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Openness, Competitiveness and Human Capital Development in Nigeria

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Abstract

The study examined the effect of openness on the competitiveness level in Nigeria and how both openness and competitiveness have affected human capital development in the country. The study adopted the classical linear regression and thus used Autoregressive Distributed Lag technique. The data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin 2021 and World Development Indicators. Openness, Ease of Doing Business (EODB), Foreign Direct Investment (FDI), imports on capital goods and Government Efficiency (GOVEFF) from 1980 to 2022. Some of the data were sourced from World Development Indicator were some of the variables used in the study. The results showed that openness had a positive and significant effect on Nigeria competitiveness and thus on human capital development. The result described a number of drivers for Nigerian openness, and competitiveness. Based on these results, the study recommended that the government implement policies to ensure that companies flourish in a conducive setting. In Nigeria, in particular, a seamless business registration process should be created. This study suggests other steps that the government should put in place to open up the economy and thus make Nigeria more competitive in an increasingly global market which are credit facilities, tax incentives, and infrastructure provision, pursue consistent and well-targeted monetary policies by monetary authorities in order to stabilize the price of the domestic currency (the naira), and curb inflation.

Keywords: Openness, Human, Capital, Development, Competitiveness, Efficiency

INTRODUCTION

Opening up the economy has been an important factor for the competitiveness and hence human capital development of countries in Africa, Europe, Asia and some other parts of the world. It is indeed of great importance to Sub-Saharan African nations where most of them are developing economies that aim at competing with other developed countries so as to achieve sustainable economic development (Nnadi, 2020). According to Ogohi, (2019), nations that open their economies and coordinate their economic policies, liberalize trade and move capital across

borders are more likely to accrue benefits that are not possible otherwise. For instance, literatures revealed that openness has enhanced global communication, interaction and exchange of ideas among people of different nationalities and background. openness transcends all spheres of life including the educational sector, as scholarly ideas are made available to those in search of knowledge. It has also helped in increasing capital deepening, employment opportunities and the rate of development. It increases business chances, innovation, technology and social affiliation. Openness leads to growing inter-dependence and interconnectedness of modern world. Developed countries integrate with developing countries by means of reducing trade barriers and increasing foreign direct investment and in many cases increase cross border migration. Many developed countries have witnessed competitiveness and thus human capital development as a result of openness (Nyong, 2015).

Competitiveness is seen as the set of institutions, policies and factors that determine level of productivity of a country (World Economic Forum, 2021). Dunning (1992) sees competitiveness as the ability to sustain in a global economy, any acceptable growth in the real standard of living of the population with an acceptable fair distribution, while efficiently providing employment for substantially all who can and wish to work and doing so without reducing the growth potential in the standards of living of future generation. Economic competitiveness is thus a goal to be pursued by developing countries (Ntoiden & Udo 2015).

One of the major objectives of developing economies is how to stimulate the rate of international competitiveness and hence improve human development and no country can develop its citizens in isolation thus the need to open up the economy and competition with other countries of the world is vital and at most time to achieve that, trade and inflow of foreign direct investment must be enhanced. Theories and literatures have argued for the nexus between trade openness, competitiveness and human capital development. This is to say for human development to occur in any country the economy must be opened, and open economy encourages development of the nation, where goods and services are allowed to move freely across nations. In the case of Nigeria, different and past administrations have adopted numerous approaches and policies to encourage trade openness aimed at encouraging competitiveness and thus human capital development at the end. Sequel to the above, Nigeria joined the World Trade Organization (WTO) in 1983. This was done to improve the level of trade openness, improved productivity and thus compete favourably with other countries of the world and by so doing become a competitor in the global market with major aim of improving the rate at which human capital can be developed. Failing to produce the desired results, Nigeria decided to introduce the Structural Adjustment Programme (SAP) that was suggested to them by International Monetary Fund (IMF) in 1986 during Babangida's administration. The suggested one-sided policy of the IMF with its attendants' problems failed to yield the desired results. Again, the quest for further improvement in the economy led to Nigeria's adoption to many other policies to encourage trade openness, competitiveness and human capital development. Studies have revealed that, the macroeconomic policy of Nigeria since 1986 is guided by this neoliberal philosophy. Even the Economic Recovery and Growth Plan (ERGP) of the Buhari Administration was underpinned by

the same neoclassical ideology. Tinubu's administration is not left out of policies to encourage openness and competitiveness with central aim of improving the rate of human capital development. This is one of the reasons the administration introduced the market money and small industrial palliative money to aid the small and medium scale industries mostly during fuel subsidy removal. To ensure openness, competitiveness, accelerated growth and human development, the policies by Tinubu's administration underscores the imperative of openness by encouraging firms to invest in Nigeria.

Tinubu inherited a sputtering Nigerian economy, with gross domestic product (GDP) growth rates for 2022 at 3.1% and for the first quarter of 2023 at 2.31%. Nigeria's recovery from COVID-19-induced trade deficits has also been slow. The 2022 trade surplus at only \$2.85 billion pales in comparison to 2014's \$54.1 billion. Foreign direct investment into Nigeria's economy fell from \$2.2 billion in 2014 to \$0.47 billion in 2022. The budget deficit has risen by 370.54% from 2016 to 2023, and the cost of debt servicing has exceeded public revenues as public debt has grown tenfold in a decade. Total public debt as of June 2013 was N7.93 trillion. It's now at around N77 trillion. During this period, external debt grew by 473% and domestic debt by 7 029%. The Central Bank of Nigeria's (CBN) lending to the federal government saw high inflation rates moved to 22.41% by May 2023. These pressures, as well as insecurity, have contributed to higher food prices, while 63% of the country live in multidimensional poverty. The unemployment rate was 33.3% in 2020 and estimates this to climb to 40.6% 2024, (CBN2023). Tinubu is also putting policy in place by floating the naira. Between 2019 and 2024, the official exchange rate from naira to dollars was mostly fixed, rather than determined by market forces. Because of this trend the CBN however couldn't meet the demand for dollars at this rate, contributing to a thriving forex black market and dampening of investors' confidence. The Tinubu's administration has directed banks to 'trade the naira freely' at rates determined by demand and supply. This policy by this current administration is to free up the resources the CBN used to 'defend' the naira, reduce the budget deficit, and attract more foreign investment which is aimed at improving the rate of human capital development, (Udo, 2023). The administration also targeted opening the economy by boosting Nigeria's productivity, productive capacity and growing and diversifying its exports away from crude oil into agrarian economy by expanding the anchor borrower scheme of the federal government for farmers. The administration policy via the CBN also removed ban on selected items imported to Nigeria to open up the economy.

Also, taking for instance policies within the ERGP framework that was aimed at strengthening Nigeria's bilateral and multilateral economic relations with other countries of the world was to enhance openness and competitiveness and thus improve indicator of human development in Nigeria. The signing of the currency swap deal with the People's Republic of China underscores the need to grow a competitive economy in a world of increasing openness. The main aim of these policies was to make the economy investor friendly by enhancing the ease of doing business where our exchange rate shall be favourable to both Nigerians and the Government of Nigeria.

Having adopted these policies and programmes, the question then arises, what is the position of Nigeria in the world in term of competitiveness and human capital development? One wonders if openness has contributed to economic competitiveness, productivity of the Nigerian economy and human capital development. The policy thrust of the government which has consistently maintained years of openness since 1986 should have positively impacted on the economy's competitiveness and thus develop human capital. But has it? This study therefore undertakes to investigate the impact of openness on competitiveness on the one hand as well as their separate impact on human capital development.

This study is different from other studies because it does not only limit itself to trade but it considers the impact of openness on Human capital development This forms the basis on which impact of openness on the competitiveness and human capital development in the Nigerian economy would be assessed. This will enable the study analyze how openness impacts significantly on the competitiveness and human development index of the Nigerian economy. Specifically, the study attempts to answer the following questions:

- (i) What is the impact of openness on economic competitiveness in Nigeria?
- (ii) What is the effect of openness and competitiveness on human development index in Nigeria?

Objectives of the study:

The broad objective of the study is to determine the impact of openness on competitiveness and hence on human development index in Nigeria. The specific objectives are to:

- (i) Evaluate the impact of openness on competitiveness in Nigeria.
- (ii) Examine the effect of openness and competitiveness on human development index in Nigeria.

Research hypotheses

To achieve the above objectives, the following hypotheses were formulated to guide the study. They are tested in null form:

- (i) Ho: There is no significant impact of openness on competitiveness in Nigeria.
- (ii) Ho: There is no significant impact of openness and competitiveness on human development index in Nigeria.

Institutional Perspective Theory of Competitiveness

This theory was initiated in 1982 by Panzer and Rosse. The theory is commonly called Panzar-Rosse Hypothesis. This came in the heels of intense global drive for institutional adjustment to check the level of development of economies. The theory argued that better institutions enhance quality and highly educated citizens which will embrace peace and understands the needs of opening up the economy. According to the theory openness will increase the level of productivity, which in turn, sets sustainable level of competitiveness. In other words, more-competitive economies tend to be able to produce higher levels of income for their citizens. The level of productivity also determines the rates of return obtained by

investments in that country. This is because the rates of return are the fundamental drivers of the growth rates of the economy; a more-competitive economy is one that is likely to grow faster in the medium and long run. This theory is a modification of the classical theory of competitiveness by Adam Smith which focuses on specialization and division of labour. To the institutional perspective theory, emphasis is on investment on physical and human capital and infrastructure and, more recently, to interest in other mechanisms such as education and training, technological progress (whether created within the country or adopted from abroad), macroeconomic stability, good governance, the rule of law, transparent and well-functioning institutions, firm sophistication, demand conditions, market size, and many others. They further opined that competitiveness is the umbrella goal for different areas of integration and convergence of what generally can be called business sophistication. Under the competitiveness umbrella, according to them, the policies that address the internal market, industry, research and innovation and space are interweaved and follow a common vision of growth of human and physical capital.

Empirical literature

This section reviews empirical works of other scholars and peer reviewed on openness and competitiveness, and on competitiveness and human capital development in Nigeria and abroad. The first section of this subsection focuses on studies conducted in other economies while the second subsection reviews studies done in Nigeria.

Yağınkaya, Çılbant, Yağınkaya and Güneş (2020) in their study examined how openness has affected the level of competitiveness of industrialised countries of the world. The research work adopted descriptive statistics in the investigation. They opined that the competition for countries can only be a type of incorporation. A country's competitiveness depends according to the study on factors such as the level of sophistication and productivity of research and development activities, performance of the various sectors, country's foreign trade surplus, production of goods that have high-tech characteristics, and availability of skilled and experienced manpower. They advocate that the competitiveness of a national economy is a macro-economic phenomenon, so it is determined by factors such as interest rates, exchange rates, and budget deficits. Similarly, some economists advocate that the competitiveness can be achieved with cheap and abundant labour force. The study discusses entrepreneurs' problems in enhancing the competitiveness, which becomes more important because of globalization, and precautions to be taken to reduce or completely eradicate these problems, at micro- and macro-economic levels.

Barney (2019) carried out a study investigating the contributions of openness on the level of competitiveness and on human capital formation in the United State of America. The study used secondary data in analysing the work and the method of study adopted was descriptive statistics. The study used panel data for a period of twenty years in analysing the study. The data were collected through questionnaire from different firms in the country. The result of the study showed that sustainable competitive advantage is attained when a firm has a human resource pool that cannot be imitated or substituted by its rival. The study further revealed that one of the

major reasons human capital continue to hold the attention of economic and organizational strategists is that, the human capital will continue to be the comparative advantage of the future. The work also revealed that for competitiveness to be effective countries need other countries to compete with. This means opening up economies will lead to competition. The study therefore recommended that the American government should invest more on the education sector mostly on the tertiary education level. The study further recommended that private firms should partner with the American government to train human resource through staff development programmes. The researcher also recommended that the American government should open their economy to enable other countries exchange ideas, technology, goods and services with them.

Nwakanma and Ibe (2020) evaluated the causal relationship between openness and economic development in Nigeria from 1981 to 2020. They used time series data from the CBN Statistical Bulletin and Annual reports to conduct the study. Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) unit root tests were carried out to test for the stationarity of the variables. The data were found to be integrated of order I (1). They proxied Gross Domestic Product (GDP) to measure economic growth while financial integration, human resource development (HRD) and trade openness (OPEN) were proxied to measure openness. The cointegration result showed the existence of a long run equilibrium relationship. By the above results they decided to adopt error correction mechanism technique. The results of the work revealed a positive and insignificant relationship between financial integration, human resource development and trade openness while gross fixed capital formation was negative and insignificant. The used of granger causality test revealed a unidirectional causal relationship between financial integration and gross fixed capital formation. Furthermore, there was also a unidirectional causality between trade openness and gross fixed capital formation. The result showed that the insignificant relationship could be as a result of insufficient capital inflow into the economy and so many negative factors available the Nigerian economy.

Konyeaso (2021) investigate the kind of impact openness is having on Nigerian economy. The study used time series data from 1986 to 2021 adopted from Central Bank Nigeria (CBN). Konyeaso in the study used Ordinary Least Square (OLS)-multiple regression analysis to find out the impact of openness on economic development in developing countries in general and Nigeria in particular. The choice of the OLS as a method of analysis was derived from the fact that the results of the Augment Dickey Fuller (ADF) unit root test showed that variables were all cointegrated at levels. The result of the findings showed that openness and economic development were positively related, that is, there is a positive relationship between openness and economic development in Nigeria. The study specifically opined that Nigerian economy is gaining from openness because of Foreign Direct Investment (FDI). The study then recommended that government and corporate organisations should encourage foreign direct investment and also do everything possible to open up the economy. They also recommended provision of peaceful business environment that will make more investors to come into operating in Nigeria.

Adeleke (2021) adopted the Augmented Dickey Fuller (ADF) to find out if the data used in the study were stationary and if so at what levels were they integrated. This led to the choice of the Ordinary Least Square method for the analysis. The study used Granger Causality test to investigate the direction of causation between openness and economic development of Nigeria. The study used secondary data obtained from Central Bank of Nigeria (CBN) Annual Report and Statement of Account, the CBN statistical bulletin from 1980 – 2021 and some of the data were collected from the world bank data tables. In the study the finding revealed that foreign direct investment proxied as openness positively affected economic development of Nigeria. The result further revealed that the causality test had a unidirectional causality existing between economic development and openness. What this means is that causality flows from openness to economic development in Nigeria. The study showed that state of economic development influences how Nigeria can benefit from openness. The study recommended that every machinery should be put in place by the government to enhance openness in Nigeria (Udo, et al., 2022).

RESEARCH METHODOLOGY

Research Design

The study employs an econometric methodology to investigate the impact of openness on competitiveness and human capital development in Nigeria. The study adopts an ex post facto (after the fact) design. This is because the events had already taken place before the investigation is carried out. The choice of this design is made because the researcher has no control of the independent variables, and inferences about the relationship among the variables are made without the current interaction among the regressand and regressors (Porter, 1990).

Model specification

Following the theories and the empirical literature reviewed, the study therefore specifies two equations. The first is the competitiveness equations which identify variables that affect competitiveness and second equations is the human capital development equation. The first equation which proxied by ease of doing business explains how internal influence affects competitiveness. The second equation is the human development index equation which explains the variables that influence human capital development.

Competitiveness Equation

There are many measures used in measuring competitiveness but Competitiveness in this study is measured by ease of doing business (EODB). The choice of using ease of doing business is because EODB considers the effect of domestic and foreign factors on the level of competitiveness in Nigeria.

The ease of doing business equation is rooted in the institutional perspective theory while human development index equation is rooted in the Porter theory. The porter theory opined that through openness new ideas are diffused from one country to another in form of technology to

human who will use the technology to develop themselves and the technology in this study is measured by imports on capital goods. The improved technology will lead to a high degree of productivity and hence increased level of competitiveness. Institutional perspective theory states that government effectiveness adopted in this study as quality of institutions provide framework for openness to thrive in the short run and this translates into competitiveness in the long run. (Barney, 2016)

$$EODB = f(OPEN, NFDI, IMCAPG, GOVEFF,) \quad (3.1)$$

The econometric form of equation (3.1) can be written as:

$$EODB = \omega_0 + \omega_1 OPEN + \omega_2 NFDI + \omega_3 IMCAPG + \omega_4 GOVEFF + V_1 \quad (3.2)$$

Where;

EODB = Ease of doing business Index

OPEN = Openness

NFDI = Net Foreign direct investment

IMCAPG = Importation on Capital Goods for level of Technology

GOVEFF = Government Effectiveness for Institutional quality index

V_1 = Error terms

$\omega_1, \omega_2 \dots \omega_4$ are the coefficients to be estimated.

The a priori expectation is that $\omega_1 > 0; \omega_2 > 0, \omega_3 > 0; \omega_4 > 0$.

$$HDI = f(EODB, RER, GDI, INFL, OPEN) \quad (3.3)$$

Equation (3.3) can be rewritten as:

$$HDI = \lambda_0 + \lambda_1 EODB + \lambda_2 RER + \lambda_3 GDI + \lambda_4 INFL + \lambda_5 OPEN + V_3 \quad (3.4)$$

Where:

EODB = Ease of doing business Index

OPEN = Openness

HDI = Human development index

RER = Real Exchange rate

GDI = Gross domestic investment

INFL = Inflation rate

V 's = Error terms

$\lambda_1, \lambda_2 \dots \lambda_5$ are the coefficients to be estimated.

The *a priori* expectation is that $\lambda_1 > 0$; $\lambda_2 < 0$, $\lambda_3 > 0$, $\lambda_4 < 0$. $\lambda_5 > 0$.

Methods of Estimation

This study employed unit root tests, co-integration technique, Granger causality test, and Auto regressive distributive lag (ARDL) technique to estimate the specified equations. The ARDL method of estimation has many advantages over other methods and some of the merits are; in case of small sample size, ARDL modeling approach is more robust in performing better to verify identity cointegrating variables, while a method like that of Johansen cointegration, require larger sample to achieve reliability. Secondly, it does not involve pre testing variables. Finally, if the researcher is not sure of the value of calculated unit of the stationarity test, the cointegrating I(1) or I(0) is applied manually which make ARDL technique best suitable for research. This means if the type of the stationarity of the data is not clear, the use of the ARDL Bounds test is suitable. (Pesaran et al., 2001).

The Bounds test of co-integration approach was used because it helps to determine if there exist any long run relationship between the variables and hence accurate prediction was confidently made on the economic relationship between the variables.

Unit Root Test

Since this study is using time series data a unit root test is adopted to detect the stationarity of the data. This test help in avoiding spurious results in the study. Base on this, we employ Augmented Dickey-Fuller (ADF) test for the stationarity test of the time series data. To use the ADF method, the equations to use in testing the data are:

$$\Delta y_t = \alpha_0 + \alpha_1 \Delta y_{t-1} + \sum_{j=1}^j \beta \Delta y_{t-j} + \varepsilon_t \quad (3.5)$$

Where:

$\Delta y_t = y_t - y_{t-1}$ is the difference of series y_t

$\Delta y_{t-1} = y_{t-1} - \Delta y_{t-2}$ is the difference of y_{t-1}

ε_t = stochastic error term

α_0 , α_1 and β_1 are the parameters to be estimated.

Decision rule:

If $\alpha_1 = 0$ the null hypothesis of the non- stationary is accepted

But if $\alpha_1 < 0$ and statistically significant, then the null hypothesis is rejected

ARDL Cointegration Test

The general form of the ARDL of the specified equations are:

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \dots + \beta_k Y_{t-p} + \alpha_0 X_t + \alpha_1 X_{t-1} + \alpha_2 X_{t-2} + \dots + \alpha_q X_{t-q} + \varepsilon_t, \quad (3.6)$$

From the general model in equation (3.6), the ARDL models for the study can be modified to suit our analysis thus;

$$\begin{aligned} \Delta EODB_t = & \omega_0 + \omega_1 EODB_{t-1} + \omega_2 GLOB_{t-1} + \omega_3 NFDI_{t-1} + \omega_4 IMCAPG_{t-1} \\ & + \omega_5 DGOVEFF_{t-1} + \sum_{i=0}^k \lambda_1 \Delta EODB_{t-1} + \sum_{i=0}^k \lambda_2 \Delta \ln GLOB_{t-1} \\ & + \sum_{i=0}^k \lambda_3 \Delta NFDI_{t-1} + \sum_{i=0}^k \lambda_4 \Delta IMCAPG_{t-1} + \sum_{i=0}^k \lambda_5 \Delta DGOVEFF_{t-1} + \mu \quad (3.7) \end{aligned}$$

$$\begin{aligned} \Delta_t HDI = & \lambda_0 + \lambda_1 HDI_{t-1} + \lambda_2 EODB_{t-1} + \lambda_3 RER_{t-1} + \lambda_4 GDI_{t-1} + \lambda_5 INFL_{t-1} \\ & + \lambda_6 GLOB_{t-1} + \sum_{i=0}^k \lambda_1 \Delta HDI_{t-1} + \sum_{i=0}^k \lambda_2 \Delta EODB_{t-1} + \sum_{i=0}^k \lambda_3 \Delta RER_{t-1} \\ & + \sum_{i=0}^k \lambda_4 \Delta GDI_{t-1} + \sum_{i=0}^k \lambda_5 \Delta INFL_{t-1} + \sum_{i=0}^k \lambda_6 \Delta GLOB_{t-1} \quad (3.8) \end{aligned}$$

EASE OF DOING BUSSINESS , HUMAN DEVELOPMENT INDEX AND OPENNESS

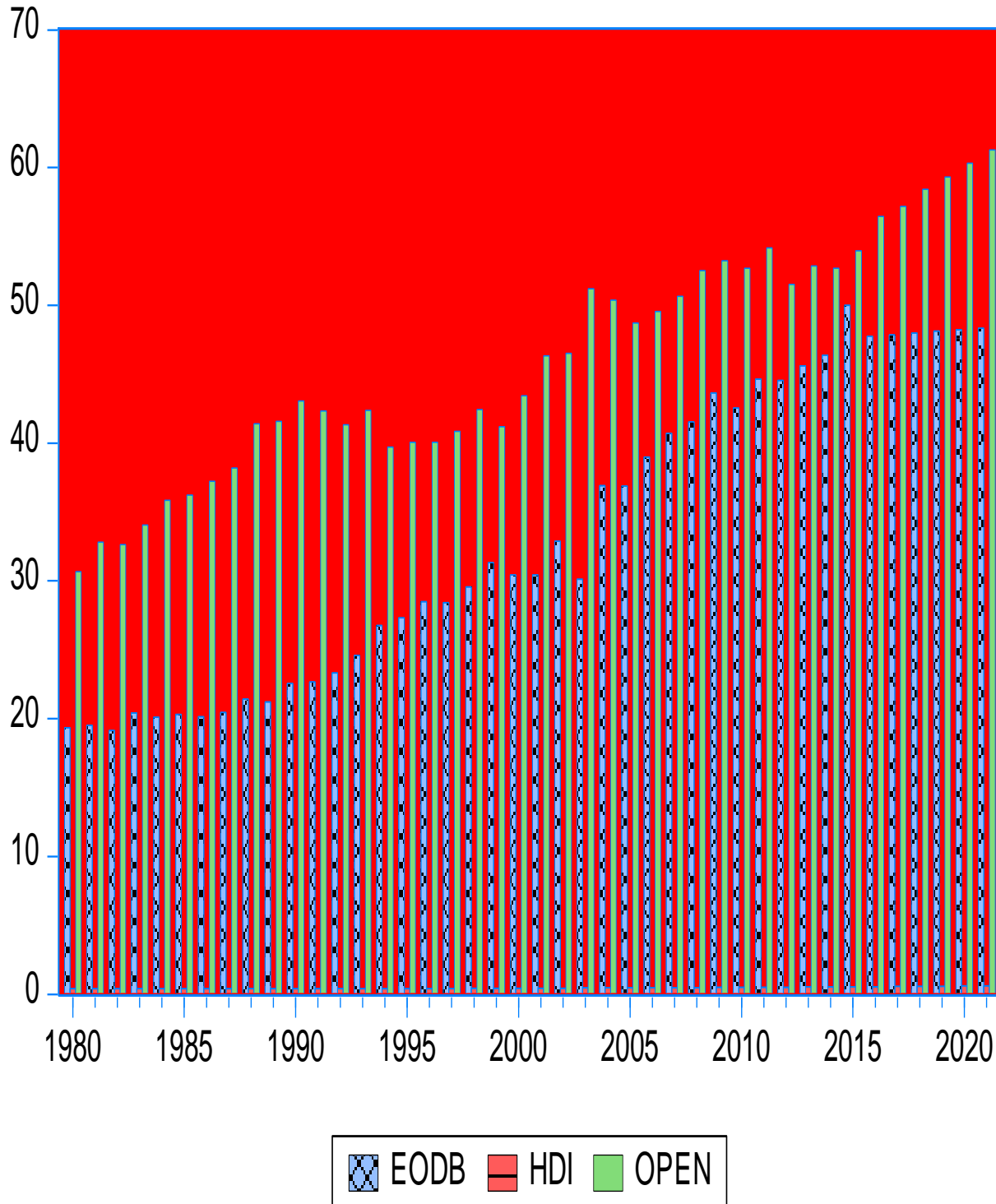


Figure 1: Openness, Ease of Doing Business (EODB) and Human Development (HDI) in Nigeria

Source: Author's compilation, (2024)

The trend showing in figure 1 above is extracted from raw data collected from CBN Statistical Bulletin and World Economic Forum Bulletin. The question had been, is openness enhancing competitiveness and hence human capital development? From figure 1 it has been

observed that openness throughout the period under investigation lies above competitiveness index and human capital development proxied by human development index. This means openness may be the one affecting competitiveness and also it may be that competitiveness is also affecting human capital development as opined by many literatures though with insignificant effect. Then if what we are suspecting (openness is affecting competitiveness very little and hence human capital development) is right, then could it be the approach of the government to the policies of enhancing openness is poor? Looking at the trend in figure 1 it may be government is focusing mostly on other policies to enhance openness and living the development of human capital. This may be the reason human capital development index (HDI) is lying so close to the origin and appear insignificant in the graph.

Presentation, Analysis and Discussion of Results

This section presents the empirical result, analysis as well as the discussion of findings. Specifically, it discusses the unit root tests, cointegration test, , and autoregressive distributed lag tests.

Result for Unit Roots Test

The Augmented Dickey-Fuller (ADF) is employed to test for the stationarity of each variable. The null hypothesis is that the variable under investigation has a unit root, and therefore is non-stationary. The result from the test shows that some variables are integrated at order zero $\sim I(0)$ while others are at first difference $\sim I(1)$. Inflation (INFL), net foreign direct investment and government effectiveness are stationary at levels. This means that other variables have unit root according to the test criteria. Therefore, these non-stationary variables are differenced once to attain stationarity. The results are presented in table 3.1 below:

Table 1: Unit Root test using Augmented Dickey-Fuller (ADF)

Variable	ADF Statistic (Level form)	Critical values		ADF Statistic (1st Diff.)	Critical values		Order of Integrati on Decision
		1%	5%		1%	5%	
EODB	0.54949 8	- 3.621023	-2.94	- 10.06959	- 3.621023	-2.9434	I(1)
GDI	- 0.134883	- 3.615588	- 2.941145	- 4.962368	- 3.689194	- 2.971853	I(1)
OPEN	- 0.840177	- 3.615588	- 2.941145	- 6.949132	- 3.621023	- 2.943427	I(1)
GOVEFF	- 3.959857	- 3.615588	- 2.941145				I(0)
HDI	1.022869	- 4.219126	- 3.533083	- 6.887409	- 4.226815	- 3.536601	I(1)
IMCAPG	- 1.790370	- 4.219126	- 3.533083	- 4.773377	- 4.226815	- 3.536601	I(1)
INFL	- 3.664187	- 4.226815	- 3.536601				I(0)
NFDI	- 3.387799	- 3.615588	- 2.941145				I(0)
RER	- 1.741851	- 4.219126	- 3.533083	- 4.691835	- 4.226815	- 3.536601	I(1)
RGDP	- 1.699657	- 4.219126	- 3.533083	- 5.152143	- 4.226815	- 3.536601	I(1)
SPREAD	- 2.831027	- 4.219126	- 3.533083	- 6.504432	- 4.234972	- 3.540328	I(1)

Source: Computed by Author, 2024

The result of the unit root test as shown in table 3.1 indicates that net foreign direct investment, inflation and government effectiveness are all stationary at levels and thus we reject the null hypothesis which state that there is no unit root at levels. This means the three variables have no unit root at levels. The other variables- ease of doing business (EODB), gross domestic investment (GDI), openness (OPEN), human development index (HDI), import on capital goods (IMCAPG), real exchange rate (RER), real gross domestic product (RGDP) and interest rate (SPREAD)- achieved stationarity upon first differencing. The mixed order of integration of the

variables and the data set therefore demands the employment of the Auto Regressive Distributive Lag (ARDL) model as the preferred technique for econometric estimation.

Analysis and Discussion of Results

With the adoption of the ARDL model because of the mixed order of integration from the unit root test result, a bound test was conducted to ascertain the existence of cointegration, that is, to find out if there is a long run relationship between the variables. These tests are as presented in the tables below

Table 2: ARDL Bounds Test for EODB (GLOB, NFDI, IMCAPG, GOVEFF)

Test Statistic	Value	K
F-statistic	5.118567	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Computed by Author using E-view, 2024

The results indicate the existence of a long run cointegrating relationship among the variables in the ease of doing business equation. This is because the F- statistic of 5.11 exceeds the lower and upper bounds critical value at the 5 and 10 significance level. Consequently, the null hypothesis of no long run relationship is rejected. Next, the study proceeds to estimate the parameters of the specified model. The result is as shown in table 3.2

Table 3: Short Run Result for Ease of Doing Business Equation

Dependent Variable: EODB

Variable	Coefficient	Std. Error	t-Statistic	Prob
D(OPEN)	0.276069	0.171880	1.606167	0.1256
D(OPEN(-1))	0.584625	0.205324	2.847333	0.0107
D(OPEN(-2))	-0.053466	0.204314	-0.261687	0.7965
D(OPEN(-3))	-0.713596	0.214756	-3.322825	0.0038
D(NFDI)	0.245350	0.127750	1.920547	0.0708
D(NFDI(-1))	-0.224877	0.138246	-1.626642	0.1212
D(NFDI(-2))	-0.267429	0.114779	-2.329953	0.0316
D(NFDI(-3))	0.379253	0.120055	3.159001	0.0054
D(IMCAPG)	0.000001	0.000001	2.043240	0.0559
D(GOVEFF)	3.818066	2.895233	1.318742	0.2038
D(GOVEFF(-1))	-3.493892	3.502733	-0.997476	0.3318
D(GOVEFF(-2))	4.494306	3.034878	1.480885	0.1559
CointEq(-1)	-0.546197	0.130512	-4.185044	0.0006
R-squared	0.725083		Durbin-Watson stat	2.292352
Adjusted R-squared	0.680713			
F-statistic	2.967149			
Prob(F-statistic)	0.014382			

Source: Researcher's Analysis

The results on table 3.3 for ease of doing business equation used as a measure for competitiveness shows that some variables bear signs that are consistent with economic theory. For instance, the estimated coefficient of openness at levels and its first lag bears a positive relationship with ease of doing business, while its second and third lags are negatively related. For the first lag in particular, a unit improvement in the openness is associated with 0.5846 increase in competitiveness level in Nigeria. It is also observed that both the first and the third lags of the estimated were statistically significant at the five per cent level. This means in specific periods in the short run, openness was a significant factor influencing the level of competitiveness in Nigeria.

Similar observations are made concerning the relationship and impact of foreign direct investment on competitiveness levels. Out of the four estimated parameters of net foreign direct investment, two indicated a significant positive relationship with the dependent variable. These are NFDI at levels as well as its third lag. Specifically, a unit increase in foreign direct investment inflow into Nigeria, on the average leads to 0.379 rise in competitiveness, while similar increase is associated with a 0.245 increase in the dependent variable, *ceteris paribus*. These estimated positive relationships with competitiveness were also associated with acceptable statistical significance levels. However, NFDI for both the first and second lags were

inconsistent with a priori expectations. On balance, it appears that FDI is a significant variable influencing the level of competitiveness or ease of doing business in Nigeria.

The estimated parameter of imports on capital goods indicate a positive and significant relation with competitiveness, though the size of its effect seems to be very small (0.000001), indeed negligible. The effectiveness of government institutions reveals that the quality of institutions exerted a negative relationship with competitiveness in its second lag, while the first and its estimated coefficient at levels as well as its second lag were positively related to the dependent variable. Looking at the significance level, it can be concluded that institutional quality exerted no significant influence on the competitiveness in Nigeria.

The result further reveals that the error correction term is both negatively signed and statistically significant at the one per cent level. Its estimated value of 0.546 indicates an average speed of adjustment from the short run to the long run equilibrium values. In other words, short run deviations in the model are systematically corrected to their long run levels at a speed of about 55 per cent yearly.

Other diagnostic test results indicate, for instance, an adjusted R-squared of 0.680. This means that about 68 percent of total variation in the dependent variable is accounted for by the explanatory variables. However, the overall F-statistic (2.9671) which speaks of the overall significance of the short run model can be concluded to have a good fit, as it is significant at the one percent level. Equally acceptable is the Durbin-Watson statistic of 2.29. Based on the thumb's rule, we can conclude first order autocorrelation is not a challenge to the specified model and the associated results.

Table 4: ARDL Bounds Test for Human Development Index (OPEN, NFDI, EODB, GDI and GOVEFF)

Test Statistic	Value	K
F-statistic	15.48527	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Computed by Author using E-view, 2024

The result of the bounds test to investigate the existence of cointegration among the variables in human development equation as seen in table 3.4 points out that the variables are cointegrated. This means there is long run relationship between the variables. This is because the calculated F-statistic of 15.48 is greater the critical values at all significance levels. Based on the cointegration results, table 3.4 presents the estimated results of human development equation.

Table 5: Short Run Result for Human Development Equation

Variable	Coefficient	Std. Error	t-Statistic	Prob
D(EODB)	0.000400	0.000344	1.161349	0.2592
D(RER)	0.000060	0.000034	1.741342	0.0970
D(RER(-1))	-0.000036	0.000033	-1.099992	0.2844
D(GDI)	0.000000	0.000000	0.695758	0.4946
D(GDI(-1))	0.000000	0.000000	-1.761424	0.0934
D(GDI(-2))	0.000000	0.000000	-2.759082	0.0121
D(INFL)	-0.000027	0.000032	0.850477	0.4051
D(OPEN)	0.001041	0.000333	3.131049	0.0053
D(OPEN(-1))	0.000218	0.000379	0.575446	0.5714
D(OPEN(-2))	0.000720	0.000335	2.145685	0.0444
CointEq(-1)	-0.194720	0.076334	-2.550890	0.0190
R-squared	0.880020		Durbin-Watson stat	2.034589
Adjusted R-squared	0.790035			
F-statistic	9.779620			
Prob.(F-statistic)	0.000004			

Source: Researcher's Analysis

The result from the table 3.5 above reveal that real exchange rate at the current period positively impacts on human or human capital development. It shows that a unit increase in real exchange rate is associated with 0.000060 increase in human capital development. The estimated real exchange rate is also statistically significant in the short run, meaning that the variable is vital in promoting human capital development in Nigeria. The result further reveals that openness bears a positive and significant effect on human capital development in the short run. In particular, all the three estimated parameters of openness indicate that the latter exerts a positive influence on human capital development. Besides its first lag, both the current and second estimated parameter indicate that openness is a significant variable in enhancing or influencing Nigeria's human capital development.

Furthermore, table 3.5 reveals that in the short run ease of doing business and inflation are not significant factors impacting on human capital development in Nigeria. Similarly, the estimated coefficient of gross domestic investment reveals that the latter has a negative influence on human capital development in the first and second lags. It must be noted that generally, the magnitude of the estimated parameters is indeed very negligible, showing that in the short run, these factors exert weak influence on human capital development.

Specifically, a unit increase in ease of doing business will lead to 0.000400 increase in human capital development in Nigeria in the short run (Table 3.5). The result further shows that a unit increase in gross domestic investment in Nigeria will not contribute to human capital development in Nigeria in the short run. This result reveals that domestic investment has no much influence on human capital development of the country. This result is at variance with a priori expectation and may not be unconnected with the fact that most of the multinationals

companies operating in the country repatriate profit made in Nigeria to their countries of origin and they also bring in expatriates from their country of origin at the expense of Nigerians.

Tables 3.5 also present diagnostic results of the estimated equation. It reveals that 79 percent of the factors influencing human capital development in Nigeria is explained by the variables captured in the human development index equation and the remaining 21 percent is the unexplained variation captured by the error term. This is further confirmed by the Durbin-Watson (DW) Statistics of 2.03458 which shows there is no autocorrelation. The F-Statistic of 9.779620 and its probability value of zero shows that the estimated parameters of the model are jointly significant in explaining the impact and relationship of the explanatory variables on the dependent variable.

Policy recommendations

In view of the above findings, the following policy recommendations are proffered:

- (i) Government should encourage the continued integration of the Nigerian economy into the broader global structure. This it can do by encouraging the inflow of foreign direct investment into the economy. This would improve the level of technology as domestic firms would in the long run adapt or adopt the technology into the local production function
- (ii) Government should continuously work to improve the quality of institutions in Nigeria. The quality of institutions would significantly boost the economy's level of competitiveness as well as aid in the process of human capital development.
- (iii) Consistent and well-targeted monetary policies should be pursued by monetary authorities in order to stabilize the price of the domestic currency (the naira) and curb inflation. This is because an unstable exchange rate regime and persistent inflation rates erode the confidence of agents to invest in the economy, thus compromising the level of competitiveness.
- (iv) Human capital development in Nigeria can be achieved by promoting ease of doing business. The government can do this by making registration of businesses less cumbersome and providing credit facilities to investors. This will encourage investment, productivity, competitiveness and human capital development.
- (v) The results revealed that globalisation, FDI, and Ease of Doing Business have positive impact on human capital development in Nigeria. Therefore, government should make policies that will enable foreign investors to invest in Nigeria and also make policies that will open the economy which will encourage competitiveness and thus development of human capital.

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