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Institutional Quality, Development Strategies and Productive Employment Growth: Evidence from Nigeria

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Abstract
The paper examined the structural linkage between institutional quality, financial inclusion and productive employment growth in Nigeria during the period 1998-2017, employing Auto-regressive Distributed Lag (ARDL) bounds testing to cointegration technique. The results of the relationship between institutional quality and inclusive growth showed that institutional quality had an overall significant impact on the real GDP per person employed. Contrary to its a-priori expectation, the technology choice index was positively signed, while all other explanatory variables were found to exert a positive statistically significant impact on inclusive growth in Nigeria both in the short-run and the long-run. The findings of the analysis show that the state institutions remains the major reference point in the conceptualization of a dynamic inclusive growth. Given her relatively labour-abundant resource endowment, building certain degrees of institutional capacity and character is much needed to harness the conversion of the nation's socio-economic potentialities into realities of sustainable broad-based productive employment growth. Therefore, a comparative advantage conforming development strategy should become the policy priority of the Nigerian government. This would lift millions out of poverty and bridge the long standing huge inequality gaps amongst the citizens.

Keywords: Institutional quality, Development strategy, Financial inclusion, Broad-based productive growth, Employment

JEL Classification: O43, G21, P28, O15

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Introduction

The tripartite socio-economic problems affecting most the natural resource-rich lagged economies generally, and Nigeria in particular, has clearly exposed the weakness of conventional Washington-based development narratives with its emphasis on capital-intensive industrialization drive. Whereas, the phenomenon of growth without ultimately breaking the molds of inordinately rising levels of penuries, inequalities and unemployment in many low-income-income African countries, as in other parts of the world, still remains the most challenging puzzles in the contemporary development discourse. Over the years, successive governments in the lagging nations characterized by relative

abundance of labour and scarcity of capital, have indiscriminately built up the developed countries' capital-intensive on a relatively capital-scarce endowment structure. This issue poses a question of the state's embedded autonomy and its resilience in terms of capacity and character.

A nation's political institutions of governance fundamentally plays the central and critical role in evolving development strategies in relation to the country's area of comparative advantage endowment structure. To this end, governments in developing countries are expected to functionally perform such a strategic role of pragmatically recognizing and exploiting the existing potentials for industrial/technological transformation and upgrading. Contrariwise however, a deviation from adopting the right development approach which reflects a nation's structural endowments would stall the laying of foundation for a realistic and sustainable development that could provide a triple-win solution to the trilemma of socio-economic development concerns of the developing world (Ghatak, 2003).

It is worth to note that by virtue of its embedded autonomy and resilience in terms of capacity and character, the state institution has always remained the only viable agent that has a vested interest in ensuring a growth with inclusiveness; creating equitable economic opportunities along with equal access to them by all, particularly those hitherto excluded (i.e the extremely poor and the vulnerable households in society) from the growth process. This, accordingly would convincingly provide a more impetus to the adoption of alternative strategies for economic development in the lagged-developing economies (Garba, Kassey-Garba & Ada, 2015). Even from the historical hindsight, none of the advanced nations of the world economies could claim to have remarkably attained development without 'religiously' adhering to the areas of its comparative advantage and structural endowments. This is fundamentally so, because development is structurally conceptualized and as such a country's endowment structure could serve as the 'fulcrum' upon which all developmental dimensions of inclusive growth (balanced growth, secured growth, sustainable growth, and all the like) would thrive.

Despite the decades of 'improved' institutions of political governance and financial sector liberalizations for 'inclusion', in Nigeria, several questions still remain unanswered, or even rather unasked, on the quality of institutional causes of financial inclusion for growth inclusiveness across countries. Namely, what have been the nature and trends of institutional quality, financial inclusion and inclusive growth in Nigeria? How has the quality of institution affected financial inclusion in Nigeria? And to what extent has institutional quality impacted on the link between financial inclusion and a broad-based productive employment growth? Studying therefore the link between a broad-based financial system and institutional quality in resource-rich and labour-abundant developing countries like Nigeria would help a great deal in proffering the tripple-win solution to the aforementioned mounting tripartite socio-economic problems.

Notably, studies that have addressed the issues of linkage between financial inclusion and inclusive growth were found to still suffer from a number of empirical problems. One major impediment which deserves a special attention is inability to see financial inclusion and inclusive growth as an analytical outcome of institutional quality. Moreover, the failure to acknowledge the impossibility of 'an inherently exclusive market' as the best inclusive growth strategy; and the supposed evidence showing the superiority of the liberalized financial sector with too much reliance on cross-sectional econometric studies known usually to suffer from defectively contextual concepts and samples heterogeneity. Thus, in effect, there appear no generalizations or testable hypotheses to be drawn

from such a handful studies about the impact of institutional quality on financial inclusion and inclusive growth in a resource-rich developing country like Nigeria.

It is with such a daunting development challenge in view that this paper, therefore, raises a number of analytical and policy questions which are of vital importance. One, can we say the socio-economic and development challenges in many resource-rich economies especially Nigeria, are largely structural, cyclical or institutional? Two, how has the quality of institutional governance affected the industry/technology choices in the Nigerian context? Three, are there causal links among the variables of institutional quality, technology choices and a broad-based productive employment growth as measured by the real GDP per person employed in Nigeria? Lastly, to what extent has institutional quality impacted on the link between industry/technology choices and inclusive development; or by what channel is the link of institutional quality transmitted to growth inclusiveness?

Filling this potential gap, the study focuses on the capacity and character of the state institution in harnessing its resource endowment for a broad-based productive employment generation and thereby providing a triple-win solution to the tripartite socio-economic problems commonly associated with the most low-income developing countries. The paper employed the ARDL bounds testing to cointegration approach to objectively examine the impact of institutional quality on broad-based productive employment growth in Nigeria. The present study empirically investigates finance-inclusive growth nexus within the governance analytical framework (GAF).

To assess the dynamism of interrelationships among the variables, the study's choicest variables of interest are the standardized worldwide composite governance indicators of institutional quality (GEFe) due to Kaufumann, Kraay and Mastruzzi (2010), the constructed index of financial inclusion (IFI) to measure financial inclusion's three dimensions of availability, accessibility and usage of formal financial services, and real GDP per person employed (RGDPE) as proxy for inclusive growth. Drawing on Olanrewaju, *et al.* (2019), technology choice index (TCI) is constructed as the value-added to labour ratio in manufacturing over the total value-added to aggregate labour force ratio. The paper is structured as follows: Section 2 presents the review of literature on relationship between inclusive growth and institutional quality. Section 3 describes the data and methodology. Section 4 presents and discusses the empirical results while Section 5 concludes.

2 Literature Review

The earlier theories hardly considered the critical role of political factors in economic growth and development. This is because those growth models were purely based on the assumption that the markets were perfect and there were no frictions. However, the extant empirical research has established the links between resource-abundance and choice of development strategy and the state institutional factors. However, in both the theoretical and empirical literature, it is generally assumed that there is a positive relationship between inclusive productive growth (the problem) and institutional governance (the analytical tools), as well as other control variables, such as financial inclusion, human capital development, civil society (Levy & Fukuyama, 2010), etc. While the quality of institutional governance itself is determined by the context of either a historical or environmental, the interlinkage relationship in the course of influencing inclusive productive growth (dependent variable) is assumed to be determined by a larger process. In other words, institutional variables are an influencing factor on the one hand, and a factor that is being influenced, on the other hand (Tella & Ayinde, 2015).

Gleaning from the intuition by Lin (2004), until a country conforms to its existing areas of comparative advantage and endowment structure, seizing opportunities to develop competitive industries and lay the foundation for a realistic and sustainable inclusive growth will ultimately be a mere mirage. To this end, the capacity and the character of the state institution in the process of industrialization and economic transformation cannot be over-emphasized. This is corroborating the fact that in any nation, 'everything rises and falls' with the kind of political leadership that in place; governing the exploitation of its endowment structures and its comparative advantage shifting. This implies that a truly development-oriented national government can explore the available opportunities embedded in the country's areas of comparative advantage, while recognizing the potential for industrial strategy-shifting when the areas of comparative advantage have been duly exploited.

Based on the influential ideas of North (1990), inclusive productive growth can be viewed as synergistically linked to human capital and financial inclusions as well as the institutions of political governance. By implications, a productive employment growth can be viewed as being contingent on financial inclusion infrastructure, technical efficiency, political leadership and institutional governance Ghatak (2003). However, measures of institutional governance are found to be highly correlated with each other. Take for instance, Baland, Moene and Robinson, (2009) and Levy and Fukuyama (2010) posit that, it is very hard to imagine a country with good rule of law, effective regulation and efficient democratization that is being endemically corrupt or having weakened property rights.

Two main divergent views on the role of institutional quality in enhancing relationship between sustainable growth strategy and broad-based development have undoubtedly continued to motivate a sizeable body of scholarship on the grounds of resources endowment and technology choice. On the one ground, several authors (La Portal, 1999; Ghatak, 2003; Lin, 2004; Glaeser *et al.,* 2004; Seigel, 2005; Zhuang *et al.,* 2010; Acemoglu & Robinson, 2013; Tella & Ayinde, 2015; Bruno *et al.*, 2015, Stiglitz, 2016; Adewuyi & Adeleke, 2017; Olanrewaju *et al.*, 2019) among others, stress that political institution is endogenous to a country's factor endowment structure and inclusive development, and this considerably accounts for growth variance both across countries, and over time, within countries.

Many other scholars on the other hand, scholars (Sachs, 2005; Durlauf *et al.* 2005; Kurtz & Shrank, 2007; Olson *et al.* 2008; Nawaz *et al.,* 2014; Andres & Tamayo, 2015; Briguglio, 2016), hold different theoretical perspective on the link between institutional quality and growth. They dismiss governance out of hand, and assert that poor countries cannot afford quality institutions of governance. Moreover, the existence of causality between institutional quality and sustainable development is less certain, and rather could as well run the other way round. Thus, their perceived negative correlation between institutions of political governance and economic performance seems to contradict a commonly held view that development and institutional quality generally go hand-in-hand.

From a global perspective, La Porta, *et al.,* (1998) attempted to assess the determinants of the quality of governments in 152 countries using government performance measures such as public sector efficiency, public good provision, size of government, and political freedom. The study found that countries that are poor, close to the equator, ethnolinguistically heterogeneous, use French or socialist laws, or have high proportions of Catholics or Muslims exhibit inferior government performance. Moreover, the author consistently finds that the larger governments tend to be the better their performance and vice versa. In addition, the importance of historical factors such as, the economic,

political, and cultural theories of institutions, explain the variations in government performance across countries.

Levine (2002) in the Working Paper Series of Central Bank of Chile found that TFP residual accounts for most of the cross-country and cross-time variation in growth. This observation is less consistent with the simple earliest traditional growth models that feature diminishing returns, factor accumulation, some fixed factor of production, and constant returns to scale. The study finds that national policies have strong link with long-run economic growth rates, and all factors of production flow to the richest areas, because of high "A" rather than high "K". Thus, the study in a way is relevant to the present study as it suggests 'something' more crucial to explaining sustainable inclusive growth. Ali (2007a) noted that, productive employment and social safety nets coupled with the targeted institutional interventions are the key elements in inclusive growth. Therefore, inclusive growth approach takes a longer term perspective as the focus is on productive employment rather than on direct income distribution.

Ajayi (2002) examined the theory and facts of how the quality of institutions and policies applied to the African situation. He observed that the missing link in Africa's growth process is the absence of adequate policies and efficient institutions. He found that corruption; ethno-linguistic fractionalization and civil strife as the institutional quality measures which have deleterious effects on growth. He also found that the conventional economic factors responsible for growth in Africa generally, and Nigeria in particular, do not fully explain its growth process. The study is relevant to the present as it has created useful insight into the problem which the present study sets out to solve. Consistent with Ajayi's advocacy, Sachs (2005) described the less developed countries (LDCs) as being caught in a structural poverty trap due to severe underdevelopment of their productive forces compounded by asymmetric globalization. He contends that in spite of these odds, these countries still have a latent potential for evolving national inclusive, sustainable development strategies, capable of breaking the vicious circle of underdevelopment and poverty within the framework of mixed economies, properly regulated by lean, clean and democratic developmental states. He strongly opines that 'development from within is the best, if not the unique opportunity; and that genuine development of Africa cannot happen by replicating foreign models' (Sachs, 2005: 1802). This study has further provided the desired stimulus for the present study. Policy implication of findings to government is that a 'home grown' inclusive framework should be evolved for triple-win solutions to the tripartite socio-economic problems.

Taking a closer look at two critical issues of governance and institutional quality measurement and direction of causality between institutional development and economic development in the developing Asian countries, Zhuang, de Dios and Lagman-Marrtin (2010) assessed the role of governance and institutions. Applying a simple classification framework under the widely used world governance indicators (WGIs), the authors found that the Asian economies with government effectiveness, regulatory quality, and rule of law scored above the global means and grew faster on average during the period 1998-2008, than those economies below the global means. In effect, their findings are consistent with Levy and Fukuyama (2010) that, improving governance in these three dimensions could be used as potential entry points of development strategies for many other developing economies in the region and elsewhere.

In another study, Ajakaiye and Jerome (2011) examined the role of institutions in the transformative agenda of the Nigerian economy. Drawing on the rich literature on institutions and the similar experience of Indonesia and Nigeria, they conduct comparative analysis of the two economies. The

analysis of both countries reveals that the economic institutions and political framework were stronger in Indonesia than Nigeria. However, going by the current reforms in the various sectors in Nigeria, the country can place itself on the path of prosperity by emphasizing the need for institutional strengthening and reinvigorating manufacturing sector which has been regarded as a key driver of structural transformation.

Lin (2012) empirically tested the effects of both the CAC and CAD strategies on economic performance, on a sample of 122 countries in the period from 1962 to 1999. As a proxy variable for CAD, the author uses the relative size of capital-intensive production while also including a variety of institutional control variables (index of economic freedom, the costs of starting a business, ratio of trade dependence etc.). The results obtained indicate that the CAD strategy indeed has a statistically significant negative effect on growth and leads to an increase in inequality. The author asserts that while CAC or CAD development strategy cannot be assessed an institutional vacuum, a country should follow its comparative advantage in order to develop. Moreover, the government that adopts a CAD as against CAC, encouraging firms to ignore the existing comparative advantages of the economy will be full of rent-seeking and unproductive profit-seeking activities which hinder economic growth and development. The relevance of this to the present study is that a low-income developing country must identify an appropriate development strategy in order to catch-up.

Fadun (2014) evaluated financial inclusion as a tool for alleviating poverty and redistributing income in developing countries, with special reference to Nigeria. The study, in view of the financial inclusion efforts at the global level, highlights the various financial inclusion strategies developed in Nigeria to decrease the number of Nigerians that are excluded from financial services. Considering the low levels of financial penetration and deepening in developing countries, including Nigeria, financial exclusion still remains an area of great concern, as the study reveal that 39.2 million adult Nigerians representing 46.3% of the adult population of 84.7 million were financially excluded in 2012**.** Further analysis also show that 54.4% of the excluded populations were women, 73.8% were aged less than 45 years, 34% had no formal education, and 80.4% reside in rural areas. The findings indicate that financial inclusion constitutes important tool for alleviating poverty and redistribution of income in developing countries, particularly in Nigeria.

Shuaibu and Lawwong (2015) examined the impact of human capital development on inclusive growth in Nigeria using a dynamic modeling approach to analyze time series data for the period 1980 and 2014. The empirical results reveal that human capital development only matters for inclusive growth in the long-run and not in the short-run. Contemporaneously however, it was observed that macroeconomic stability, financial access and improved institutions political governance were significant determinant of inclusive growth. The study has relevance for the present study as it provides suitable reference materials. However, a health dimension of human capital development was not included, and non-parsimonious governance variable was used in the model.

Benchmarking the framework for assessing the inclusiveness of the process and benefits of growth in 112 economies across all geographies and stages of development, the *WEF* (2015) analysed and present the results of the 1st edition of the inclusive growth and development with benchmarks spanning seven policy areas and fifteen sub-areas. While work on refining the data and methodology will continue in two respects: improvement of the indicators and empirical investigation of the relative significance of sub-policy pillars. To overcome the challenge, the key factors of the institutional-enabling environment have been regarded as determinative of the quality of growth over time, measured by levels of productive employment and median household income. This study

appears to be relevant to the present study as it provides a base for constructing the model for inclusive and sustainable development.

Tella and Ayinde (2015) employing the ordinary least squares technique to evaluate the relationship among institutional factors and fiscal sustainability indicators in Nigeria for the period 1970-2011 found that institutional governance was to be responsible for fiscal unsustainability in Nigeria. Their finding is supported by the fact that the institutional factors such as corruption, voice and accountability rule of law, government effectiveness, political instability and regulatory quality have generally impacted negatively on the indicators of fiscal sustainability. The study observes that despite the existence of fiscal rules as well-spelt out in the Constitution, the poor implementation of fiscal operations of government have been strongly impacted by the weak institutions during the period investigated.

Drawing on an extensive literature, Siddique (2016) examined the effects of adopting a Comparative Advantage-Defying (CAD) development strategy using data for the period of 1963 to 1999 (cross-section average over this time period) and 1980 to 2000 (panel with 5 years interval) for 113 countries are used in the analysis. This paper also examines how this effect of CAD differs with the level of an economy's financial development, which is the most important channel for the effects of CAD on poverty to manifest themselves. The policy recommendation by this paper is to adopt Comparative Advantage-Conforming (CAC) development strategy, which facilitates the actors' entry into an industry according to the economy's existing comparative advantages in order to effectively combat the incidences of poverty, inequalities and unemployment.

Okafor *et al* (2016) employed exploratory factor analytic technique to examine a 3-factor model of inclusive and sustainable economic development for developing countries covering the period 1981 to 2014. They found that minimum wage, girl-child education and special intervention fund were factors which influenced the relationship among human capital, real GDP and economic development. The outcome of their study concludes that a 3-factor theory of economic growth capable of linking different sectors of the economy is essentially a human capital theory of economic development. They suggest that a dynamic employment policy which would involve economic empowerment of women through job reservation in paid labour.

Kebede and Takyi (2017) utilized the Wald panel causality and the system GMM techniques to investigate whether institutional quality is the consequence or cause of economic growth in 27 Sub-Sahara African countries. While the co-integration test results show evidence of a long-run relationship between institutional quality and economic growth, the causality test results provide a unidirectional causality from economic growth to institutional quality but with no evidence of causality from institutional quality to economic growth. However, debt servicing and dependence on natural resources were respectively found to be negatively affecting economic growth and institutional quality. This conclusion suggests the case of resource cursed situations as being the lots of low- and low middle-income developing countries like Nigeria.

More recently, Olanrewaju (2019) assessed the dynamic relationships between institutional quality, financial inclusion and inclusive growth in the resource-rich and labour-abundant Nigerian economy using the bounds testing approach to cointegration within an ARDL framework. The results show that while evidence of financial inclusion and institutional factors positively related to inclusive growth were found, the relationship between the real GDP per person employed (RGDP) as a measure of inclusive growth and the interacted variable of institutional quality and financial inclusion

(IFIGEFe) equally revealed a positive and statistically significant relationship. However, the composite institutional quality index appears to be the dominant driving force behind growth inclusiveness in the economy. The implication of the findings is that institutional factors could be the underlying causes of inclusive growth in a resource-endowed developing country like Nigeria.

Nevertheless, assuming that Kebede and Takyi (2017), Tella and Ayinde (2015), Fadun (2014), Ajayi (2002) among others, have included control variables such as interaction of institutional quality with both real GDP per person employed and financial inclusion, as well as the preferred development strategy indicator (technology choice index-TCI) in the estimated models, probably a more robust outcome would have resulted. Apparently, there seems to be no study that has considered the combined effects of real GDP per person employed, financial inclusion and institutional quality which could condition growth inclusiveness in Nigeria.

3 Methodology and Data Sources

The time series annual data between 1998 and 2017 sourced from various editions of the Central Bank of Nigeria (CBN) statistical bulletin and annual reports and statements of account; the Annual Accounts of National Bureau of Statistics (NBS), World Development indicators database (World Bank), International Financial Statistics (IFS), the Ibrahim Index of African Governance (IIAG), and the World Governance Indicators (WGIs) were used. The estimation techniques employed in this study can be grouped into pre-estimation and post-estimation tests. The pre-estimation tests include descriptive statistics, correlation analysis, unit root tests, and cointegration tests (Johansen-Juselius and ARDL bounds testing approach).

Most time series data are non-stationary and using them in a model might lead to spurious regressions (Engel & Granger, 1987). Therefore, to empirically investigate the institutional quality imperative of inclusive growth, we examined the stochastic properties of each variable in the model employing the conventional Augmented Dickey-Fuller (ADF) (1979, 1981) and Phillips-Perron (1988) (PP) unit root tests to investigate the order of integration of the variables in the model. As noted by Djezou (2014) that the PP's unit root test is an automatic correction to the ADF test because it is relatively sensitive to any incorrect establishment of lag parameter and tends to under-reject the null hypothesis. The equation (1) which include an intercept and trend term was applied.

$$\boldsymbol{y_t} = \boldsymbol{\alpha_0} + \boldsymbol{\alpha y_{t-1}} + \boldsymbol{\alpha_2 T} + \sum_{j=1}^{p} \boldsymbol{\beta j}\ \boldsymbol{y_{t-j}} + \boldsymbol{\mu_t} \quad (1)$$

where $\boldsymbol{y_t}$ denotes the first difference of $\boldsymbol{y_t}$ comprising of either RGDPE, POV or HCD, and *p* is the lag length of the augmented terms for $\boldsymbol{y_t}$. Equation (1) permits the test to determine if the variable $\boldsymbol{y_t}$ is a stationary series. The null hypothesis of ADF and PP tests is that $\boldsymbol{y_t}$ is non-stationary or has a unit root. If the regressand or dependent variable in the model is found to be integrated of the same order with the regressors or explanatory variables, the co-integration test will be carried out to determine their long-run equilibrium relationships.

The bounds testing approach to cointegration within the autoregressive distributed lag (ARDL) framework will be employed to verify the long-run equilibrating relationships among the variables of interest found by the conventional cointegration techniques. The test is mainly based on the joint Wald- test (F-statistic) which asymptotic distribution is non-standard under the null hypothesis of no cointegration among the variables. That is:

$$\boldsymbol{H_0}: \boldsymbol{\beta_1} = \boldsymbol{\beta_2} = \boldsymbol{\beta_3} = \boldsymbol{\beta_4} = \boldsymbol{\beta_5} = \boldsymbol{\beta_6} = \boldsymbol{0}$$
$$\boldsymbol{H_0}: \boldsymbol{\beta_1} \neq \boldsymbol{\beta_2} \neq \boldsymbol{\beta_3} \neq \boldsymbol{\beta_4} \neq \boldsymbol{\beta_5} \neq \boldsymbol{\beta_6} \neq \boldsymbol{0} \quad \text{for i = 1, 2, 3,…,6}$$

This cointegration test involves two sets of critical values. One, the lower critical bound which assumes that all variables in the model are *I(0)*, implying a no cointegration relationship. Two, the upper critical bound assumes that all the variables in the model are *I(1)*, indicating the existence of cointegration. Thus, if the F-statistic is less than the lower critical bound value, the null hypothesis H_0 cannot be rejected. Conversely, if the F-statistic should exceed the upper critical bound value, then there is evidence of cointegration and H_0 should be rejected. Thus, if there is evidence in support of a long-run relationship or cointegration among the variables included, then equation (10) below becomes our estimable models. However, when the F-statistic lies between the two critical bound values, the test is rendered inconclusive, and therefore, other econometric analysis will be employed. This study adopts the structurally modified form of Tobin (1955)'s dynamic aggregative model and Lin (2012)'s growth identification and facilitation framework (GIFF) in the study of institutional quality and productive employment growth in Nigeria. The model incorporates the state's preferred development strategy and institutional capacity as the key drivers of productive employment growth for resource-rich and labour-abundant low income developing countries. Capturing the effect of institutional quality on productive employment growth, the augmented Tobin (1955)'s dynamic aggregative model is specified in equation (2) below:

$$Y_t = (1-T)A_t K_t^{\alpha_1} H_t^{\alpha_2} L_t^{\alpha_3} g \quad (2)$$

where Y is output, A is the efficiency parameter or level of technical progress meant to augment physical capital (K) such as machinery, building and finance; human capital, both skilled (H) and unskilled labour (L), and $\alpha_1 + \alpha_2 + \alpha_3 = 1$ exhibiting the standard assumption of constant return to scale. Dividing equation (3) through by L to have productive employment growth per worker:

$$y_t = (1-T)A_t k_t^{\alpha_1} h_t^{\alpha_2} g \quad (3)$$

Institutional effectiveness or quality is implicitly assumed to underlying equations (3) such that, institutional complementary capabilities would promote appropriate development strategy for productive employment growth as specified in the empirical model of Hall, Sobel, and Crowley (2010):

$$y_t = \alpha_0 + \delta_1(1-T)h_t + \beta_1 hGEF_t + \delta_2(1-T)k_t + \beta_2 kGEF_t + \varepsilon_t \quad (4)$$

where GEF is institutional quality or effectiveness, $\delta_1$and $\delta_2$measure the returns to human and physical capital investments in a country, while $\beta_1$and β_2 indicate the degree of institutional quality attained relative to the ideal standard set as suitable to represent quality of an institutional environment.

In order to achieve the study objective, assessing the long-run impact of institutional governance on the real GDP per person employed in Nigeria, the above relations is broadly written in a partial logarithmic form as follows:

$$\ln RGDPE_t = \alpha + \gamma \ln RGDPE_{t-1} + \beta_1 IFI_t + \beta_2 GEF_t + \beta_3 RGDPE \quad GEF_t + \beta_4 IFI \quad GEF_t + \beta_5 \ln TCI_t + \varepsilon_t \quad (5)$$

The ARDL specified version of the model in equation (5) within the VECM framework:

$$lnRGDPE_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \ lnRGDPE_{t-1} + \sum_{i=1}^{n} \beta_2 \ IFI_{t-1} + \sum_{i=1}^{n} \beta_3 \ GEF_{t-1} + \sum_{i=1}^{n} \beta_4 \ TCI_{t-1} + \sum_{i=1}^{n} \beta_5 \ (RGDPE \ GEF)_{t-1} + \sum_{i=1}^{n} \beta_6 (\ IFI \ GEF)_{t-1} + \forall_7 ECM_{t-1} + \varepsilon_t \quad (6)$$

where ∀ is the speed of adjustment parameter and *ECM* is the residual obtained from the estimated cointegration model of equation (6).

In our empirically estimable model, institutional quality (GEF), index of financial inclusion (IFI) and the components of human development capabilities (RGDPE) interacting with the institutional governance variables would result in lowering the tripartite socio-economic problems of pervasive poverty, huge inequality gaps and the alarming unemployment growth rate. These relationships are as follows expressed algebraically:

$$\frac{\partial RGDPE}{\partial GEF} > 0; \frac{\partial RGDPE}{\partial IFI} > 0; \ \frac{\partial RGDPE}{\partial RGDPE \ GEF} > 0; \ \frac{\partial RGDPE}{\partial IFI \ GEF} > 0; \ and \frac{\partial RGDPE}{\partial TCI} < 0 \quad (7)$$

Drawing on Lin (2004) Lin and Chang (2014) and Bruno, *et al.* (2015), neither the CAD nor CAC strategy can be assessed in an institutional vacuum. Thus, the literature provides evidence of an association between TCI and institutional governance quality (GEF), especially in the low-income developing and resource-rich and labour-abundant countries. The TCI as proxy for CAC development strategy is therefore computed as follows:

$$TCI_t = \frac{AVM_t/LM_t}{GDP_t/L_t} \quad (8)$$

where AVM_t is the added value of manufacturing sector of the economy at time *t*, GDP_t is the total added value of the economy, LM_t is the labour in the manufacturing industry and L_t is the total labour force.

Moreover, the ARDL representation of equation (7) is therefore, formulated as follows:

$$\ln RGDPE_t = \beta_0 + \sum_{h=1}^{p} \beta_{1h} \ lnRGDPE_{t-h} + \sum_{i=0}^{q} \beta_{2i} \ IFI_{t-i} + \sum_{j=0}^{r} \beta_{3j} \ GEF_{t-j} + \sum_{k=0}^{s} \beta_{4k} \ TCI_{t-k} + \sum_{l=0}^{T} \beta_{5l} \ (RGDPE \ GEF)_{t-l} + \sum_{m=0}^{u} \beta_{6m} (\ IFI \ GEF)_{t-m} + \alpha_1 IFI_{t-1} + \alpha_2 GEF_{t-1} + \alpha_3 TCI_{t-1} + \alpha_4 (IFI \ GEF)_{t-1} + \alpha_5 (RGDPE \ GEF)_{t-1} + \varepsilon_{1t} \quad (9)$$

where Δ is the first difference operator. *p, q, r, s, T and u* represent the optimal lag lengths, and ∑ is the summation sign. The residuals ε_{it} are assumed to be normally distributed and stochastic. β_0 is

the drift component, and $\beta_1 - \beta_6$ denote the short-run coefficients, while α_i,*s* represent the long-run coefficients.

4 Discussion of Findings

The paper deployed conventional unit root tests such as Augumented Dickey Fuller (ADF) and Phillips-Perron (PP) techniques to test for the presence of unit root in the series. Table I shows that all the series with the exception of log of the technology choice index (TCI), are not found to be stationary at level with constant and time trends. This shows that the variables LRGDPE, IFI, GEFe, RGDPE*GEFe and IFI*GEFe are stationary at first difference. However none of the variables is integrated at *I(2)*. Therefore, since the data does not contain *I(2)* series, it lend support to the use of bounds testing approach to co-integration.

Table I: Unit Root Tests (Augumented Dickey Fuller (ADF) and Philips-Perron (PP)

Variables/Tests	*t-statistics*	*Critical Value*	*t-statistics*	*Critical Value*	*Order of Integration*
	Levels		*First Difference*		
ADF Test					
LNRGDPE	-2.7966	-3.0300	-5.0119**	-3.0404	I(1)
IFI	-1.6285	-3.0404	-3.3672*	-3.0522	I(1)
TCI	-5.6494**	-3.8753	-5.3507**	-3.9334	1(0)
GEFe	-2.2221	-3.6908	-4.9752**	-3.0522	I(1)
RGDPEGEFe	-2.8151	-3.6908	-4.9904**	-3.7105	I(1)
IFIGEFe	-1.6729	-3.6908	-3.8433*	-3.0522	I(1)
PP Test					
LNRGDPE	-2.7966	-3.6736	-5.1247**	-3.0404	I(1)
IFI	-1.8030	-3.6908	-3.3766*	-3.2978	I(1)
TCI	-1.8218	-3.7332	-2.2895	-1.9684	I(1)
GEFe	-2.0175	-3.6908	-5.1945**	-3.7104	I(1)
RGDPEGEFe	-2.8151	-3.6908	-5.1956**	-3.7105	I(1)
IFIGEFe	-1.6729	-36908	-3.9092**	-3.7105	I(1)

Note: The asterisk (*, **,) denote the rejection of the unit root hypothesis at the1%, 5% and 10% significance levels respectively.***
Source: Authors, 2021

Essentially, the null hypothesis for the presence of unit root was rejected for all the variables except the log of technology choice index (TCI) at levels, indicating that all the series were integrated but after differencing them.

4.1 Co-integration Test

The study employed the Autoregressive Distributed Lag (ARDL) Bounds testing co-integration procedure to estimate the long-run and short-run relationships as well as dynamic interactions among the variables of interest. Pesaran *et al.,* (2001) proposed an ARDL Bounds testing approach to investigate the existence of co-integration relationship among variables. This approach has certain econometric advantages in comparison to other co-integration procedures (Engel & Granger, 1987; Johansen 1988; Johansen & Juselius, 1990). One, the approach is applicable regardless of whether the underlying regressors are stationary at *I(0)* or *I(1)* or a mixture of both. Moreover, unlike most of these traditional co-integration procedures which are valid for large sample, the approach is not only suitable for small sample size study (Pesaran *et al.,* (2001), but it is of equally far more superior to

them all (Narayan, 2005; Halicioglu, 2007). In addition, it provides unbiased estimates of the long-run model and valid *t*-statistics even when some of the regressors are endogenous (Harris & Sollis, 2003).

While the lag order of the variables is given in the second column of Table II, the Bounds test results are reported in the lower segment of the Table. The calculated *F*-statistics of 6.8033 found in the ARDL regressions exceeds the upper bounds critical values of 3.35, 3.79 and 4.68 for significance levels of 10%, 5% and 1% respectively. This implies that the null hypothesis of no co-integration can be rejected at the three conventional significance levels. In other words, there exists a long-run relationship among the studied variables. Thus, inclusive growth indicator (RGDPE), institutional quality index (GEFe), index of financial inclusion (IFI), proxy for the country's resource endowment and development strategy (TCI) and the interacted variables of both institutional quality and real GDP per person employed (RGDPEGEFe) and inclusive finance (IFIGEFe) are co-integrated or co-moving in Nigeria over the period of 1998 to 2017.

Table II: The ARDL Cointegration Test

Bounds testing to Cointegration			**Diagnostic tests**		
Estimated Model	**Optimal lag length**	**F-statistics**	**R^2**	**Adj-R^2**	**D.W test**
RGDPE = f(IFI, TCI, GEFe, RGDPEGEFe, IFIGEFe)	1, 1, 1, 1, 1, 1	6.80332*	0.948	0.937	2.514655
Significant Level		**Critical Values**			
		Lower bounds (I(0)	**Upper bounds I(1)**		
1%		**3.41**	**4.68**		
5%		**2.62**	**3.79**		
10%		**2.26**	**3.35**		

Note: *, ** and * represent significance at 1, 5 and 10% level respectively.**
Source: Authors, 2021

The short- run and long-run coefficients of the ARDL estimated model are presented in Table III and we found evidence to support the literature that indicator of financial inclusion and institutional quality factor are positively related to inclusive growth. This suggests that an improved institutional quality would bring about a rise in real GDP per person employed via broad-based financial inclusiveness in Nigeria. Interestingly, the relationship between the inclusive growth variable and the interaction of the financial inclusion with the institutional quality is both positive and statistically significant. Specifically, a 1% improvement in the quality of institutional governance can stimulate productive employment growth by 19% in the long run. However, the country's resources endowment indicator (TCI), in contrary to the a-priori expectation revealed positive and weakly statistically significant, indicative of the country's adoption of a comparative advantage defying (CAD) as opposed to the appropriate comparative advantage conforming (CAC) development strategy. Moreover, it was found that the long-run relationship between inclusive growth and the interaction of real GDP per person employed with the institutional variable is negative but statistically significant at 1% level.

Table III: Results of Estimated ARDL Model (1, 1, 1, 1, 1, 1)

Selected Model: ARDL(1, 1, 1, 1, 1, 1)				
Sample: 1998 2017				
Included observations: 16				
Short-Run Estimates				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(IFI)	0.03	0.01	4.42	0.01
D(TCI)	0.14	0.03	4.41	0.01
D(GEFe)	0.26	0.11	2.36	0.08
D(RGDPEGEFe)	-1.01	0.05	-19.03	0.00
D(IFIGEFe)	0.03	0.01	4.12	0.01
ECM(-1)	-1.28	0.12	-10.99	0.00
Long-Run Estimates				
IFI	0.04	0.01	3.92	0.02
TCI	0.05	0.02	2.84	0.05
GEFe	0.19	0.09	2.07	0.01
RGDPEGEFe	-0.97	0.01	-103.49	0.00
IFIGEFe	0.03	0.01	3.67	0.02
C	-1.15	0.12	-9.83	0.00
R-Squared = 0.99;				
Adj. R-Squared = 0.98				
F-Stat. = 73.3				

****, ** & *** denote significance at 1%, 5% and 10% level respectively***
Source: Authors, 2021

Looking at the short-run dynamics, the estimates of the error correction model presented in the Table III above support the results of the long-run estimates. The error term (ECM (-1)) is negative and highly statistically significant, thus corroborating the results of the cointegration tests of the existence of a stable long-run relationship among the variables. The value of error correction term at 1.28 shows that well over 100% (128%) of the previous year's deviation from log-run equilibrium will be restored within a year. Consistent with previous studies on governance and institutional quality (Zhuang, 2010; Chang, 2011; Acemoglu & Robinson, 2013), real GDP per person employed is positively related to governance effectiveness. Nevertheless, contrary to the a-*priori* expectation, the coefficient of the preferred development strategy (TCI) exhibits a positive statistically significant impact of institutional quality on the broad-based productive growth, thus revealing the failure of successive Nigerian governments to adopt appropriate development strategy so as to convert the nation's huge potentialities into realities of transformative development. Although, this finding appeared to be inconsistent with the most previous studies (Lin, 2009; Lin & Chang, 2014; Siddique, 2016, Mabasa & Mqolomba, 2016) using cross-country regressions, the results of the Nigeria-specific study confirmed the fact that the Nigerian government does not seem to have adopted the appropriate development strategy given the nation's factor-resource endowments (Advantage Conforming).

5 Conclusion and Policy Implications

The long standing tripartite socio-economic problems of poverty, inequality and unemployment as well as the dwindling living standards among the low-income developing countries have continued

to remain one of the major international development concerns. Hence, this study was apt to consider the institutional-context of the exploitation of areas of comparative advantages and structural endowment in Nigeria. We therefore examined the structural linkage between institutional quality, financial inclusion and inclusive growth in Nigeria, both in the long-run and short-run, taking into account of the effect of the country's preferred development strategy. In the literature, issues on causality between financial sector development and economic growth and/or financial inclusion and economic performance have been extensively studied, but no available country's specific empirical evidence tracing the links between financial inclusion and inclusive growth to the underpinning-institutional quality factors. While the quality of institutional governance becomes a contemporary reality in causing the finance-growth inclusiveness linkage, it is of utmost significance to understand how institutional quality determines the interrelationships. Hence, in this paper, the country-specific analysis was highly imperative in order to provide pragmatic guidance to governments and policymakers as well as international community on formulating and implementing appropriate development strategies that reflect the country's endowment comparative advantage as well as the citizenry's changing needs.

The results of our analysis confirmed the existence of long-run equilibrating relationships among the variables. We found that institutional quality had an overall statistically significant effects on both financial inclusion and inclusive growth in Nigeria. The positive relationship between indicator of financial inclusion and institutional quality suggests that an improved institutional quality would bring about a rise in real GDP per person employed via broad-based financial inclusiveness in the country. However, TCI was found to be positive and weakly statistically significant, indicative of the country's adoption of an inappropriate development strategy.

In sum, the paper concludes that a radical institutional improvement in terms of capacity and character, beyond the present liberal democratic threshold is much needed to effectively harness the human capital resource base in Nigeria. Therefore, the CAC development strategy as the only relevant and preferred alternative development approach over the Washington Consensus for a resource-rich developing country like Nigeria. This is because, no nation has ever developed historically without exploiting first its areas of comparative advantage and endowment structure. We recommend, therefore, that Nigerian government should adopt labor-intensive development strategy such that active poor households are comprehensively integrated into productive activity for optimal value-chain finance-growth inclusiveness. This would address the protracted tripartite socio-economic problems of poverty, inequality and unemployment in line with Lin's comparative advantage conforming hypothesis.

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