Financial Development and Inclusive Growth in Nigeria: A Threshold Analysis

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Abstract: This study investigates the relationship between financial development and inclusive growth in Nigeria for the period 1980 – 2013. The technique of analysis is the quantile regression; which is to obtain a threshold for which the former impacts on the latter. The result shows a threshold level of 90th percentile. Interestingly, the study also found that the impact of financial development on inclusive growth depends on the measure of the former up to the threshold level and not beyond. Through a granger causality test, the direction of causality is through the inclusive growth rather than through financial development; through the financial deepening measure. While the study found that either a low level or high level of openness on trade and capital investment are desirable for inclusive growth in Nigeria, the results also reveal that government involvement in the workings of the Nigeria economy and financial openness are sensitive to the pattern of financial development. With financial deepening, both are negatively related to inclusive growth but positively related to inclusive growth when financial widening is considered. This suggests that government intervention in the activities of the private sector is detrimental when the latter are to drive financial development process. However, the involvement of government in ensuring the appropriate level of financial widening, through the central bank operations, produces a positive impact on growth.

KeyWords: Financial Development; Growth; Threshold Analysis

JEL Classifications: D53; O4; C61

1. Problem Statement

The relationship between financial development and growth has since remained topical in the finance literature and till today, experts have not been able to reach consensus on this nexus. Beginning with the seminal studies of McKinnon (1973) and Shaw (1973), some economists (see Waqabaca, 2004; Chinaemerem & Chigbu, 2012; Nkoro & Uko, 2013 among others) have found positive relationship, results from other studies indicate that the relationship between the two concepts

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are negative (see inter alia Sunde, 2012; Damary, 2006; Gründler & Weitzel, 2013; Maduka & Onwukam, 2013); to some others, the relationship is neither positive nor negative but only due to other extraneous factors (see Pan & Wang, 2013). Interestingly, some studies found mixed results (see for example, Caporale, Rault & Sova, 2009). To make far-reaching policy suggestions, some authors (for example Valíčková, Havránek & Horváth, 2013) have, even, conducted a meta-analysis of the finance-growth nexus. These dynamics of the finance-growth nexus are not only based on old evidences but new interrelationships also reveal the same trend (see Gründler & Weitzel, 2013). While the concept of financial development has not been disputed, the concept of growth has remains grossly controversial to development economists and has even make earlier view of financial development to be less holistic.

The conceptual issues revolving around growth has been evolutional; moving from traditional quantitative measure of economic progress to its modern and more encompassing measures. It began with the various paradigm shifts with which economic growth have undertaken and the new dimension with which it has recently assumed. The measure of economic growth in the literature of development economics is majorly the gross domestic products (GDP) and its variants (see Todaro & Smith, 2011) but having identified the various shortcomings of these measures in reducing the number of people that fall within the poverty-line, development economists began to query the suitability of these measures. The underlining assumption for the use of GDP; and its variants, as measure of economic progress and welfare was predicated on the trickle-down hypothesis but economists found that this assumption is not absolute and then suggested another concept of well-being of the growth variants known as the pro-poor growth. In effect, it was found that economic growth does not automatically translates into widely shared gains (Piece, 2012). The idea of this measure of growth is that growth must be poverty-alleviating. There should be an increasing reduction in the number of poor people. The issue is that the amount generated through expanding and increasing productive activities must be employed to get many people out of the poverty bracket through government interventionist policies of income redistribution and spending instruments.

Again, the increasing rent-seeking economy and expansive government portfolios; due to democratic governance suggested government policies directed towards poverty alleviation have either been ineffective or inadequate or both; therefore, necessitated another paradigm shift in the growth literature to inclusive growth. With inclusive growth, the growth generating process has an inbuilt mechanism to automatically cater for and include the poor in the society. Inclusive growth requires, by definition, both economic growth and inclusion (see Hatlebakk, 2008; Commission on Growth & Development, 2008; Lanchovichima et. al., 2009). According to CAFOD (2014), inclusive growth ensures that everyone can

participate in the growth process, both in terms of decision making for organizing the growth progression as well as participating in the growth itself. On the other hand, it makes sure that everyone shares equitably the benefits of growth. Inclusive growth implies participation and benefit sharing. Participation without benefit-sharing will make growth unjust and sharing benefits without participation will make it a welfare outcome (CAFOD, 2014).

To carpet a robust investigation and clarify the unending controversy trailing the empirical literature on financial development and economic growth, a threshold analysis of the finance-inclusive growth nexus becomes imperative as it seeks to clarify the possible controversy of empirical findings around this relationship. A threshold analysis is the minimum level which serves as the benchmark that financial development could translates to inclusive growth. The study of Adegboyega & Odusanya (2014) indicated that the extent to which the financial sector development ought to have developed has not been accentuated to the best optimum level. Essentially, this study contributes to the empirical literature in two major ways. Firstly, it is the first study that seeks to obtain new evidence of the finance-growth nexus with inclusive growth being the new indicator for capturing growth in the Nigerian contexts. Secondly and consequent upon the first objective, it is to our notice that there is no study that has conducted a threshold analysis of the nexus to find out what level of financial development is required for growth to be inclusive. In addition to this introductory section, this study is further discussed under four other sections. Section 2.0 review extant literature of the finance-inclusive growth nexus, section 3.0 focuses on the theoretical and methodological framework while section 4.0 estimates the empirical model for this study. Section 5.0; being the last, concludes and provides policy suggestions.

2. Literature Review

The concept 'inclusive growth' has not been unanimously defined in the literature; given the evolutional dimension of growth. In fact, some authors (for example, Raniere & Ramos, 2013) believe that inclusive growth is another term for pro-poor growth. A commonly used definition, however, is that inclusive growth is an absolute reduction in poverty associated with a creation of productive employment rather than direct income distribution schemes. It should accommodate both the pace and pattern of growth (World Bank, 2009). It is of shared growth and broad-based in nature. For growth to be inclusive, the nexus of both economic growth and income distribution need be achieved. This is unlike pro-poor growth that focuses largely on the growth-poverty nexus without any recourse to the distribution pattern. Inclusive growth addresses absolute poverty as against the case of relative poverty in pro-poor growth. In effect, inclusive growth is an ex-ante analysis of the growth generating process fused with outcomes of generated growth while pro-

poor growth is only an ex-post analysis of the outcomes of growth generated (see Klasen, 2010). Putting these together, it suggests that a robust inclusive growth strategy will complement policies to stimulate economic growth with those that foster equality of opportunity, alongside a social security net to protect the most vulnerable. As such, economic policies to promote structural transformation and creative productive employment for the poor people will need be complemented by investments in human capital and other programmes to support social inclusion and equal access to jobs (see Alexander, 2015; McKinley, 2010).

There are numerous empirical studies that have examined empirically the impact of financial development on growth. However, scanty studies have focus on inclusive growth. The available studies in the finance and growth literature have focus on components of inclusive growth such as income inequality and poverty reduction. The empirical findings from past studies in the literature suggest that that the findings in the literature can be categorized into two main strands. The first strand of studies found support for the Greenwood & Jovanovich (1990) hypothesis that financial development help reduce income inequality between the rich and the poor. The poor is expected to have better access to credit to finance their investment such that gaps between the rich and the poor become reduced due to the development of the financial sector. These studies documented negative relationship between financial development, income inequality and poverty reduction. The second strands of studies documented positive relationship between financial development, income inequality and poverty reduction. Kirkpatrick (2000) represents one of the foremost studies that examine the interaction between financial development and poverty reduction in developing countries. The paper submitted that financial market imperfections are key constraints to pro poor growth. He therefore suggested that public policy that are directed towards correcting these market failures are essential to ensure financial development contributes to growth and poverty reduction in developing countries.

Further studies by Jalilian & Kirkpatrick (2002) extended the finance growth studies to capture the impact of financial development on poverty reduction in 42 low-income countries by employing panel data regression method. The findings indicate that financial development help reduce income inequality between the rich and the poor as the poor is expected to have better access to credit to finance their investment such that the gap between the rich and the poor becomes reduced due to the development of the financial sector. Further investigation of the Greenwood & Jovanovic hypothesis in emerging economy of India by Ang (2008) using the ARDL bound test cointegration method indicates that financial development and financial liberalization helped reduce income inequality while financial liberalization was found to increase or worsen the inequality between the rich and the poor in India. The author noted that underdevelopment of the financial system in India tends to hurt the poor more than the rich therefore submitted that the

Greenwood & Jovanovic (1990) hypothesis that financial development help reduce the income inequality between the rich and the poor is not plausible in India context. The results of this study were found to be robust to different measures of financial development and financial liberalization. As a departure from other previous studies that have employed cointegration methods to capture long run relationship between financial development, income inequality and poverty reduction.

Odhiambo (2009) employed the trivariate causality test to examine the dynamic relationship between financial development, growth and poverty in South Africa. The study reported that financial development and economic growth granger cause poverty reduction. The paper also found economic growth to granger cause financial development and in the process lead to poverty reduction in South Africa. Similar result was found by Quartey (2005) in his study of the relationship between financial development, savings mobilization and poverty reduction in Ghana. He reported that financial development helped reduce poverty in Ghana but does not Ganger cause savings mobilization. However, Odhiambo (2010a) documented that financial development Granger cause savings mobilization and poverty reduction in Kenya. Also, he reported feedback effect between domestic savings and poverty reduction. He found similar result in Zambia when he examine whether financial development Granger cause poverty reduction. Odhiambo (2010b) found financial development to be Granger caused by poverty reduction. The result reported by this study indicated that the outcomes depend largely on the measure of financial development employed in the study. He noted that when M2 as percentage of GDP was used as measure of financial development, it was found to be Granger caused by poverty reduction, but when private credit as percentage of GDP was employed to proxy financial development, unidirectional causality was reported between financial development and poverty reduction. These findings imply that the relationship between financial development and poverty reduction is sensitive to the measure of financial development employed by the study (Uddin et al., 2014).

Clarke et al (2002) reported that financial development and income inequality was found to be negatively related. This suggests that the development of the financial sector provide better financing opportunities for the poor especially access to credit. It also implies that financial development could also help reduce the income gap between the rich and the poor. Similar result was documented by Honohan (2004). He reported negative relationship between financial development and poverty reduction. This finding is similar to the result documented by Shahbaz (2009) on financial development and poverty reduction in Pakistan. He also reported negative relationship between financial development and poverty level but found financial instability to increase poverty level in Pakistan. Beck et al. (2004) in a cross country study used the instrumental variable method to investigate whether financial development disproportionately increases the income of the poor

and alleviate their poverty. The study results indicated that the development of the financial sector induces the income of the poor to grow faster than the average GDP per capita. They found income inequality to fall faster and poverty rate to reduce more rapidly with the development of the financial sector.

Akhter & Daly (2009) in their study of 54 developing countries also documented similar finding to the work of Shabaz (2009). They reported that financial development helped reduced poverty but instability that comes with financial development was found to be inimical to the poor. Uddin et al. (2014) investigated the relationship between financial development, economic growth and poverty reduction in Bangladesh. They reported that growth is weakly accelerated by financial development and poverty reduction. The study noted that rising economic growth rate of the 1990s had positive impact on poverty but the increase growth and declining poverty has not brought about a more equitable distribution of income in Bangladesh. Gokan (2011) established positive link between financial development and per capita income. Kim & Lin (2011) tested the non-linearity between financial development and income distribution. They noted that the financial development of banks and stock markets have disproportionately helped the poor and improve their income distribution. They observed that this was possible under certain threshold of financial development.

Rewilak (2012) examined whether the income of the poor grow with average income. The study equally investigated the impact of financial development on income of the poorest quantile. He reported that financial development may alleviate poverty but may not be universal. This was indicated in the findings that shows that financial development has helped alleviated the poverty of the poorest quantile. Shahbaz & Islam (2011) employed the ARDL estimation method to examine the impact of financial development on income inequality in Pakistan. The study documented that financial development reduces income inequality while financial instability was found to aggravate income inequality in Pakistan. Similar study on Pakistan was carried out by Azran et al. (2012) using the ARDL with Error correction method to investigate the impact of financial development on poverty reduction without extending further to capture the impact of financial instability on poverty and the impact of financial development on income inequality. The results indicated that financial deepening (domestic credit to private sector and broad money supply) had impact on consumption per capita used as proxy of poverty. However, domestic bank asset was not found to have long run impact on poverty. Benjamin (2012) used the 2SLS to investigate the impact of financial development on poverty in developing countries. The study reported that increasing the availability of money and deposit opportunities rather than private credit have helped reduced poverty in developing countries. Financial development was observed to have the greatest impact on poverty in the least financially developed countries but was not found to reduce income inequality.

Moreso, Fowowe & Abidoye (2010) carried out a quantitative assessment of the effect of financial development on poverty in sub Saharan Africa using panel GMM estimator. They reported that financial development does not significantly influence poverty in SSA. However, they reported that macroeconomic variables such as low inflation and trade openness that were used as control variables were found to reduce the level of poverty in SSA. Inoune & Hamori (2010) investigated the impact of financial deepening on poverty reduction in India using state-level panel data and GMM panel estimator. Financial deepening and economic growth were found to help in the alleviation of poverty in the various states in India. The result was found to be robust to changes in the poverty ratios in rural areas, urban areas and the economy as a whole. Khan et al (2011) employed unbalanced panel OLS to estimate the impact of financial sector development on poverty reduction. The banking sector variables used as proxy for financial development was reported to be negatively related with poverty. The same negative relationship was reported between stock market development, bond market variables used as proxies of financial development and poverty level. Kendo et al (2008) examine the impact of financial sector development on poverty decomposed by gender in rural sector of Cameroun. The study employed OLS and instrumental variable method. Financial sector development was found to have non-linear impact on gender inequality and poverty reduction in rural Cameroon. Financial sector development was found to be positively related to income growth for both male and female heads of household and reduces inter-gender inequalities.

Furthermore, Dhrifi (2013) examine the impact of financial development on poverty reduction of 89 developed and developing countries using the three stages least squares method. The study found positive and significant effect of financial development on poverty reduction through savings, insurance services and access to credit. These were found to outweigh the indirect negative effects through growth and inequality. He noted that institutional quality plays a crucial role for financial development to have impact on poverty. Imran & Khalil (2012) evaluated the impact of financial development on poverty reduction through the development of manufacturing industry in Pakistan. They employed the error correction model and found positive relationship between financial development and poverty reduction through industrial growth.

The foregoing review of empirical studies indicated that the relationship between financial development, income inequality and poverty reduction have been mixed and inconclusive with limited focus on inclusive growth. The empirical irregularities in the empirical literature informed the need for fresh empirical evidences on the interactions between financial development and inclusive growth in Nigeria. This forms the kernel of this study.

3. Methodology

3.1. Theoretical Framework and Model Specification

Analysis on the determinants of inclusive growth is a recent phenomenon and there has not been a well-developed modeling framework. Basically, however, the social welfare function and social opportunity function remain the two major indicators for capturing inclusive growth (see Anand, Mishra & Peiris, 2013; Ali & Hwa Son, 2007). While the former measure combined a fundamental integration of both growth and equity into one measure to form inclusive growth; the latter measure hinged on two factors of average opportunities available to the population and how these opportunities are distributed in the population. Our measure of inclusive growth aligns with the latter measure as it captures participation; being the most important component of inclusive growth. This is reflected in the GDP per person employed (see WDI, 2014). More so, equity, as incorporated in the former measure, cannot properly be integrated with growth without loss of generality. We conduct a granger causality test to assess if feedback exists from inclusive growth to finance. Majorly, the technique of analysis would be the quantile regression; where we examine the threshold level with which finance would be beneficial to inclusive growth.

Our study reformulated the modeling framework of the financial development – inclusive growth nexus pioneered by Anand et. al., (2013). Anand et. al., (2013) developed a measure of inclusive growth by incorporating economic growth performance with that of distribution of economic growth within a panel regression model. The model they formulated is given as;

$$Y_{i,t}^* - Y_{i,t-1}^* = \alpha_0 + \beta_1^o \bar{Y}_{i,t} + \beta_1^o X_{i,t} + \eta_c + \gamma_t + \vartheta_{c,t} \dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where; $Y_{i,t}^* - Y_{i,t-1}^*$ was taken as the log-difference of $\bar{y}^*$ or inclusive growth in country i at time t, $\bar{Y}_{i,t}$ was the initial level of per capita PPP-adjusted income at the start of 5-year panel period t to reflect conditional convergence, and $X_{i,t}$ was a set of growth and inequality determinants measured as averages of 5-year panel period t. The disturbance term in the regression consists of an unobserved country effect η_c that is constant over time and unobserved period effect (γ_t) that is common across countries, and a component ($\vartheta_{c,t}$) that varies across both countries and years which we assume to be uncorrelated over time. Anand et. al., (2013) identified a number of potential determinants of inclusive growth in their model. These are the initial level of income, education, trade openness, credit to GDP, fixed investments, government consumption, inflation, financial openness, foreign direct investment, ICT and REER deviations.

Predicated on the social opportunity function, however, we incorporate the productive employment opportunity of the Nigerian population as the single most important factor that allows for participations in the growth process (see Lledo & Garcia-Verdu, 2011). While our study will not be the first to adopt the social opportunity function as a framework to study inclusive growth (see Adedeji, Du & Opuku-Afari, 2013; Ali & Son, 2007), our study is about the first to use employment opportunities as an indicator to capture opportunity in contributing to the growth process. This study considered the employment opportunity provided by enabling infrastructure, sound government fiscal and macroeconomic policies more broad-based than education and health that other studies focused on (see Adedeji et. al., 2013). This lends credence to the submission that productive employment opportunity is a growth-sustaining parameter (Commission on Growth & Development, 2008); hence, a reformulation of the model stipulated in equation (1).

$$\bar{y}_t^* = \alpha_0 + \beta_1 \bar{Y}_t + \beta_2 X_t + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where; $\bar{y}_t^*$ is the GDP per person employed as a measure of productive employment; indicating inclusive growth in Nigeria; $\bar{Y}_t$ is the lagged Gross National Income which denotes the initial level of income; X_t is the vector of control variables while ε_t is the error term. In the case of the Nigerian economy, the control variables found essential are trade openness (TOP), credit to the private sector and broad money (M2) as ratios of GDP, (CPS_GDP) and (M2_GDP) respectively; an indicator for financial development, financial openness (FOP), government consumption (GCONS), FDI, gross fixed capital formation (GFCF) as a measure of fixed investment and inflation (INF) to reflects the internal stability. Therefore, equation (2) is reformulated as;

$$GDPE_t = \alpha_0 + \beta_1 GNI_{t-1} + \beta_2 TOP + \beta_3 FOP + \beta_4 FD + \beta_5 FDI + \beta_6 GFCF + \beta_7 INF + \beta_8 GCONS + \varepsilon_t$$
(3)

For robustness sake, the variable of financial development (FD) is decomposed into two components of financial deepening (proxied as CPS_GDP) and financial widening (proxied M2_GDP) yield the following two empirical models of equations (4) and (5) respectively;

$$GDPE_t = \alpha_0 + \beta_1 GNI_{t-1} + \beta_2 TOP + \beta_3 FOP + \beta_4 CPS\_GDP + \beta_5 FDI + \beta_6 GFCF + \beta_7 INF + \beta_8 GCONS + \varepsilon_t$$
(4)

$$GDPE_t = \alpha_0 + \beta_1 GNI_{t-1} + \beta_2 TOP + \beta_3 FOP + \beta_4 M2\_GDP + \beta_5 FDI + \beta_6 GFCF + \beta_7 INF + \beta_8 GCONS + \varepsilon_t$$
(5)

Prior to this, we provide a systematic procedure of the inclusive growth analytics with three basic steps. Step 1 relates to the background analysis of growth and poverty-reducing trends in Nigeria, step 2 provides a profile of economic actors in the growth generating process while step 3 identifies various inclusive growth constrained factors in the country. The scope of analysis for this study span 1980-2013 and data are obtained from the World Development Indicator (WDI, 2014); the Central Bank of Nigeria Statistical Bulletin (various issues); SMEDAN and NBS Collaborative Survey (2013); National Bureau of Statistics (NBS, 2014). This period is found suitable for our study as it is considered long enough to trace the interaction between financial development and inclusive growth in Nigeria.

3.2. Technique of Analysis

The technique of analysis for this study is the quantile regression. We seek to undertake a threshold analysis of the financial development – inclusive growth nexus. It is this that assists us to ascertain the level that financial development in the Nigerian economy should be inclusive growth enhancing and otherwise.

Generally, the quantile regression is specified its simple form as;

$$y_t = X_t^{'} \beta_\tau + \mu_\tau \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{(6)}$$

and;

$$Quantile_\tau(y_t|X_t) = X_t^{'} \beta_\tau \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{(7)}$$

Where; y_t equals the dependent variable (GDPE – GDP per person employed; as an indicator for inclusive growth); $X_t^{'}$ equals a vector of independent variables; β_τ is the vector of parameters associated with the τth quantile (percentile), and μ_τ equals the unknown error term. The distribution of the error term, μ_τ, remains unspecified as indicated in equation (5). We only require that the conditional τ^{th} quantile of the error term equals zero, that is, $Quantile_\tau(\mu_\tau|X) = 0$. $Quantile_\tau(y_t|X_t) = X_t^{'}\beta_\tau$ equals the τth conditional quantile of inclusive growth given financial development with $\tau \in (0,1)$. By estimating β_τ, using different value of τ, quantile regression permits different parameters across different quantiles of financial development. In other words, repeating the estimation for different values of τ between 0 and 1, we trace the distribution of y conditional on X and generate a much more complete picture of how financial development affects inclusive growth in Nigeria.

Compactly, the quantile regression estimate β_τ solves the minimization problem of the form;

$$\min_\beta \left[\sum_{i \in \{i: y_t \geq X_t\beta\}} 2\tau \left| y_t \geq X_t\beta \right| + \sum_{i \in \{i: y_t < X_t\beta\}} 2(1-\tau) \left| y_t \geq X_t\beta \right| \right] \ldots\ldots\ldots\ldots\ldots (8)$$

Equation (6) implies that the quantile regression minimizes a weighted sum of the absolute errors, where the weights depend on the quantile estimated. The solution involves linear programming, using a simple-based algorithm for quantile regression estimation (see Koenker & d'Orey, 1987).

4. Empirical Estimations

4.1. Trend Analyses of Financial Development and Inclusive Growth Dynamics

The conceptual literature on inclusive growth suggests that a complete inclusive growth analytics has the following components: productive jobs and labour; economic transformation; infrastructure; human development; fiscal policy; social protection and institutions (see Alexander, 2015). This aligns with the systematic approach with which this study tends to follow for inclusive growth analysis. As depicted in figure 1 below, the extent of financial widening – being an indicator for financial development (measured as the ratio of money supply to the gross domestic products; proxied as M2_GDP) in Nigeria between the periods of 1970 – 1974 and 1990 – 1994 were barely at the same level; having shown a noticeable trend of inconsistency between the two periods. Since the period 2000 – 2004, however, the degree of financial widening consistently increased. However, another measure of financial development is the financial deepening; as measured by the ratio of credit to the private sector to the gross domestic product (proxied as CPS_GDP). The trend shows that the CPS_GSP continuously increased since the period 1970 – 1974 and stabilizes at an unnoticeable dip in the period 1985 – 1989. It is, however, instructive to note that both the financial widening and financial deepening have their highest levels in the period 2005 – 2009 and also that both recline appreciably in the period 2010 – 2013. The stock market development; which is indicated by market capitalization, also shows this trend. The various reforms that began in the financial sector around 2005 can explain for the noticeable increase in financial development in the country while the effects of the global financial cum economic crisis; beginning 2009, can account for the recline noticed afterwards (see Figure 1).
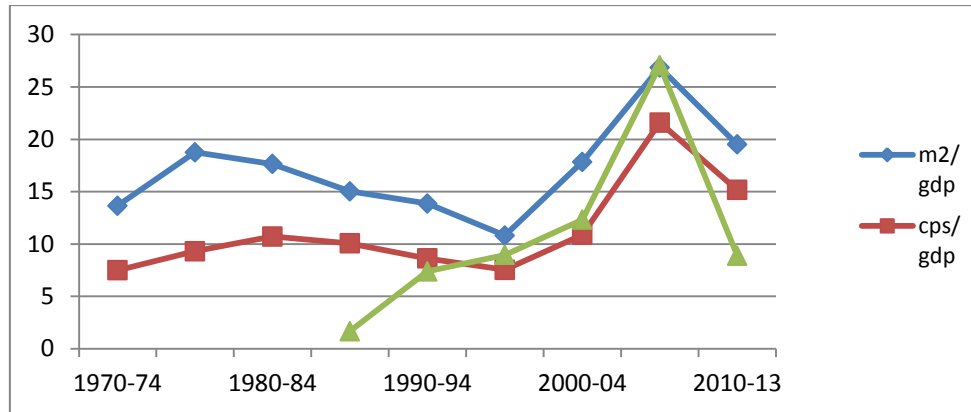
Figure 1. Trends of Financial Development in Nigeria (1970-2013)

Source: Authors

In the analysis of inclusive growth dynamics, we have considered a number of indicators. Since inclusive growth addresses both the patterns and pace of growth, it becomes imperative that the analysis of productive employment and labour market dynamics are undertaken. In doing this, we relied on the collaborative survey conducted by the Small and Medium Development Association of Nigeria (SMEDAN) and the National Bureau of Statistics (NBS) in 2013; as detailed in Table 3 below. This survey shows that four major sectors drive the Nigerian economy; accounting for barely 85 percent of ownership distribution. These sectors are the education, wholesale/retail trade, manufacturing and accommodation and food services; in that successive order. Education accounts for 38.10 percent; wholesale/retail trade accounts for 20.58; 16.54 for manufacturing and 9.77 for accommodation and food services respectively. Other sectors that accounts for around 5 percent include administrative and support services and other services activities while the agriculture, construction, art, entertainment and recreation, information and communication; among others accounts for grossly negligible ownership distributions of the Nigeria economy; with a combined ownership distribution of less than 5 percent. The implication of these trends is that, except for manufacturing which has both forward and backward linkages and which is capable of employing substantial number of individuals in its value chains, the three other sectors that majorly drive the Nigeria economy and that account for substantial ownership distribution are not capable of making growth to be inclusive for the economy.

Table 2. Form of Ownership of Sectoral Distribution of Nigerian Economy

Ownership Status	Frequency	Percentage
Sole Proprietorship	53,074	72.9
Partnership	4,800	6.59
Private Limited Liability Company	10,281	14.1
Cooperative	511	7.01
Faith Based Organisation	3,361	4.61
Others	812	1.11
Total	**72,839**	**100.0**

Source: Authors' Computations and SMEDAN & NBS Collaborative Survey (2013)

The form of ownership of these sectoral distributions detailed in Table 2 substantiates the outlook of the ownership distribution of the Nigerian economy among the various sectors. This is quite revealing since the major sectoral drivers are owned by individuals; the sole proprietorships, who are often constrained by legal, regulatory, institutional frameworks in their employment contents. By law, the sole proprietorship business can only employ between 1 – 9 staff and are also usually financially constrained; as the sources of obtaining capital for maintenance and expansion are limited to friends, relatives and associates. This is distantly followed by the private limited liability company; accounting for 14.1 percent ownership (see Table 2).

Table 3. Sectoral Decomposition and Ownership Distribution of the Nigerian Economy

Economic Sector	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Manufacturing	8.089	92.16	688	7.84	8,777	16.54
Minning and Quarrying	174	85.20	30	14.80	204	0.38
Accommodation and Food Services	4,075	78.62	1,108	21.38	5,183	9.77
Agriculture	1,165	93.02	87	6.98	1,253	2.36
Wholesale/Retail Trade	9,664	88.46	1,261	11.54	10,925	20.58
Construction	209	100.0	0	0.00	209	0.39
Transport & Storage	460	100.0	0	0.00	460	0.87
Information and Communication	280	89.07	34	10.93	314	0.59
Education	12,409	61.37	7,811	38.63	20,220	38.10
Administrative & Supportive Activities	2,409	82.32	440	17.68	2,489	4.69
Arts, Entertainment and Recreation	200	89.72	23	10.28	223	0.42
Other Services	2,204	78.82	592	21.18	2,796	5.27

Activities					
Water Supply, Sewarage, Waste Management & Remediation Act	21	95.24	1	4.76	22	0.04
Total	**40,998**	**77.25**	**12,076**	**22.75**	**53,074**	**100**

Source: SMEDAN and NBS Collaborative Survey (2013)

Basically, the trend on total employment lend credence to the fact that only the manufacturing sector has both forward and backward linkages substantial enough to promote inclusive growth in Nigeria. The sector accounts for 27.72 percent of the total employment in the small and medium scale businesses in the country; which is closely followed by education and then wholesale/retail trade with 25.91 and 17.42 percents contributions respectively (see Table 4). Interestingly, financial intermediation does not account for any percent contribution to the total employment in the small and medium scale industry. But since the Nigerian economy is still considered to be a small open economy which is majorly driven by small and medium-scale enterprises (see Table 5 and Figure 2), this trend does not support that financial intermediation would drive inclusive growth in Nigeria.

Table 4. Total Employment by Sex and Economic Sector

Economic Sector	Male	Female	Total	Percentage
Manufacturing	179,213	348,505	527,718	27.72
Minning & Quarrying	3,500	12,220	15,720	0.83
Accommodation & Food Services	106,525	55,989	162,514	8.54
Agriculture	21,952	67,326	89,279	4.69
Wholesale/Retail Trade	223,100	108,595	331,694	17.42
Construction	6,794	51,319	58,113	3.05
Transport and Storage	12,211	33,267	45,479	2.39
Financial Intermediation	0	0	0	0
Real Estate, Renting, Business Activities	0	0	0	0
Information and Communication	6,656	12,494	19,150	1.01
Education	388,981	104,210	493,191	25.91
Administrative and Support Activities	42,567	48,842	91,409	4.80
Health and Social Works	0	0		0

Arts, Entertainment and Recreation	3,714	2,278	5,992	0.31
Other Services Activities	38,322	24,304	62,626	3.29
Water Supply, Sewarage, Waste Management and Remediation Act	365	569	935	0.05
Total	**1,033,900**	**869,920**	**1,903,820**	**100.0**

Source: SMEDAN and NBS Collaborative Survey (2013)

Table 5 shows the contributions of micro, small and medium scale enterprises (MSMEs) to the national GDP as well as the growth process of the Nigeria economy.

Table 5. MSMEs Contribution to National GDP, 2013

Activity Sector	Micro	Small	Medium	Total
Agriculture	86.53	6.53	3.95	**97.01**
Minning and Quarrying	0.28	0.39	3.60	**4.27**
Manufacturing	14.28	21.27	19.98	**55.53**
Water Supply, Sewarage, Waste Management & Remediation	25.44	6.63	2.51	**34.57**
Construction	0.52	2.02	7.68	**10.22**
Trade	36.34	14.39	8.68	**59.41**
Accommodation and Food Services	4.23	27.98	13.68	**45.90**
Transportation & Storage	50.73	5.60	12.03	**68.36**
Information and Communication	0.00	2.38	9.57	**11.95**
Arts, Entertainment and Recreation	47.35	28.20	22.26	**97.82**
Finance and Insurance	1.05	1.39	3.69	**6.13**
Real Estate	31.00	13.25	11.29	**55.55**
Profession, Scientific and Technical Services	13.25	2.08	5.28	**20.61**
Administrative & Support Services	8.55	15.20	65.76	**89.51**
Education	2.09	14.69	24.48	**41.26**
Human Health and Social Services	18.24	20.06	20.96	**59.25**
Other Services	80.76	17.01	2.23	**100.00**

Source: SMEDAN and NBS Collaborative Survey (2013)

This lends credence to the fact that the MSMEs are the major driver of the Nigeria economy and hence, reinforces of analysis of inclusive growth through this perspective. While MSMEs agricultural GDP contributes 97.01 percent to the national GDP, it is only able to employ 4.69 percent of the total employment in the economy while education that contributes 41.26 percent employs 25.91 percent. Art, entertainment and recreation on a micro, small and medium-scale level contributes 97.82 percent to the national GDP with large scale sector left with 2.18 percent contribution. However, the MSMEs only employ 0.31 percent in that sector. Interestingly, wholesale and retail trade at the MSMEs level accounts for 59.41 percent to its national GDP but only employs 17.42 percent. All these got to show that there exists a serious misalignment as well as lopsidedness in the GDP to – employment proportion of these sectoral contributions. Further, this study seeks to investigate if the low rate of total employment observed in the other sectors of the economy was due to lack of educational opportunities of the individuals in the country. The information detailed in Table 5 shows that the official rate of unemployment hovers around 20 percent for the periods of 2010 – 2014. However, the time-related unemployment and under-employment by education level is not specifically indicative but only shows that unemployment by education level increases from 2012 relative to the two earlier years of 2010 and 2011. Since 2012, the data trend shows that unemployment become more pronounced among individuals with secondary and post-secondary education.

Table 6. Unemployment and Underemployment Rates by Educational Level in Nigeria (2010-2014)

Labour Market Statistics	2010	2011	2012	2013	2014
Unemployed rate	21.4	23.9	23.3	20.1	24.3
Panel A: Unemployment rate by Educational Level					
Never Attended	4.3	5.9	8.8	7.9	6.8
Below Primary	5.6	0.0	6.0	6.7	4.1
Primary	5.2	5.7	6.6	5.5	4.6
Secondary	5.7	7.0	9.4	8.9	6.9
Post Secondary	5.3	4.7	11.4	10.1	7.0
Panel B: Underemployment rate by Educational Level					
Never Attended	13.7	17.8	14.2	13.3	19.8
Below Primary	18.1	0.0	10.7	9.2	11.1
Primary	16.7	17.1	10.9	8.8	13.1
Secondary	18.2	21.2	14.6	12.7	19.0
Post Secondary	16.9	14.1	17.8	11.9	17.7

Source: NBS (2014).

As such, lack of educational opportunities cannot be held responsive for non-inclusiveness. Interestingly, the rate of underemployment by educational level seems to provide more information. Generally, this rate is higher than the unemployment rate in all respect but it is not also indicative of the direction of

unemployment due to lack of educational opportunities. Largely, it shows that it is due to lack of economic activities as people engaged in jobs that are less than their educational attainments. As such, we trend the growth process of the Nigeria economy as indicated by the real GDP growth rate and the trend of inclusive growth; as indicated by the growth rate of GDP per person employed (see figure 2 below). Figure 3 shows that the golden period of Nigeria real growth is during the 1970 – 1974 period. During this period, real GDP growth rate was about 10 percent while the periods of 1980 – 1984 records the worst growth rate of -6.342 (see Table 6). There occurs a downswing in the growth process from 1989 till 1999 where the real GDP growth rate got to a negligible level of 1.14 percent. Since the year 2000, however, there has been appreciable increase in the growth process with the highest increase recorded in the period 2010 – 2013 with 5.86 percent. This trend suggests that increasing growth rate does not automatically translates to inclusive growth as even when growth rate was appreciative in the period 1985 – 1989, growth was not inclusive. Also, between the period 1995 and 1999, growth is found non-inclusive but since the year 2000; except to a significant dip in the period 2010 – 2013, inclusive growth has continued increasing.
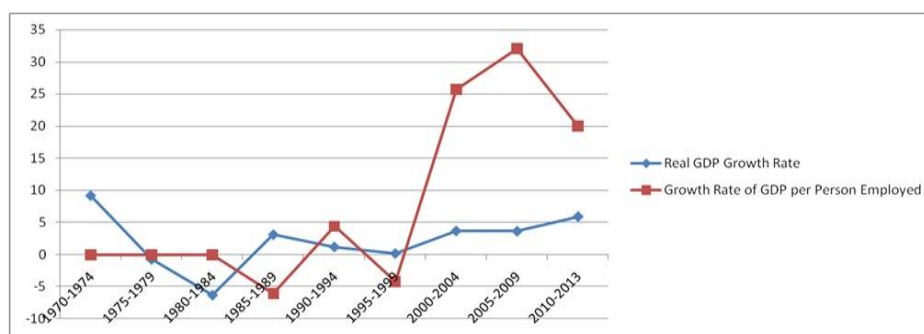

Figure 2. Graphical Trends of Real GDP Growth Rate and Inclusive Growth in Nigeria

Source: Authors

Table 6 essentially addresses the social inclusion and social safety nets programmes of the government to ensure that the vulnerable groups in the society are properly taken care of. When the human capacities of the marginalized and disadvantaged sections of the society are improved, they have more opportunities at their disposal and become socially included. Most of the respondents opined that majority of government policy that affect micro-enterprises are most favourably disposed to road maintenance (17.21 percent of the respondents) and environmental sanitary (16.17 percent of the respondents) and followed by job creation (10.27 of the respondents) with political stability (10.16 percent of the respondents) taking the fourth position in a role. Government effort on financial

development indicator (the banking reform) is the least but one favourable as the respondents (of 5.54 percent) suggested. This suggests that there are no opportunities created by the government towards financial inclusion and its efforts on inclusive growth is not topmost since job creation that allows for productive employment is not considered a priority.

Table 6. Major Government Policy that Affects Micro-Entreprises Most Favourably

Policy	Frequency	Percentages
Environment Sanitary	18,505,191	16.17
Road Maintenance	19,701,440	17.21
Introduction of Raw Materials	9,752,374	8.52
Job Creation	11,754,288	10.27
Taxes	4,869,741	4.26
Exchange Rate	4,120,167	3.60
Intervention Fund	7,783,543	6.80
Power Supply	11,358,723	9.93
Political Stability	11,632,135	10.16
Banking Reform	6,340,532	5.54
Fertilizer Production	8,626,993	7.54

Source: SMEDAN and NBS Collaborative Survey (2013)

4.2. Descriptive Statistics

Table 7. Statistical Properties of Inclusive Growth Determinants in Nigeria (1980-2013)

	CPS_GDP	FDI_GDP	FOP	GDPPE	GFCF	GNI_1	GOVCONS	INF	M2_GDP	TOP
Mean	12.69	3.24	0.20	4125.39	1017417.	218384.2	1069699.	20.57	17.29	9.40
Maximum	36.75	10.83	0.35	6772.00	5137368.	341967.8	4955029.	72.80	38.00	36.09
Minimum	5.92	0.66	0.00	2956.00	8799.480	156921.1	8064.390	5.40	8.60	0.072
Std. Dev.	6.64	2.30	0.13	1214.33	1551160.	57054.61	1625416.	17.89	6.13	10.51
Skewness	2.03	1.69	-0.59	0.91	1.563988	0.927834	1.477438	1.45	1.63	1.02
Kurtosis	7.35	5.86	1.64	2.33	4.043780	2.496733	3.635546	4.07	6.43	3.00
Jarque-Bera	45.87	25.25	4.20	4.84	14.04522	4.775008	11.79965	12.38	28.90	5.34
Probability	0.00	0.00	0.12	0.09	0.000891	0.091859	0.002740	0.00	0.00	0.07

Source: E-Views Output. Note: CPS_GDP is the ratio of credit to the private sector to the GDP; FDI_GDP is the ratio of foreign direct investment to GDP; FOP is the financial openness; GDPPE is the GDP per person employed; GFCF is the gross fixed capital formation; GNI_1 is the lagged gross national income; GOVCONS is the government final consumption; INF is the rate of inflation; M2_GDP is the ratio of broad money supply to the GDP while TOP is the trade openness.

The descriptive statistics show the statistical properties of the various determinants of inclusive growth; with reference to the Nigeria economy. The skewness shows the departure from the expected values and it indicates that, except for the financial openness which is negatively skewed (proxied as FOP), all the variables are

positively skewed. Only the trade openness (proxied as TOP) is normally distributed with a value of 3.00. This is the threshold value for normally distributed series with which this series attained. Relatively too, the lagged gross national income (proxied GNI_1), the gross fixed capital formation (proxied as GFCF) and the involvement of government in the workings of the economy (proxied as GOVCONS) can be taken to be normally distributed. However, the ratio of credit to the private sector to the GDP (proxied CPS_GDP) and the ratio of money supply to the GDP (proxied as M2_GDP); being the two indicators of financial development – financial deepening and financial widening respectively, coupled with the ratio of foreign direct investment to the GDP (proxied as FDI_GDP) are leptokurtic in nature while those of financial openness (proxied as FOP), GDP per person employed (proxied as GDPPE) are platykurtic in nature. While the kurtosis is an informal test of normality which cannot be taking solely for conclusion on normality, the Jarcque-bera test of normality is quite revealing. The probability values for the Jarcque-bera indicate that the null hypothesis of normally distributed cannot be rejected for the series of financial openness (proxied as FOP), lagged gross national income (proxied GNI_1) and the indicator of inclusive growth (proxied as GDPPE) at the 5 percent level with 0.12, 0.09 and 0.09 probability values respectively. But, for all other variables, the null hypothesis of normal distribution is rejected.

Table 8. Granger Causality between Financial Development and Inclusive Growth in Nigeria

Null Hypothesis	F-statistics	Prob.
GDPPE does not Granger cause CPS_GDP	6.491	0.016
CPS_GDP does not Granger cause GDPPE	0.152	0.700
M2_GDP does not Granger cause GDPPE	0.954	0.337
GDPPE does not Granger cause M2_GDP	0.179	0.191

Source: E-views Output. Note: The variables are of lag 1.

The estimates of the granger causality test detailed in table 8 suggests that the direction of causality moves from inclusive growth to financial development since the null hypothesis that GDPPE (an indicator of inclusive growth) does not granger cause CPS_GDP (as indicator of financial development) is rejected with 0.016 probability value but the reverse does not hold as the null hypothesis that CPS_GDP does not granger cause GDPPE cannot be rejected at the 5 percent level of significance. However, for financial widening; as another indicator for financial development, neither inclusive growth nor financial development granger causes one another as the null hypotheses in both cases cannot be rejected; not even at the 10 percent level of significance. This shows that it is rather inclusive growth that would engender financial development in Nigeria and not otherwise.

4.3. Discussion of Findings on Quantile Regression Estimations

In estimating the quantile regression models, we considered the conventional quantiles such as the 25th, 50th, 75th, 85th, 90th and 95th percentiles. The 25th, 50th and 75th quartiles are the first, second and third quartiles respectively. The result obtained shows that financial deepening (indicated as the ratio of credit to the private sector to GDP and proxied as CPS_GDP) positively impact on inclusive growth in Nigeria irrespective of the quantile level while financial widening (indicated as the ratio of broad money supply to the GDP and proxied as M2_GDP) only stabilizes at positive relationship when it got to the 90th percentile. This is the threshold level for financial development to impact on inclusive growth in Nigeria. This is so in that it is at the quantile level that the coefficients obtained for each of these inclusive growth determinants; including financial development indicators, become stationary. Further quantiles estimations at higher levels of 95th and 99th percentile could not yield any different coefficients; both in sign, size and significance (see Tables 11 – 13 and Appendix). The implication is that for government to engendered inclusive growth through financial development, the latter must peaked. At the threshold levels of 85th percentile for financial deepening and 90th percentile for financial widening respectively, we found that the pseudo-R^2 is 0.86. This lends lend credence to the overall fitness of the model that the explanatory variables substantially determine inclusive growth in Nigeria to the tune of 86 percent while only 14 percent is due to extraneous factors. Instructively, our results suggest that the impact of financial development on inclusive growth depends on the measure of financial development (financial deepening or financial widening) used at the non-threshold level but at the point of threshold, a uniformity of positive significant impact of financial development indicators were found on inclusive growth. Although, we found that financial deepening tends to attains threshold level quite before financial widening does. The former reached its threshold at the 85th percentile level while the latter attains its threshold at the 90th percentile level. This study, therefore, resolves the contrasting results in empirical studies that the impact of financial development on inequality and poverty reduction largely depends on the measure used for the former (see Odhiambo, 2009a; Greenwood & Jovanovich, 1990).

Table 9. Quantile Regression Results

	25th Quartile		50th Quartile		75th Quartile	
Variables	**CPS_GDP**	**M2_GDP**	**CPS_GDP**	**M2_GDP**	**CPS_GDP**	**M2_GDP**
C	1612.26	1911.09**	2814.4	2258.7	3514.8**	3512.66**
GNI_1	0.006	0.004	0.002	0.002	-0.0003	-0.0004
TOP	66.27***	61.55*	68.4	62.28	71.05	65.96
FOP	45.16	910.5	-1196.03	-1302.7	-1.82	18.30
CPS_GDP / M2_GDP	21.09	32.55	22.75	56.97	4.79	4.35
FDI_GDP	63.21	37.18	24.96	-9.28	3.39	6.30
GFCF	0.001**	0.002*	0.002***	0.001	0.001	0.001
INF	-4.47	-5.01	-7.40	-3.74	-6.70	-6.92
GOVCONS	-0.001***	-0.001**	-0.001	-0.008	-0.0003	-0.0002
Pseudo-R^2	0.75	0.77	0.80	0.81	0.84	0.84
	85th Percentile		**90th Quartile**		**95th Quartile**	
Variables	**CPS_GDP**	**M2_GDP**	**CPS_GDP**	**M2_GDP**	**CPS_GDP**	**M2_GDP**
C	3220.68**	3480.3	3220.68	3299.8*	3220.68	3299.8*
GNI_1	-0.001	-0.0001	-0.001*	-0.0012*	-0.001*	-0.0012*
TOP	93.55*	72.67	93.55*	79.5*	93.55***	79.5*
FOP	-408.40*	247.2	-408.40*	10.92*	-408.40*	10.92*
CPS_GDP/M2_GDP	48.18	-0.90	48.18*	29.3*	48.18*	29.3*
FDI_GDP	25.66	32.02	25.66*	38.4*	25.66*	38.4*
GFCF	0.002**	-0.0006	0.002*	0.0012*	0.002*	0.0012*
INF	-7.30	-7.70	-7.30*	-9.10	-7.30*	-9.10*
GOVCONS	-0.001***	-0.0003	-0.001*	0.001*	-0.001*	0.001*
Pseudo-R^2	0.86	0.86	0.87	0.87	0.88	0.87

The results also show that trade openness (proxied as TOP), foreign direct investment (proxied as FDI_GDP) and gross fixed capital formation (proxied as GFCF) positively impact on inclusive growth in Nigeria after the threshold has been attained for both measures of financial development (see Tables 12). This is also the effect for both trade openness and gross fixed capital formation at the 25th percentile level. The implication is that only either a low level or high level of openness on trade and capital investment is desirable for inclusive growth. However, both the lagged gross national product (proxied as GNI_1) and the rate of inflation (proxied as INF) negatively and significantly impact on inclusive growth in Nigeria for both measures of financial development. Interestingly, government involvement in the workings of the Nigeria economy and financial openness are sensitive to the pattern of financial development. With financial deepening, both are negatively related to inclusive growth but positively related to inclusive growth when financial widening is considered. This suggests that regulating the activities of the private sector is not necessary when government engages them to facilitate financial development. However, the involvement of government in financial widening through the central bank produces a positive impact on growth.

5. Conclusion and Policy Recommendation

It is evident that the findings from this study would address some of the controversy between the finance-growth nexus as the relationship appears to produce new evidence and more valid results. The study shows that the impact of financial development on inclusive growth depends on the measure of the former up to the threshold level of 90th percentile. We also found that government roles in financial intermediation should be definite and implemented through the activities of the central bank as the effects of government intervention on private financial development activities is detrimental in nature. Interestingly too, the direction of causality is found to be from inclusive growth rather than through financial development. As such, the following policy suggestions are recommended:

- Productive employment should be encouraged as this would reduce the pace of unemployment and underemployment in the country.

- There should be substantial drive towards financial development activities as more social and safety nets should be provided to financially include the vast majority of the populace.

- The government's focus should largely be concentrated on the micro, small and medium enterprises as these are the major drivers of inclusive growth in Nigeria as against the large scale businesses.

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