

The Role of Financial Inclusion and Industrialization on Economic Growth: Evidence from Nigeria

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Abstract: The interdependence between financial inclusion (FINC), industrialization (IND), and economic growth (EG) creates access to financial services that can boost IND and EG, promoting entrepreneurship and job creation. In particular, IND may be the driving force behind EG in order to increase economic productivity and job creation. At this point, EG can pave the way for IND and FINC by generating positive feedback for economic development. Recent studies provide snapshots of FINC and EG in Nigeria but have failed to highlight the need to investigate the nexus between FINC, IND, and EG. Here the study presents the nexus between FINC, IND, and EG in Nigeria using annual time series data from the 2022 World Bank Development Indication spanning from the period of 1980 to 2020 and analyzed using the pre-estimation and post-estimation techniques with the use of version 9 of the Eviews statistical package. Gross domestic product (GDP) were used as proxy for EG, percentage share of manufacturing value added to GDP as a proxy for IND, and the percentage share of domestic credit to the private sector by banks to GDP as a proxy for FINC. The result shows a cointegration between EG, IND, and FINC in Nigeria, with a significant relationship between IND and EG in Nigeria, while FINC and EG are not significant. The study recommended that broadening entrepreneurship and FINC, building infrastructure, supporting industry, encouraging foreign investment, enhancing technology use, and strengthening the regulatory environment are key to fostering EG in Nigeria.

Keywords: Financial Inclusion, Industrialization, Economic Growth, Autoregressive distributed lag.

JEL Classification: C58, E44, O14

INTRODUCTION

Financial inclusion (FINC) and industrialization (IND) are major phenomena for policymakers worldwide to consider when planning a strong policy for achieving sustainable growth. Studies have demonstrated that finance boosts economic growth (EG) through its services which also encourages innovation and the accessibility of capital formation, as well as an investment that, in turn, reduces poverty (Qamruzzaman, *et al.*, 2021; Emara & El Said, 2021). Therefore, one can say that the aim to provide access to financial services births the emergence of investing in businesses to expand their managerial operations, which also leads to an increase in the labor force, credit services, and financial insurance, a decrease in the unemployment rate, and an increase in economic productivity as a result of EG. To achieve this in Nigeria, one of the developing and Sub-Saharan African nations facing a macroeconomic uncertainty business cycle, multifaceted policies such as IND and FINC are required to boost optimal production, economic productivity, and growth (Elfaki, *et al.*, 2021).

With Nigeria having to utilize artificial intelligence, digitalization, and information and communication technology (ICT) to promote IND, which in turn increases economic development and productivity, the fourth industrial revolution has

attracted interest from around the world (Chivunga, 2021). They must invest in human capacity training and education programs to equip their citizens for leveling with the level of IND of other developed nations outside of Africa and to achieve 21st-century technology-related jobs because they have a much larger population than some Sub-Saharan nations. Individuals have invested time and resources at the micro level by providing various banking services via mobile phones, such as mobile applications. As such, Nigeria's FINC index for those who banked in 2018 was 39.6 percent in 2018 against 38.3 percent in 2016 and later increased to 44.8 percent in 2020, while for those who are not banked in 2016, it was 44.6 percent in 2016, 36.8 percent in 2018, and 35.9 percent in 2020. Based on these results, the total percentage of those who engage in formal financial services as of 2016 was 10.3 percent, 9.0 percent in 2018, and 5.7 percent in 2020, while a total of 9.8 percent, 14.6 percent, and 13.6 percent were engaged in informal financial services such as daily contributions, friendly, neighborhood, or business-oriented financial services. These results were said to account for Nigeria's population of 96.4 million, 99.6 million, and 106 million in 2016, 2018, and 2020, respectively.

FINC, over the years, has attracted much attention from scholars, governments of nations, financial sectors, and policymakers across the world. However, FINC is a prerequisite for EG (Raza, *et al.*, 2019). FINC is a situation in which everybody has access to banking and insurance offerings, accompanied by financial literacy and talents. It has also been described as a country of financial transactions, in which every member of society has access to appropriate financial services for effective management of financial products and resources, sources the necessary finance for their organization, and uses financial leverage to accelerate the income and earnings of the financial establishment (Uruakpa, *et al.*, 2019). To an extent, FINC is when people and businesses have access to practical and reasonably priced financial products and services that satisfy their needs as a result of transactions (payments for and of goods), savings, credit, and insurance.

Recent efforts by the Nigerian government to improve the intermediation process have seen the licensing of microfinance institutions saddled with the responsibility of making sure that the financially excluded public in rural and urban centers are brought into the financial system. Other non-formal banking settings, such as credit unions and savings cooperatives in Nigeria, have made considerable progress in boosting the living standards of their participants by stimulating savings and investment. An inclusive financial system promotes the effective allocation of financial resources to sectors that need them, and efficient use of financial sources lessens the cost of capital charges in the form of interest on borrowed funds (Peterand & Okpebru, 2020). FINC aims to bring together a variety of stakeholders through the financial regulators (Mogaji & Nguyen, 2022), telecommunications, competition, and education ministries, and developing a national FINC strategy (Hassan, *et al.*, 2022) to leverage the government's payments and curb corruption (Pazarbasioglu, *et al.*, 2020; Bodra, 2022), promote mobile financial services (Amoah, *et al.*, 2020; N'dri & Kakinaka, 2020), create room for new industrialized financial models such as e-commerce (Wang & Han, 2021), advance consumer protection (Wang & Han, 2021), and advance consumer protection (Mogaji, *et al.*, 2021).

Also, FINC, as a result of the advancements in fintech, has the ability to reduce costs by utilizing economies of scale (Liu, *et al.*, 2022), improve transaction speed, security, and transparency in the

banking system (Abdulhakeem & Hu, 2021; Kawasmi, *et al.*, 2020), and make it possible for the poor to receive more specialized financial services (Mhlanga, 2020). Therefore, it is then worth noting that the presence of more commercial banks as an indicator of FINC makes it more productive for industries to connect with banks for financial services and raises their awareness of the importance of banks as a result of FINC. The improvement in economic activity will gear up the nation's manufacturing sector and also increase the standard of living (Adzimatinur, *et al.*, 2021). Linking the nexus between FINC and IND in Nigeria poses various roles. Gainfully, both FINC and IND have a positive relationship with EG (Chen, *et al.*, 2021; Ozturk & Ullah, 2022), ranging from access to capital, improved cash flow, increased financial literacy, enhanced economic and market competitiveness, and also promoting EG through small and medium enterprises (SMEs). However, the SMEs are faced with a lack of access to loans to grow their businesses sustainably, which, if granted loans, will consequently reduce poverty since the majority of the population is in the informal sector.

Hence, in order to encourage EG, Nigeria, like many other growing countries, has recently undergone an IND process. Infrastructure like highways, ports, and power plants have all been constructed along with the growth of manufacturing and other businesses. Notwithstanding these, the country's industrial sector continues to be weak despite being one of the top producers and manufacturers of oil. Due to a number of challenges caused by Nigeria's institutional economics and fiscal deficit, including a high level of fraud and corruption and a lack of regulatory oversight, the ability to improve access to credit and other financial services has been seen as a critical component of the country's economic development. Thus, despite recent notable progress toward FINC and IND in Nigeria, there is still a long way to go before these measures can fully realize their potential benefits for EG. On this note, this present study adopted both conventional and unconventional measures because of their importance in measuring FINC and IND and attempted to bridge a research gap by improving and complementing existing research. Although a body of literature exists to integrate the nexus between FINC, IND, and EG in emerging market countries of the Sub-Saharan African (SSA) region (Omar Bakar, *et al.*, 2022) and also in India (Sharma & Goel, 2022) Specifically, the best of

the author's knowledge, a regional-based perspective might not capture the effect of FINC and IND on EG the way a country-based study would.

Therefore, stating the objective of the study, the study sets out to investigate the impact of IND and FINC on EG in Nigeria. Precisely, despite the problem faced by the nation on the study's subject matter, the significance of the study is premised on the desire of the government to meet up with the increase in the agitation for FINC as a result of access to the financial sector, providing adequate measures when taking any monetary policy, and IND as a proxy for manufacturing. The study will also attract the attention of Nigerian financial actors, and concerned authorities in the manufacturing sector to the efficacy of access to financial services, and chanting on the Nigeria government to focus on the FINC policies as a means of ameliorating 130 million poverty index, through the participation of all economic agents in the financial system.

The first section of the paper deals with the introduction, while the second section focuses on theoretical and empirical reviews of related literature. The third section entails the methodology employed for the study, while the fourth section focuses on the empirical results and interpretation. The paper ends with a section on the conclusion and recommendations.

LITERATURE REVIEW

1. Concept and Nexus of Variables

FINC, over the years, has served as a special indication to the various sectors at the micro and macro levels of economic sectors. To a large extent, FINC has been useful in addressing the financial needs of IND across the globe (Sharma & Goel, 2022). As such, in view of stimulating EG, individuals and businesses have access to financial products and services such as payments, transactions, money transfers, deposits, loans, and insurance, among others. Hence, FINC is the availability of financial services and products, such as debit and credit cards, to a large segment of the population at reasonable prices (Kasradze, 2020). It also means that individuals and businesses have access to useful and affordable financial products and services that meet their needs in a responsible and sustainable way (Ozil, 2020). Therefore, one could assert that FINC can lead to EG by increasing access to credit, savings, and investment opportunities, promoting entrepreneurship and job creation. Although

significantly, an economy undergoes IND when it shifts from being based mostly on agriculture to one that is oriented on manufacturing and industry (Raihan & Tuspekova, 2022). As such, as a result of fostering innovation, boosting productivity and efficiency, and generating job opportunities, IND can promote EG.

Relatively, FINC, IND and EG outplay the interdependence of one another, which then asserts that access to financial services can encourage innovation and entrepreneurship, which in turn can boost IND and EG, while on the other hand, EG may be fueled by IND to boost economic productivity and creation of jobs. Conclusively, it could also be noted that EG can open doors for FINC and IND, creating a positive feedback loop for growth and development.

2. Empirical Review of Related Literature

In a study by Sharma and Goel, (2022) on the role of FINC on EG with evidence from India, the study showed that recent EG had relied significantly on FINC. Therefore, as a result of this, the result looks into how FINC, such as commercial bank branches, depositors with commercial banks, domestic bank credits, and companies using banks for financial investment, and its impacts on the EG in India. The data were sourced from the World Development Indicators for the period of 1981 to 2020 using the Autoregressive Distributed Lag (ARDL) model to examine the relationships between the variables. Then, the result showed a favorable relationship between EG in India and commercial bank branches, depositors with commercial banks, domestic bank credits, businesses using banks for financial investment, and IND. Following, the study concludes by providing regulators with guidance as they create EG-related rules using efficient FINC.

Also, Gisaor, *et al.*, (2021) note that FINC entails access by the populace to financial services to tackle poverty, improve welfare, and raise the general standard of living, which consequently promotes EG. Therefore, this enacts their interest in investigating FINC and EG in Nigeria, and due to this linkage, FINC has assumed a critical development policy priority in many countries, particularly in developing economies like Nigeria. On that note, they investigated the long-run impact of FINC on EG in Nigeria using secondary annual time series data as sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, 2020, and the National Bureau of Statistics (NBS), 2020, and

a summary of economic indicators in Nigeria between 1970 and 2019 with analysis through the use of an autoregressive distributive lag (ARDL) model. The result revealed that there is a negative impact of high-interest rates, a high price level, and poor credit access by the private sector on EG. Hence, the study revealed that the CBN was urged to reach out to Nigerian producers at a subsidized cost to encourage local production and also implement very urgent policy reforms aimed at reducing the official cost of borrowing (interest rate) in Nigeria so as to encourage local productivity.

In a study by Kapaya (2019) on FINC and cluster-based IND, the study focused its arguments on twin objectives, namely, to assess how FINC may spur IND in Africa and how IND may prosper where there is a clustering of small and medium enterprises or industrial activities in Africa. The study further employs a quantitative approach where regression analysis is used employing secondary data from the World Bank Development Indicators for seven African economies, namely Egypt, Ethiopia, the Democratic Republic of the Congo, Nigeria, Tanzania, Kenya, and South Africa. These countries were selected randomly to represent Africa as developing countries that are in the process of promoting IND in their economies with the use of three (3) econometric models, with model 1 representing the basic regression without interaction variables, while models 2 and 3 have added the two interaction terms to capture interaction effects for FINC. The variables used were analyzed using linear regression models. The study found that clustering promotes industrial growth. That is, both manufacturing values added and domestic credit to the private manufacturing sector for the seven countries (Egypt, Ethiopia, the Democratic Republic of the Congo, Nigeria, Tanzania, Kenya, and South Africa) were used to compare the level of industrial growth and FINC for the private sector over time. It was also revealed that there was a lack of evidence for the role of FINC in promoting industrial growth. It also did not find statistical evidence for the joint effects of these factors on IND. It calls for policy dressing and specific research in the areas of clustering properties and FINC and their effects on industrial growth.

Edet, *et al.*, (2022) investigated the nexus between FINC and the growth of small and medium enterprises in Cross River State, Nigeria. To them, FINC has assumed a greater level of importance due to its perceived importance as a driver of EG

by giving access to hundreds of millions of people, especially those in the small and medium-scale enterprise sub-sector, who are presently excluded from financial services. To them, it would provide the possibility for the creation of a large depository of savings, investible funds, and income, thereby reducing poverty. The study adopted a cross-sectional survey of small and medium-scale businesses in Calabar Metropolis using the purposive sampling technique with the use of 1,294 SMEs in the state, and a sample size of 306 was obtained and analyzed using the Pearson correlation technique. The results of the analysis revealed that FINC, in terms of bank loans and advances, access to automated teller machines (ATM), and internet banking have a statistically significant correlation with the growth of small and medium-sized enterprises in Cross River State. As such, the policy implication of the study is that banks should reduce their lending rates in order to induce many SMEs operators to access bank loans for their businesses and that commercial banks and microfinance institutions should ensure that more bank branches are established so as to enhance bank penetration, whereby many SMEs operators can have access to ATM to transact their businesses.

3. Theoretical Review

Various theories have supported the nexus of FINC, IND, and EG. Among these theories to mention are the Credit Constraint Hypothesis (CCH), the Financial Intermediation Theory (FIT), the Human Capital Theory (HCT), the Structural Formation Theory (SFT), the Endogenous Growth Theory (EGT), and the New Growth Theory (NGT). The peculiarity of this theory to the nexus of the study subject plays a crucial role in EG. However, these theories interplay different relevancy on the subject matter. To this end, the study adopts the CCH as developed by various scholars in the field of economics by developmental economists. One of the theory's initial proponents was economist Joseph Stiglitz, who proposed in the 1970s that a lack of credit availability would prohibit some people and businesses from reaching their full economic potential.

Other economists, including Luigi Zingales, Raghuram Rajan, and Robert Lucas, Jr., have since developed and improved the CCH. These economists have examined how credit restrictions affect EG, entrepreneurship as an indicator for IND, and the fight against poverty. According to the CCH, low-income and marginalized

populations may experience slower EG as a result of limited access to credit. The CCH claims that many entrepreneurs and small business owners in these localities suffer difficulties in accessing credit, such as low collateral, high-interest rates, and restrictive lending rules. The CCH is important because it has the ability to explain why some areas while having a wealth of natural resources and human capital, remain economically underdeveloped. Financial institutions can prevent business owners from investing in new initiatives, growing operations, and adding employees by restricting access to financing. Underinvestment, low productivity, and slow EG are all possible consequences of this.

They have also suggested a number of policy options to increase credit availability and advance FINC. As such, the CCH chants that access to credit is crucial for fostering FINC, IND, and economic expansion. The hypothesis further advocates measures to boost credit availability, such as microfinance efforts, targeted lending regulations, and financial literacy campaigns, which can aid in overcoming credit limitations and advancing EG. Above all, the hypothesis threads that policymakers can create interventions and regulations that help increase access to credit, such

as microfinance programs, credit guarantees, and financial education campaigns, by recognizing the obstacles that people and businesses encounter in doing so.

METHODOLOGY

The data used for the study were sourced from the World Bank Development Indication (World Bank, 2022a; World Bank, 2022b; World Bank, 2022c). An annual time series of data over the period of 1980 to 2020 was used to investigate the impact of IND and FINC on EG in Nigeria using the gross domestic product as a proxy for EG, the percentage share of manufacturing value added to GDP as a proxy for IND, and the percentage share of domestic credit to the private sector by banks to GDP as a proxy for FINC. The study employed a Lin-Lin econometric model and was analyzed using Eviews version 9. Hence, to the best of the researcher’s knowledge, studies have not captured the aim of the study in relation to Nigeria with the use of the dependent and independent variables, but Sharmal and Goel, (2022) assert that they have captured the aim of the study in India in relation to the variables used.

EMPIRICAL RESULTS AND INTERPRETATION

Table 1: Descriptive Statistics and Pairwise Correlation

Variables	Descriptive Statistics					Pairwise Correlation		
	Mean	S.D	J.B	S.S.D	Prob.	EG	IND	FINC
EG	3.055	5.387	9.147	1161.097	0.010*	1.000		
IND	13.963	5.509	2.017	1214.270	0.364	-0.436*	1.000	
FINC	9.264	3.499	9.871	489.8103	0.007*	0.271	-0.774*	1.000

Source: Author’s compilation *p<0.05

Table 1 shows the descriptive statistics of the variables, with the means for EG being 3.05, IND being 13.963, and FINC being 9.264. As well, the standard deviation (S.D) revealed that EG, IND, and FINC were 5.387, 5.509, and 3.499, respectively, and their Jarque-Bera (J.B) coefficients were 9.147, 2.017, and 9.871, respectively. Furthermore, the sum of squared

deviations (S.S.D) for EG, IND, and FINC was high, despite the fact that the probability values for EG and FINC were reported to be significant but not for IND. The table 1 also shows the pairwise correlation between the variables which revealed that IND correlate negatively but significant with EG, and FINC correlate positively but insignificant with EG.

Table 2: ADF Unit Root Test

Variables	Level				First Difference				Order of Integration	Max. Lag Length
	t-Stat	5% level Crit. value	Prob.	Remark	t-Stat	5% level Crit. value	Prob.	Remark		
EG	-2.69	-2.93	0.08	Non Stationary	-11.64	-2.93	0.00*	Stationary	I(1)	9
IND	-3.07	-2.93	0.03*	Stationary				Stationary	I(0)	9

FINC	-2.33	-2.93	0.16	Non Stationary	-5.55	-2.94	0.00*	Stationary	I(1)	9
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Source: Author’s compilation *p<0.05

The Augmented Dickey-Fuller (ADF) unit root test in Table 2 shows that the use of the ARDL model is justified because the orders of integration are not in the same order; hence, the table also shows that EG and FINC are both stationary at the first difference, **I(1)**, while IND is stationary at

levels, **I(0)**. Therefore, since the table shows that the study adopts the ARDL model, there is then a need to test whether the variables are cointegrated in the short-run or long run using the ARDL bounds test.

Table 3: Bounds Cointegration Test

F-Statistic	K	I(0) Bound at 5% Critical	I(1) Bound at 5% Critical
6.878	2	3.79	4.85

Source: Author’s compilation

From the ARDL bounds co-integration test above, it was shown that the F-statistic is reported to be 6.878, the lower bound value; I(0) is 3.79; and its an upper bound, I(1), is 4.85. Then, if the F-statistic is greater than the 5 percent upper bound critical value, we conclude that there is cointegration, which results in a long-run relationship between the variables, while vice versa means there is no cointegration, meaning that there is a short-run relationship. Therefore, since the results in Table 3 show that there is cointegration and that there is a long-run relationship between EG, IND, and FINC, Moreover, the model takes into account an ideal variable number of lags to seizure series generation techniques from general to specific modeling, as revealed by Pesaran, *et al.*, (2001), which is one of the benefits that led to the selection of the ARDL model for the current investigation (Laurenceson & Chai, 2003).

Thus, we reject the null hypothesis and accept the alternate hypothesis. To this end, it means there is a disequilibrium in the model; to correct this long-run disequilibrium, we adopt an error correction term (ECT) through the use of the ARDL model, as estimated below. The ARDL model also permits the use of unique optimal delays inside the model (Nkoro & Uko, 2016; Adenomon & Ojo, 2020). The ARDL model is also suitable for variables with varying orders of cointegration when analyzing long-term relationships. The variables in the model are guided to return to equilibrium by the ECT. To put it another way, the ECT restores homeostasis. Theoretically, the error correction model (ECM) preserves a steady, long-term equilibrium between economic variables. Therefore, if there are any short-term imbalances, the ECM corrects them in the subsequent period (Farizqiyah & Yuliana, 2022). The ECT or residual coefficient (-1) should be significant in order to determine whether the employed ECM model is legitimate or not.

$$\Delta EG_t = \beta_0 + \sum_{i=1}^p \beta_{1i} \Delta EG_{t-1} + \sum_{i=1}^q \delta \Delta IND_{t-1} + \sum_{i=1}^q \phi \Delta FINC_{t-1} + \varphi_1 \Delta EG_{t-1} + \varphi_2 \Delta IND_{t-1} + \varphi_1 \Delta FINC_{t-1} + \varepsilon_t \dots (1)$$

$$\Delta EG_t = \beta_0 + \sum_{i=1}^p \beta_{1i} \Delta EG_{t-1} + \sum_{i=1}^q \delta \Delta IND_{t-1} + \sum_{i=1}^q \phi \Delta FINC_{t-1} + \lambda ECT_{t-1} + \varepsilon_t \dots (2)$$

Table 4: ECM Coefficient

Variables	Coefficient	Std. Error	t-Statistics	Prob.
D(IND)	-1.022163	0.193278	-5.288559	0.0000*
D(FINC)	-0.075896	0.309210	-0.245451	0.8075
ECT(-1)	-0.570628	0.130848	-4.361000	0.0001*
C	0.244424	0.611273	0.399860	0.6916
R ²	0.543487		F-statistic	14.28619
Adj. R ²	0.505444		D.W Statistic	2.384357
SSR	532.1010		Prob. (F-Statistic)	0.000003*

Source: Author's compilation *p<0.05

The ECT guides the variables in the model to restore equilibrium. In other words, the ECT corrects disequilibrium. The result in Table 4 explains the ECT, which ought to be negative. The coefficient tells us the rate at which the previous period of the disequilibrium is corrected. The negative coefficient validates that there exists a long-run relationship between the dependent and independent variables. The ECM, in theory, maintains a constant long-term equilibrium between economic variables (Maghfuriyah, *et al.*, 2019). As such, the ECM fixes any short-term imbalances in the following period if they exist. The residual coefficient (-1) or ECT must be significant in order to determine whether the employed ECM is legitimate or not (George, 2022).

Based on the probability value for ECT(-1), the model is significant at 0.0001, which specifies that the ECM is usable. From the foregoing, the equilibrium value of 0.570 is deduced to mean that the process of adjusting the imbalance of EG changes for the period of 1980 and 2020 is relatively slow and that it will take a couple of years to achieve stable EG in Nigeria due to the

level of IND and FINC (Saba & Ngepah, 2022; Boufateh & Saadaoui, 2020). This means the rate at which the disequilibrium between the variables, in the long run, can be corrected is 0.570, and it is shown to be significant at a probability less than the 0.05 significant level. This means that the null hypothesis is rejected. Also, the r-squared shows that the ECM is fit at 54.3 percent, which explains the variability in the dependent variable. Specifically, the result shows that there is a significant relationship between IND and EG in Nigeria (Ayinde, 2019; Nwogo & Orji, 2019; Effiong & Ekong, 2021), while the relationship between FINC and EG in Nigeria is not significant (Dahiya & Kumar, 2021; Ratnawati, 2020).

Furthermore, the probability of the F-statistic from the model reveals itself to be 0.000003, which indicates a less than 5 percent level of significance. Hence, the study rejects the null hypotheses and accepts the alternate hypotheses, which conclude that the model is statistically significant. Significantly, the data used to analyze the ECM is normally distributed, with a probability value greater than 0.05 at the significance level, as illustrated in Fig. II below (see Appendix 2).

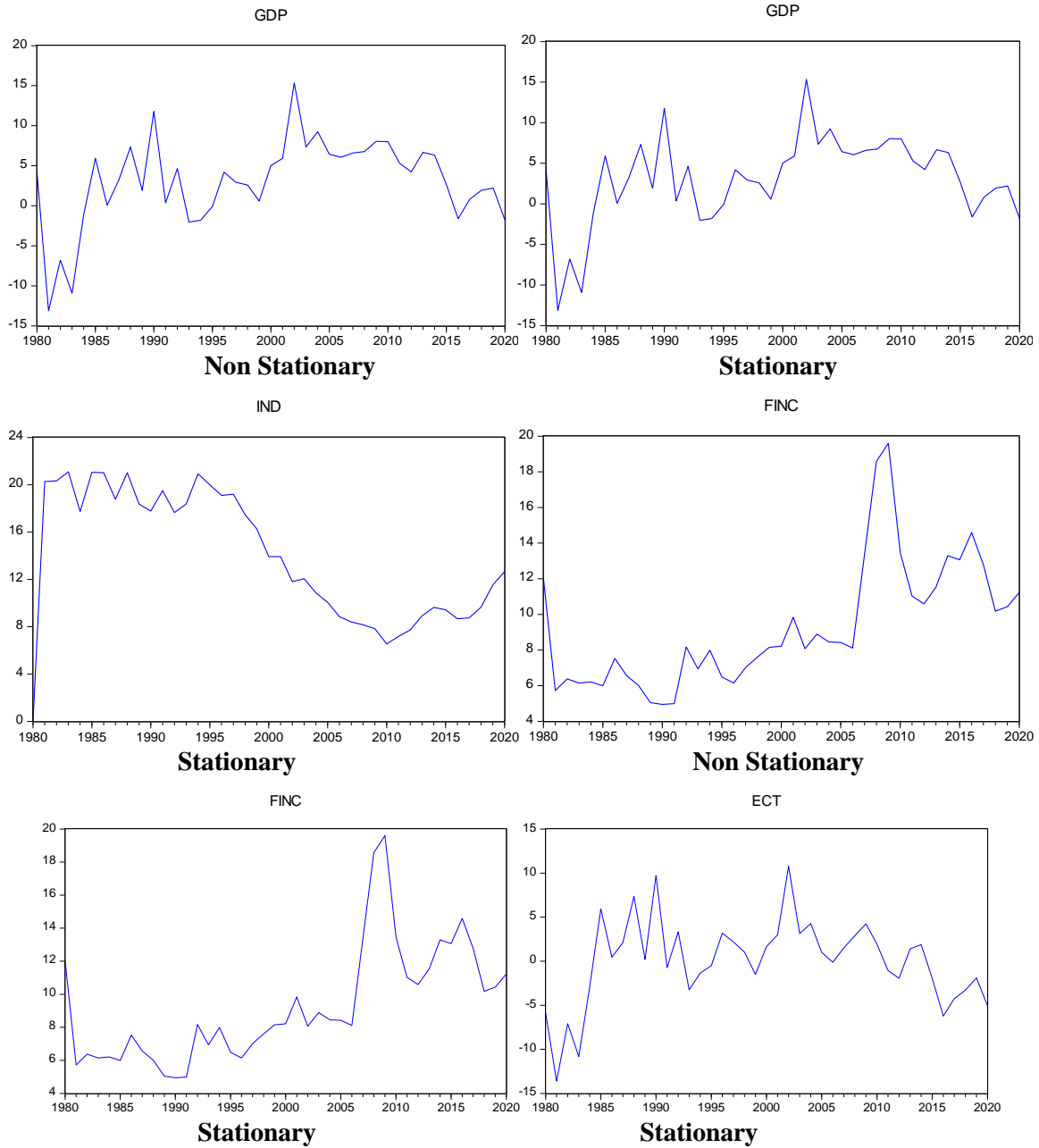
Table 5: Pairwise Granger Causality Test

Null Hypothesis	F-Statistic	Prob.	Direction/Decision
IND does not Granger Cause EG	3.10371	0.0578*	Directional
EG does not Granger Cause IND	5.01366	0.0124*	Directional
FINC does not Granger Cause EG	0.29765	0.7445	Unidirectional
EG does not Granger Cause FINC	1.20948	0.3109	Unidirectional
FINC does not Granger Cause IND	1.55092	0.2267	Unidirectional
IND does not Granger Cause FINC	10.6259	0.0003*	Directional

Source: Author's compilation *p<0.05

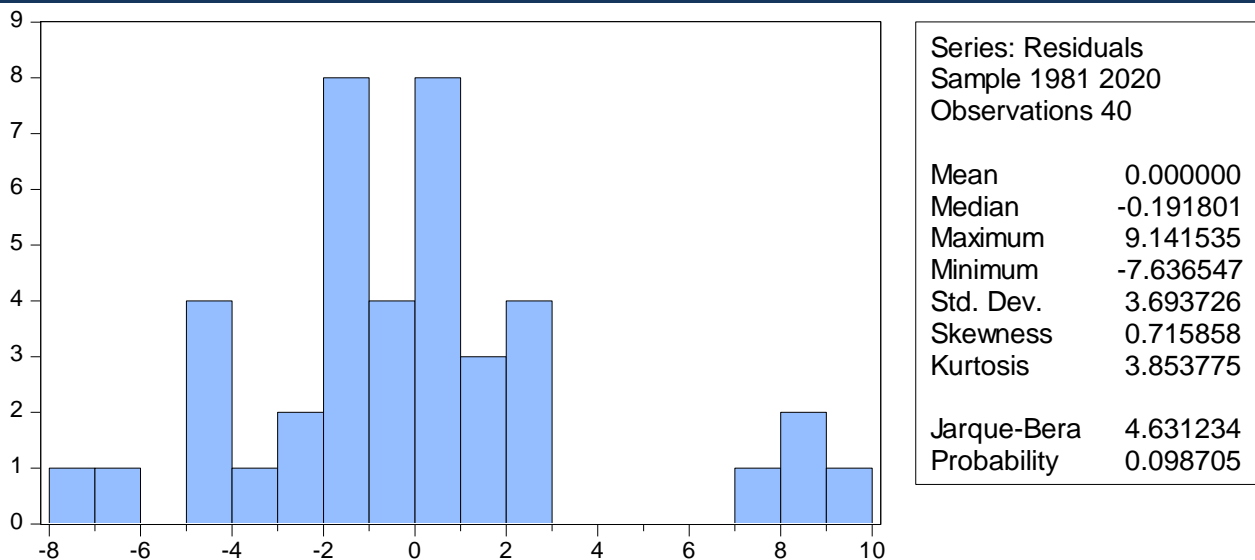
The pairwise Granger causality test result, as shown in Table 5, reveals and confirms the assertion that there is a directional causality between EG and IND in Nigeria, which is

consistent with the findings of Akorede (2020), while the findings of Ali, *et al.* (2021) attest to a unidirectional causality between EG and FINC in Nigeria.



Appendix 1: Unit root stationary graphs

Appendix 2: ECM Normality Distribution



CONCLUSION AND RECOMMENDATIONS

In comparison, the CBN, under the leadership of Governor Godwin Emefiele, tends to positively enhance the monetary and fiscal spaces as well as improve the profitability of the banking sector, plug fiscal leakages, boost government revenues, aid the economic empowerment of vulnerable Nigerians, and benefit the country as a whole. Yet, introducing cashless laws and restructuring the currency can help Nigeria's IND by enhancing productivity, advancing FINC, combating corruption, raising tax revenues, and enhancing security. This, in the long run, helps to boost EG in Nigeria. Hence, just as the study presents to capture FINC, IND and EG in Nigeria using the gross domestic product as a proxy for EG, the percentage share of manufacturing value added to GDP as a proxy for IND, and the percentage share of domestic credit to the private sector by banks to GDP as a proxy for FINC.

Therefore, based on the results, the study recommends that:

- The Nigerian government and financial sector should place a high priority on increasing access to financial services and products for individuals and small businesses. This can be accomplished by promoting financial literacy,

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encouraging the use of mobile money, and streamlining the account opening process.

- By enacting laws that encourage investment, lower operating costs, and support innovation, the government may foster an atmosphere that supports entrepreneurship. This can support EG by generating jobs and working on the production of customized empowerments.
- By fostering the growth of regional industries and offering incentives for the expansion of SMEs, the government should put into place laws that promote IND. This might raise exports, provide more jobs, and accelerate EG.
- Nigeria should also make it easier for people to do business, encourage ease of doing business, provide incentives for foreign investment, and increase the usage of technology across the board in order to reduce bureaucratic bottlenecks and achieve the topic's goals. By itself, this may result in greater productivity, effectiveness, and creativity, all of which may spur economic expansion.
- Nigeria should improve its regulatory framework to fight corruption and advance openness. This may improve the business climate and draw in additional investment.

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