads growth. Nwakobi, Oleka, & Ananwude, (2019) examine the impact of financial deepening on economic growth in Nigeria from 1986 to 2018 using data the Central Bank of Nigeria (CBN) and Nigerian Stock Exchange (NSE). The autoregressive distributive lag (ARDL) approach and Granger Causality analysis were employed. The results show that economic growth in Nigeria is not influenced by financial deepening. Okafor, Onwumere, & Ezeaku, (2016) examine the causality and impact of financial deepening on economic growth in Nigeria from 1981–2013 using Phillips-Peron for unit root test and Johansen co-integration test for long run relationship. The results show that a long run relationship exists between economic growth, broad money supply and private sector credit, with high adjustment speed towards equilibrium.

Best, Francis, & Robinson, (2017) examined whether bank liquid reserves to bank assets ratio and domestic credit to the private sector strengthens financial deepening in the real sector to promote economic growth in Jamaica using Granger causality in a multivariate framework. The evidence reveal that supplying leading theory in the short and long runs prevails, implying that financial deepening leads growth. Ademola, & Marshal (2018) examine the effect of financial deepening on manufacturing firms performance in Nigeria from 1970 to 2016 with data from Central Bank of Nigeria Statistical Bulletin and the National Bureau of Statistics. The Autoregressive Distributed Lag model and Mann-Whitney U Tests were used for the analysis. The results reveal that broad money supply has direct significant impacts on manufacturing performance, while credit to private sector has indirect insignificant impact on manufacturing performance in Nigeria. Market capitalization has indirect significant impact on manufacturing performance in the long-run and direct insignificant impact in the short-run.

Following financial deepening literature, it is observed that many studies concentrate or support supply-leading theory (McKinnon-Shaw, 1973) negating the demand-following model (Robinson 1952). This study is based on the supply-leading theory. Much research has been conducted on the impact of financial deepening on economic growth (Nwosa, Ohwofasa & Aiyedogbon 2013; Oniore 2014; Osisanwo 2017). Nonetheless, limited studies have been performed on the relationship between financial deepening and manufacturing sector productivity in Cameroon. The studies report debatable findings. (Aiyetan & Aremo 2015; Dada 2015; Owolabi, Olanrewaju, & Okwu 2013) indicate positive link between financial deepening and manufacturing sector productivity while others reveal negative relationship between the two concepts (Campbell & Asaleye 2016; Olanrewaju, Aremo & Aiyegbusi 2015). In this light, this study investigates the causal relationship between financial deepening and manufacturing sector productivity in Cameroon from 1970 to 2018 the hypothesis that financial deepening has no relationship with manufacturing sector productivity.

3. Data and Methodology

The *ex post facto* research design is used which focuses on events that occurred before the research. Secondary time series data is drawn from the world development indicators for the period 1970 to 2018, based on data availability. The basic estimation methods of analysis include descriptive statistics, correlation analysis, unit root test using Augmented Dickey Fuller (ADF) and (Philip & Peron 1988) tests, autoregressive distributed lag (ARDL) and bound co-integration, robust residual co-integration check and error correction mechanism (ECM) test. The manufacturing sector productivity is the regressand proxied by manufacturing value added (MFVA) to gross domestic product (GDP); while the regressors include credit to private sector (CPS) percentage of gross domestic product, broad money supply (m_2), trade openness (TO) and inflation rate (INF).

The study applies the Engle-Granger two-way residual based technique to link manufacturing sector productivity and financial deepening in Cameroon (Engle-Granger 1987; Kalu, Nkwor & Onwumere, 2015). Manufacturing value added (MFVA) proxies manufacturing sector productivity and financial deepening is proxied by credit to private sector (CPS), money supply (M2), trade openness (TO) and inflation rate (INF). The Engle-Granger technique follows these steps: Firstly, is determining the unit roots in the individual series to get the integration order. Unit root tests determine whether or not time series demonstrate mean-reverting characteristics. If time series variables are all I(1) integrated, then co-integration techniques is used to model the long-run relationship. When the series are all integrated of order zero I(0), then simple multiple regression is favorable and if mixed integrated I(0) and I(1), the ARDL model is applicable. This is done using Augmented Dicker Fuller (ADF) and (Philip & Peron 1988) as follows:

$$\Delta Y_t = \alpha_0 + \beta_t + \alpha_1 Y_{t-1} + \sum \lambda_1 \Delta Y_{t-1} \dots \lambda_n \Delta Y_{t-n} + \varepsilon_t \dots \dots \dots (1)$$

The null hypothesis is says Y_t has unit root, implying that $\alpha_1=1$, contrary to the alternative that the series has no unit root, implying that $\alpha_1 < 1$. The Augmented Dicker Fuller (ADF) and Philip-Peron (PP) tests are favored due to automatic correction of each other's procedure thus allowing for auto-correlated residuals (Brooks, 2008). When the computed absolute value of α_1 coefficient is less

than the ADF and PP critical values at 5% level, the null hypothesis that Y_t has unit root is rejected. When the estimated absolute value of α_1 is greater than the critical value at 5% level, the null hypothesis that Y_t has unit root is accepted. As soon as the integration order of a series is I(1), the long-run relationships estimation is conducted by running a regression on the level series datasets according to the Classical Linear Regression Model (CLRM) and save the regression residuals. The CLRM follows equation (2) as:

$$MFVA = \beta_0 + \beta_1 CPS + \beta_2 M_2 + \beta_3 TO + \beta_4 INF + \mu_t \dots \dots \dots (2)$$

Where MFVA is manufacturing value added, CPS is credit to the private sector, M_2 is broad money supply, TO is trade openness, INF is the inflation rate and μ_t is the stochastic term. For the MFVA, CPS, M_2 , TO and INF to co-integrate, the estimated residual in equation (2) has to be stationary [$\mu_t \sim 1(0)$]. The unit root residual-based test with ADF and PP tests examine whether the equation (2) residuals are stationary. When stationary exists, then the series are co-integrated and if the residuals stationary does not exists, implies there is no co-integration. Therefore, rejecting the null hypothesis of a unit root indicates that co-integration exists (Engle and Granger, 1987; Lee, 1993). The residual-based test is estimated thus:

$$\Delta \mu_t = \alpha_1 \mu_{t-1} + \varepsilon_t \dots \dots \dots (3)$$

Here, $\Delta \mu_t$ is the estimated residual first difference, μ_{t-1} is the estimated residuals lag, α_1 is the interest parameter, which is the line slope (gradient), ε_t is the error term. Secondly, estimation of error correction mechanism (ECM) using ordinary least square (OLS). The ECM is conducted assuming that two or more time series display an equilibrium relationship which defines short-run and long-run characteristics. Hence it jointly models the short-run and long-run associations among series. The Granger illustration theorem shows that for any I(1) variables, the error correction and co-integration equate the representations. This implies, if a number of variables like MFVA, CPS, M_2 , TO, and INF are co-integrated, an ECM should relate the variables together. The ECM differenced model is approximated as:

$$\Delta MFVA = \alpha_0 + \alpha_1 \Delta CPS + \alpha_2 \Delta M_2 + \alpha_3 \Delta TO + \alpha_4 \Delta INF + \alpha_5 \mu_{t-1} \text{----- (4)}$$

Here, Δ is the first difference operator, α_1 to α_4 are the estimates parameter coefficients, α_5 is the one period lagged value of the random term coefficient from equation (2) regression. The α_1 to α_4 estimate the short-run regressors impact on MFVA while α_5 the error correction term coefficient captures the speed of MFVA adjustment to the equilibrium point aftershocks from the regressors (CPS, M_2 , TO, INF). The α_5 coefficient needs to be negative and statistically significant for the series convergence to long-run equilibrium. A negative and statistically significant α_5 coefficient indicates the existence of co-integration in a regression (Engle & Granger, 1987). Furthermore, the size of α_5 indicates the adjustment speed towards equilibrium. Hence, a small α_5 coefficient getting to -1 indicates that a high speed of adjustment, while larger values getting near zero (0), reveals low adjustment rate. However, positive values of the error correction term imply that the series diverge from the long-run equilibrium pathway. The theoretical explanation of variables is as follows:

Manufacturing value added (MFVA): Manufacturing value added refers to the net output of the manufacturing industry after summing all outputs and deducting intermediate inputs. The calculation is done without deducting depreciation for fabricated assets, depletion and natural resources degradation.
Credit to the private sector (CPS): Domestic credit to private sector are the financial resources given to

the private sector by financial institutions like loans, non equity securities purchases, trade credits and receivables which are repayable. CPS is expected to positively affect manufacturing output (Akinmulegun & Akinde, 2019; Kalu, Nkwor & Onwumere, 2015). Broad money supply (M_2): Broad money refers to the total currency outside the banks like demand deposits, time, savings and foreign currency deposits different from those of the central government, bank and traveler’s checks alongside securities deposit certificates and commercial paper. Broad money is believed to improve manufacturing productivity (Ademola, & Marshal 2018; Kalu, Nkwor & Onwumere, 2015). Trade openness (TO): Trade openness comprises imports and exports percentage of GDP. The variable has been used to proxy financial deepening in several studies (Ang 2008; Baltagiet al. 2007; Moboladji 2008). Trade openness is expected to positively influence the explained variable. Literature review reveals that the greater a country's external trade, more investments are stimulated both internal and external financial activities leading to financial deepening.

Inflation (INF): Inflation is computed using the GDP annual growth rate of the implicit deflator that shows the price change rate in an economy. Financial depth is explained by inflation which shows that low and stable inflation promotes financial activity viability. With relatively certain monetary system financial activities including long-term contracts, saving and investments are positively influenced (Boyd, Levine & Smith 2001; Dehesa 2007). Inflation is believed to negatively correlate manufacturing productivity.

4. Results and Discussion

4.1 Table 1: Descriptive Statistics

	MFVA	CPS	M2	TO	INF
Mean	13.70203	16.16690	26.78170	48.41697	5.348415
Median	14.16682	14.27596	7.412304	49.32094	3.358664
Maximum	18.55671	31.24235	145.4215	65.02459	39.80023
Minimum	8.093082	5.938795	1.262014	26.45271	-2.392309
Std. Dev.	3.112907	7.813500	39.73950	8.287788	6.987042
Skewness	-0.076083	0.502941	1.756759	-0.234397	2.716501
Kurtosis	1.827631	1.891908	4.814784	3.018245	13.28546
Jarque-Bera	2.853442	4.572655	31.92808	0.449373	276.2543
Probability	0.240095	0.101639	0.000000	0.798767	0.000000
Sum	671.3996	792.1782	1312.303	2372.432	262.0723

Sum Sq. Dev.	465.1290	2930.437	75802.95	3296.997	2343.300
--------------	----------	----------	----------	----------	----------

Source: Author’s Conception

Table 1 illustrates the basic measures of central tendency, spread and variations estimated with the level series dataset. The Jacque-Bera (JB) statistics which tests for normality is a combined test of skewness from zero (0) and kurtosis value from three (3), which indicates a mesokurtic distribution.

The Jarque-Bera statistics shows that the MFVA and TO variables are positively skewed and platokurtic while CPS, M₂ and INF are leptokurtic. The Jarque Bera probability reveals that MFVA, CPS and TO are normally distributed while M₂ and INF are not normally distributed.

4.2 Correlation Table 2

	MFVA	CPS	M2	TO	INF
MFVA	1.000000				
CPS	-0.705669	1.000000			
M2	0.421253	-0.256832	1.000000		
TO	-0.352977	0.109230	-0.492144	1.000000	
INF	-0.234230	0.185007	0.279607	0.017259	1.000000

Source: Author’s Conception

In table 2 CPS, TO and INF show negative correlation with manufacturing value added (MFVA) while broad money is positively correlated to MFVA. The results reveal that CPS, TO and INF

move in an opposing direction to MFVA with the exception of M₂ which flow in the same direction with MFVA.

4.3 Unit Root Test, Table 3

Var	Augmented Dicker Fuller (ADF)				Integratio n order	Philip Peron (PP)			
	T- Stat	1%	5%	10%		T-stat	1%	5%	10%
MFV A	-4.617***	-3.577	-2.925	-2.600	I(1)	- 4.399***	-3.577	-2.925	-2.600
CPS	-4.930***	-3.577	-2.925	-2.600	I(1)	- 4.948***	-3.577	-2.925	-2.600
M2	-6.556***	-3.577	-2.925	-2.600	I(1)	- 6.736***	-3.577	-2.925	-2.600
TO	-7.457***	-3.577	-2.925	-2.600	I(1)	- 7.735***	-3.577	-2.925	-2.600
INF	-5.378***	-3.577	-2.925	-2.600	I(0)	- 5.407***	-3.577	-2.925	-2.600

Source: Author’s conception from e-view; (*) and (**) denotes 1% and 5% significant level respectively

The unit root test is a suitable test used to determine stationarity of time series data to avoid spurious results. A stationary time series data is when the mean and variance are constant over time (Gujarati, 2004). From table 3, the Augmented Dickey-Fuller (ADF) and Philip Perron (PP) tests are used to check unit root in the series. According to (Diehold & Kilian 2000) unit root test is useful in deciding the estimation technique to use. There are arguments that econometrics models should not be used by

default, unit root tests should be conducted to determine the suitable model of analysis. The results in table 3 indicate that the variables are stationary at first difference except inflation which is level stationary. This meets the precondition for Engle and Granger residual based method for co-integration tests. This unveils that the variables are integrated of different orders I(0) and I(1) implying a long run relationship among the variables exists.

4.4 Residual Based Co-integration Test, Table 4

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.285317	15.45214	3.841466	0.0001
Unrestricted Co-integration Rank Test (Maximum Eigen value)				
Hypothesized No. of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.285317	15.45214	3.841466	0.0001

Source: Author’s conception

The results indicate that there is co-integration between manufacturing sector productivity and the financial deepening variables implying a long run relationship exists in Cameroon. From the residual-based co-integration, it is observed that the Trace or Max-Eigen statistic is greater than the 5% critical

value and the P-value is less than 0.05. Hence, the null hypothesis of no co-integration is rejected in favor of the alternative. The pre-shock adjustment speed is determined by the error correction mechanism.

4.5 Table 5: ARDL Regression Results

Variables	Coefficient
MFVA(-1)	0.835195*** (9.902102)
CPS	0.017875 (0.720962)
M2	0.004777 (1.088520)
TO	-0.054671*** (-3.222479)
INF	0.055616** (2.614060)
C	3.192150* (1.945487)
@TREND	0.047023*** (3.517007)
Adjusted R-squared	0.928727
Durbin-Watson stat	1.398114
F-statistic	103.0728
Prob(F-statistic)	0.000000

Source: Author’s Conception. ***, ** & * denote 1%, 5% and 10% significant level respectively. T-statistic values in parenthesis

The short run relationship between the financial deepening and manufacturing sector productivity is appraised using ARDL estimation method. The difference in order of integration of the series permitted the usage of ARDL estimation technique. The Adjusted R-squared, Durbin Watson statistic and F-statistic are the global model utility used. From table 5, CPS and M₂ are insignificantly and

positively related to manufacturing value added, while TO significantly and negatively relate to manufacturing value added in Cameroon. The results agree with the supply leading theory that financial deepening promotes the manufacturing sector. The findings support the works of (Akinmulegun & Akinde, 2019; Kalu, Nkwor & Onwumere, 2015). A unit rise in CPS and M₂ leads to 1.8% and 0.48%

improvement in the manufacturing value added to GDP, whereas a unit increases in TO gives rise to 5.5% decrease in manufacturing value added. When financial deepening is constant, manufacturing value added is worth 319.2% and 4.7% with trend. The

adjusted R-square show that financial deepening variables significantly explained 92.9% of the changes in Cameroon’s manufacturing sector’s productivity.

4.6. Table 6: F- Bound test

F-Bounds Test:		Null Hypothesis: No levels relationship		
Test Statistic	Value	Sign. Level	I(0)	I(1)
F-statistic	5.807735	10%	2.68	3.53
k	4	5%	3.05	3.97
		1%	3.81	4.92

Source: Author’s conception

Table 6 presents the bound test results which confirm that long run co-integrating relationship exist between financial deepening and manufacturing sector productivity in Cameroon,

since the F-statistic value is greater than the upper bound critical value at 5% significant level with 4 degree of freedom

4.7 Table 7: Error Correction Mechanism (ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM(-1)	-0.164805	0.026357	-6.252677	0.0000

Source: Author’s Conception

Table 7 shows the results of the error correction mechanism with the error correction term (ECM), which measures the speed of adjustment to long run equilibrium. The coefficient of the error term is correctly signed negatively indicating its adjustment strength. This suggests that financial deepening series and manufacturing sector productivity converge to long-run equilibrium following deviations from equilibrium due to shocks over time. It is observed that the ECM(-1) coefficient is closer to zero, indicating that the adjustment speed to equilibrium is 16.5% per annum. This implies that deviations from equilibrium path would take approximately six years to be corrected. The ECM results confirm the long-term relationship between financial deepening factors and manufacturing sector productivity. Diagnostically, the residual series is normally distributed with a Jaque-Bera probability value of 0.07. The Breusch-Godfrey serial correlation LM test indicates no evidence of serial correlation given that the null hypothesis of no serial correlation is not rejected since the probability and chi-square values are greater than 0.05. The White and Breusch-Pagan-Godfrey tests of heteroskedasticity failed to reject the null hypothesis of no heteroskedasticity, implying that the residual series is homoscedastic. The Cusum and Cusum of

squares tests indicate that the model is stable at 5% significance level.

5. Conclusion

This study investigates the relationship between financial deepening and manufacturing sector productivity motivated by the desire to determine the extent to which financial system depth impacts the manufacturing sector in Cameroon. Manufacturing value added percentage of GDP proxies manufacturing sector productivity. Domestic credit to the private sector, broad money supply and trade openness measure financial deepening. A theoretical and empirical literature review is conducted. The study methodology focused on Engle-Granger two step co-integration and autoregressive distributed lag (ARDL) methods. The residuals analyses for co-integrating regression reveal a long run relationship between financial deepening and manufacturing sector productivity. Additionally, the error correction model estimates show that financial deepening variables and manufacturing sector productivity converge to long run equilibrium. The ECM results equally indicate that short-run coefficients of credit to the private sector and broad money supply factors positively impact

manufacturing sector productivity while short run change in trade openness negatively impacts manufacturing sector productivity. Thus, the study validates that financial deepening affects manufacturing sector productivity in Cameroon.

Following the findings, effective ways to improve credit channels and liquidity flow to private firms through bank's intermediation should be encouraged by Central Bank with an aggressive policy to remove all bottlenecks that destabilize the credit flow to the private sector. Hence, deposit money banks and other financial institutions should provide more credit to private sector, particularly manufacturing sector at moderate cost. The Cameroon government should encourage monetary authorities of the Central and commercial banks to create an enabling environment for prospective investors to invest in the manufacturing sector and raise the production capacity. The Cameroon government should diversify financing into the capital market which is almost nonexistent. Hence, policies that promote investors' confidence through the institutions and legal frameworks for stock market development should be implemented. There is limited research on Cameroon manufacturing sector nexus finance.

Reference

- Adebayo R.I (2011) Zakat and poverty alleviation; A lesson for the fiscal policy makers in Nigeria; *Journal of Islamic Economics, Banking and Finance*, vol.7(4), 26-41
- Ademola AF, & Marshal OT (2018) Financial deepening and the performance of manufacturing firms in Nigeria. *Canadian Social Science*; vol.14 (6):87-96
- Aderibigbe, J.O. (2004) An overview of the Nigerian financial system. *CBN Bullion*, 28(1), 69-78
- Adeusi, S.O. & Aluko, O.A. (2015) Relevance of financial sector development on real sector productivity: 21st century evidence from Nigerian industrial sector. *International Journal of Academic Research in Business and Social Sciences*, 5(6), 118-132
- Aiyetan, I.R. & Aremo, A.G. (2015) Effect of financial sector development on manufacturing output growth in Nigeria (1986-2012): A vector auto regression approach. *Journal of Applied Economics and Business Research*, 5(1), 38-55
- Akinmulegun S.O & Akinde J.A (2019) Financial deepening and manufacturing sector performance in Nigeria (1981-2017) *IOSR Journal of Economics and Finance*, Vol 10(4)
- Akinmulegun S.O & Oluwole F.O (2014) An assessment of the Nigerian manufacturing sector in the era of globalization; *American Journal of Social and Management Sciences*, 5(1), 27-32
- Aliyu, M. & Yusuf, A.H. (2013). Impact of private sector credit on the real sector of Nigeria; *International Journal of Business and Social Research*, 3(5), 105-116
- Ang, J. B (2008), Are financial sector policies effective in deepening the Malaysian financial system; *Applied economics*
- Aresti, P, & Demetriades, P.O (1997) Financial development and economic growth: Assessing the evidence. *The Economic Journal*, 107(442), 783- 799
- Arrow, K.J. (1962). The economic implications of learning by doing; *Review of Economic Studies* 29, 155–173
- Atoyebi K.O, Okafor, B.O & Falana, A.A (2014) The global financial meltdown and its effects on manufacturing sector: The Nigerian perspective. *Journal of Economics and Sustainable Development*, 5(6), 78-90
- Baltagi B.H, Demetriades P, & Law S.H,(2007) Financial development, openness and institutions: Evidence from panel data; *Discussion Papers in Economics 07/05*, Department of Economics, University of Leicester, 2007
- Best A, Francis BM, & Robinson C.J (2017) Financial deepening and economic growth in Jamaica. *Global Business Review*; vol.18 (1):1–18.
- Boyd, Levine and Smith (2001) The impact of inflation on financial sector performance; *Journal of Monetary Economics* 47 (2): 221-48
- Calderon C & Liu L (2003) The direction of causality between financial development and economic growth; *Journal of Development Economics* 72, 371–394. [CrossRef]
- Campbell O & Asaley A.J (2016) Financial sector reforms and output growth in manufacturing: Empirical evidence from Nigeria. *American International Journal of Contemporary Research*, 6(3), 112-125
- Chi A.N & Kesuh J.T (2020) Banking sector development and real estate growth in the Nigerian emerging economy; *The International*

- Journal of Business & Management*, vol.8(4), 332-338
- Claudio M.L & Martine G, (2000) The long road to financial stability: Latin America and the Caribbean reform and recovery, *IMF, Finance & Development*, vol. 37, No. 1.
- Dada, O.D. (2015) Effects of financial sector reforms on the growth of manufacturing sector in Nigeria; *International Journal of Banking, Finance, Management and Development Studies*, 3(1), 85-98
- Dehesa, M. et al. (2007), Relative price stability, creditor rights and financial deepening; IMF working paper, WP/07/139
- Dehkordi S.R, & Sameti, M.(2012).Analysing the long run interrelation between banking system and real sector function in Iran economy through simulation of capital adequacy index; *Economics and Finance Review*, 2(6), 68-76.
- Diamond, D.W. (1984).Financial intermediation and delegated monitoring; *Review of Economic Studies*, 51(3), 393-414
- Dickson, D.A. (2010). The recent trends and patterns in Nigeria's industrial development; *Council for the Development of Social Science Research in Africa*
- Diebold F.X, & Killian L, (2000) Unit root tests are useful for selecting models; *Journal of Business and Economic Statistics*, 18, 265-273
- Doumbé D.E & Zhao Z (2017) Financial sector development and industrialization in Cameroon (1970-2014); *Journal of Business and Economics*, Volume 8, No. 1, pp. 105-114
- Elijah, U. & Uchechi, R.O. (2012) Financial sector development and industrial production in Nigeria (1970-2009): An ARDL co-integration approach. *Journal of Applied Finance & Banking*, 2(4), 49-68.
- Engle, R.F & Granger C.W.J, (1987) Co-integration and error correction: Representation, estimation and testing. *Econometrica*, 55(2), 251-276
- Frances, N.O, Chukwuedo S.O. & Chukwunonso V.A. (2016).Financial deepening and domestic investment in Nigeria; *International Journal of Economics and Finance*, 8(3), 40-54
- Goldsmith, R.W (1969). Financial Structure and Development; Yale University Press: New Haven, CT, USA
- Gui-Diby S.R & Renard M (2015) Foreign direct investment inflows and the industrialization of African countries; *World Development*, Elsevier 2015, vol.74, 43-57
- Gujarati, (2004) Basic Econometrics 4th Edition, The Mc Graw-Hill Companies
- Kalu E.U, Nkwor N, & Onwumere J.U.J (2015) Measuring the dynamics of financial deepening and economic growth in Nigeria (1981-2013): Using Engel-Granger residual based approach; *IOSR Journal of Economics and Finance*, Vol. 6(6), PP 82-89
- Karimo T.M & Ogbonna O.E (2017) Financial deepening and economic growth nexus in Nigeria: Supply-leading or Demand-following? *Economics*, vol.5 (4)
- Kombo, D.K., & Tromp, D.L.A. (2009) Proposal and Thesis Writing: An Introduction; *Paulines Publications Africa*, Don Bosco Printing Press, Nairobi Kenya
- Lee, A.S. (1993). Integrating positivist and interpretive approach to organizational research; *Organization Science*, 2 (4):342-365
- Libanio, G. (2006). Manufacturing industry and economic growth in Latin America: A Kaldorian approach. *CEDEPLAR*, Brazil: Federal University of Minas Gerais
- Maxwell E & Oluwatosin A (2012) Impact of financial development on manufacturing output
- Mbu S. A (2016) An analysis of the impact of financial sector reforms on economic growth in Cameroon; *International Journal of Development and Economic Sustainability* Vol.4(4),1-11
- McKinnon, R. I. (1973). Money and capital in economic development: Brookings Institution Press
- Mert, T. & Serap, C. (2017) Financial development and firm growth in Turkish manufacturing industry: Evidence from heterogeneous panel based non-causality test. *Economic Research-Ekonomska Istrazivanja*, 30(1), 1758-1769.
- MinFi (2014) Ministry of Finance circular documents
- Moboladji H.I, & Ndako, U.B, (2008) Financial development and globalization in Nigeria; *The Icfai University Press*
- Monnin, P. & Jokipii, T. (2010) The impact of banking sector stability on the real economy. Zurich: Swiss National Bank
- Mounde, W.L. (2017) Causal relationship between foreign direct investment and manufacturing output in Nigeria; *International Journal of*

- Advanced Studies in Business Strategies and Management*, 5(2), 142-158
- Nguena C.L, & Nanfosso R (2014) Macroeconomic factors and dynamics of financial deepening: An empirical investigation applied to the CEMAC Sub-region, AGDI Working paper, No.WP/14/015, *African Governance and Development Institute (AGDI)*, Yaoundé
- Nwakobi P.C, Oleka D C & Ananwude A.C (2019) Effect of financial deepening on economic growth in Nigeria: A time series appraisal (1986-2018); *Asian Journal of Advanced Research and Reports*
- Nwanna, I.O. & Chinwudu, C.F. (2016). The effect of financial deepening on economic growth in Nigeria (1985-2014). *IOSR Journal of Economics and Finance*, 7(4), 11-28
- Nwosa, P.I, Agbeluyi, A.M. & Saibu, O.M. (2011) Causal relationship between financial development, foreign direct investment and economic growth: the case of Nigeria. *International Journal of Business Administration*, 2(4), 93-102
- Odhiambo, N.M. (2008) Financial depth, savings and economic growth in Kenya: A dynamic causal relationship. *Economic Modelling*, 25(4), 704-713
- Odhiambo.N.M. (2009) Finance-Growth-Poverty nexus in South Africa: A dynamic causality linkage; *Journal of Socio-Economics*, 38(2), 320-325
- Ohwofasa, B.O, & Aiyedogbon, J.O.C. (2013) Financial deepening and economic growth in Nigeria, 1986-2011: An empirical investigation. *Journal of Economics and Development Studies*, 1(1), 24-42.
- Okafor I.G, Onwumere JUJ, & Ezeaku H.C,(2016) Financial deepening indicators and economic growth in Nigeria: a causality and impact analysis. *Asian Journal of Economics, Business and Accounting*; vol.1 (2):1-11.
- Olanrewaju, O.G., Aremo, A.G. & Aiyegbusi, O.O. (2015). Banking sector reforms and output growth of manufacturing sector in Nigeria (1970-2011); *Journal of Economics and International Finance*, 7(8), 183-191
- Oniore J.O (2014) Impact of financial deepening and foreign direct investment effectiveness on economic growth in Nigeria; *International Journal of Economics Commerce and Management United Kingdom*; vol.3(10):1-16.
- Osisanwo, B.G. (2017). Financial development and economic growth nexus in Nigeria: Further evidence from long-run estimates. *Acta Universitatis Danubius Economica*, 13(3), 5-17
- Owolabi S.A, Olanrewaju G.O & Okwu A.T (2013) The causality between banking sector reforms and sectoral output growth: Empirical evidence from Nigeria. *International Journal of Research in Management Sciences*, 1(1), 1-12
- Patrick, H. (1966). Financial development and economic growth in underdeveloped countries; *Economic Development and Cultural Change*, 14(2), 174-189
- Pesaran, M. H., Shin, Y. & Smith, R. J. (2001) Bounds testing approaches to the analysis of level relationships; *Journal of applied econometrics*, 16(3), 289-326
- Phillips P.C.B & Perron P, (1988) Testing for unit roots in a time series regression; *Biometrika*, 75, 335-346
- Popiel P.A. (1990) Developing financial markets international finance corporation, Washington
- Republic of Cameroon (1980) Official Gazettes of the Republic of Cameroon, 1980-90
- Robinson, J (1952) The Generalization of the General Theory. In Rate of Interest and Other Essays; Macmillan: London, UK,
- Romer, P.M. (1986). Increasing returns and long-run growth; *Journal of Political Economics*, 94(5), 1002-1037
- Samargandi, N, & Kutan, A.M. (2016) Private credit spill overs and economic growth: Evidence from BRICS countries. *Journal of International Financial Markets, Institutions and Money*, 44, 56-84.
- Samsi, S.M., Yusof, Z. & Cheong, K. (2012) Linkages between the real sector and the financial sector: the case of Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 8(1), 93-113.
- Schumpeter (1912) Book Review: Theory of Economic Development
- Schumpeter, J. A. (1911). The Theory of Economic Development; Cambridge, MA: Harvard University Press.
- Shaw, E.S. (1973) Financial deepening in economic development; New York: Oxford University Press
- Singh A (1999) Should Africa promotes stock market capitalism? *Journal of International Development*, vol.11(3)

- Smyth, R. (2004) Exploring the usefulness of a conceptual framework as a research tool: A researcher's reflection; *Issues In Education Research*, 14(2), 167-180
- Stiglitz, J.E. & Greenwald, B. (2003) Towards a new paradigm in monetary economics. Cambridge: Cambridge University Press
- Sutton, C.N. & Jenkins B, (2007) The role of financial services sector in expanding economic opportunity; *Corporate Social Responsibility Initiative Report No. 19*; Cambridge: Kennedy School of Government, Harvard University
- Thakor, A, (2007) Contemporary financial intermediation, 2nd ed; Elsevier academy press, pg 43
- Trochim W.M. K (2006) The quantitative debate; Research Methods
- Uchenna, et al. (2016) Exploring multidimensional financial inclusion and manufacturing firms' performance in a developing country: The case of Nigeria. *AGDI Working Paper WP/16/043*