JOURNAL OF ECONOMICS, FINANCE AND INNOVATION

2025
ISSN:2181 3299
Volume 4 Issue 1

INTERNATIONAL COMPETITION AND ENTREPRENEUR DEVELOPMENT IN NIGERIA

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Abstract: This study examines the impact of international competition on entrepreneurship development in Nigeria, a critical area for economic growth and diversification. While entrepreneurship is vital for job creation and poverty reduction, Nigerian entrepreneurs face increasing challenges from global market integration and intensifying international competition. This research investigates how various facets of international competition, alongside other macroeconomic factors, influence the growth rate of entrepreneurship development in Nigeria. Using a time-series analysis with data from 1999 to 2023, the study employs a regression model to assess the influence of trade openness, foreign direct investment, per capita income, technology, foreign aid, market size growth rate, poverty alleviation, and employment generation growth rate on entrepreneurship growth rate. The regression results reveal significant findings. International competition, proxied by trade openness, exhibits a positive and statistically significant impact on entrepreneurship development growth rate (coefficient = 0.008111, p = 0.0000). Foreign direct investment also shows a positive and significant effect (coefficient = 0.004913, p = 0.0001). Technology and foreign aid are positively and significantly associated with entrepreneurship development growth rate (coefficient = 0.002626, p = 0.0003 and coefficient = 0.004047, p = 0.0003 respectively). Conversely, poverty alleviation demonstrates a negative and significant relationship with entrepreneurship development growth rate (coefficient = -0.099608, p = 0.0037), while employment generation growth rate has a positive and significant impact (coefficient = 0.090308, p = 0.0024). Per capita income and market size growth rate were found to be statistically insignificant. The model demonstrates a high explanatory power with an R-squared of 0.968435 and a significant F-statistic (p = 0.000000). The findings suggest that while international competition can stimulate entrepreneurship growth, a holistic approach addressing technology adoption, foreign investment attraction, and employment generation is crucial for fostering a thriving entrepreneurial ecosystem in Nigeria. Despite the negative impact of international competition, the positive relationship with factors like per capita income and market size suggests opportunities for

entrepreneurial development through targeted policy interventions. The model indicates that promoting economic growth, creating a larger market, and potentially mitigating the negative effects of intense international competition through targeted support programs are crucial for advancing entrepreneurial activities in Nigeria.

Keywords: International competition, Entrepreneurship development, Trade openness, Foreign direct investment, Economic growth.

1. INTRODUCTION

Entrepreneurship has long been recognized as a critical engine for economic growth, innovation, and job creation globally. In developing nations like Nigeria, its role is even more pronounced, serving as a vital pathway to poverty reduction, wealth creation, and diversification of the economy away from its traditional reliance on oil. Historically, entrepreneurial activity in Nigeria has deep roots, stemming from pre-colonial trading networks and indigenous craftmanship (Falola & Heaton, 2008; Akajiofor, Arinze & Ifechukwu-Jacobs, 2023). However, the nature and scale of entrepreneurship have evolved significantly over time, influenced by various internal and external factors. The post-independence era saw periods of state-led industrialization, followed by structural adjustment programs that promoted private sector development (Olukoshi, 1991; Ifechukwu-Jacobs, Ezeokafor & Ekwere,. 2021).). Despite these policy shifts, the entrepreneurial landscape in Nigeria remains characterized by a large informal sector, a prevalence of small and medium-sized enterprises (SMEs), and significant regional disparities (Akinwale & Olayiwola, 2017). Understanding the dynamics of entrepreneurship development in Nigeria requires acknowledging this complex historical trajectory and the basic characteristics of its current entrepreneurial ecosystem, which is often constrained by inadequate infrastructure, limited access to finance, and regulatory hurdles (Adegbite, 2017; Ifechukwu-Jacobs, 2019). The focus of this study is to delve into a specific, yet increasingly crucial, external factor influencing this landscape: international competition, and its impact on the trajectory of entrepreneurship development in Nigeria. The increasing integration of the Nigerian economy into the global marketplace has brought about a significant shift in the competitive environment faced by domestic businesses. This integration, largely driven by trade liberalization policies and advancements in communication and transportation technologies, has exposed Nigerian entrepreneurs to a level of international competition previously unimagined (Sanusi, 2011; Ifechukwu-Jacobs, 2019). While proponents of globalization argue that increased competition fosters efficiency and innovation, the reality for many Nigerian businesses, particularly SMEs, is a heightened struggle for survival against more established and resource-rich international players (Oyelaran-Oyeyinka & Adeya, 2002). This presents a latent problem: are Nigerian entrepreneurs equipped to compete effectively in this increasingly globalized environment, and how is this competition shaping the development of entrepreneurship within the country? The influx of imported goods, often at lower prices due to economies of scale and more efficient production processes abroad, poses a direct challenge to local manufacturers and service providers. Furthermore, international firms entering the Nigerian market bring with them advanced technologies, sophisticated marketing strategies, and greater financial capacity, potentially crowding out nascent domestic ventures (Soludo, 2008). This intensified competition, while potentially driving some improvements in efficiency, also carries the risk of stifling the growth of local enterprises and hindering the overall development of a robust and diversified entrepreneurial base in Nigeria.

The potential impact of international competition on entrepreneurship development in Nigeria is multifaceted and can be viewed through various lenses. On one hand, increased competition can act

as a catalyst for innovation and efficiency among domestic firms. Faced with the threat of being outcompeted, Nigerian entrepreneurs may be incentivized to upgrade their technology, improve their product quality, and adopt more efficient business practices (Porter, 1990). This competitive pressure can weed out less efficient firms and encourage the survival and growth of more dynamic and adaptable enterprises (Acemoglu et al., 2006). International competition can also facilitate the transfer of knowledge and technology through various channels, including foreign direct investment and exposure to international best practices (Blomström et al., 1994). However, the impact is not uniformly positive. For many Nigerian entrepreneurs, particularly those operating in the informal sector or with limited access to resources, the increased competition can be overwhelming. They may lack the financial capacity to invest in necessary upgrades, the technical expertise to adopt new technologies, or the marketing prowess to compete with global brands (Onugu, 2005; Ifechukwu-Jacobs, 2022). This disparity creates a significant latent gap in the understanding of how different segments of the Nigerian entrepreneurial landscape are affected by international competition and what specific support mechanisms are needed to enable them to thrive, not just survive, in this environment. Existing literature often focuses on the macro-level impacts of trade and investment, but a granular understanding of the firm-level responses and the differential impacts on various types of entrepreneurs in Nigeria is still evolving.

Efforts to address the challenges posed by international competition and promote entrepreneurship development in Nigeria have been undertaken by various stakeholders over the years. The Nigerian government, recognizing the importance of SMEs, has implemented various policies and programs aimed at providing financial assistance, capacity building, and improving the business environment (CBN, 2010). Initiatives such as the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and various intervention funds from the Central Bank of Nigeria have been established with the goal of nurturing domestic enterprises (SMEDAN, 2015). Furthermore, efforts have been made to improve infrastructure, streamline regulations, and promote access to markets (PEBEC, 2019). International development partners have also played a role, providing technical assistance, funding, and capacity building programs for Nigerian entrepreneurs (World Bank, 2020). However, despite these efforts, the desired level of entrepreneurship development and the ability of many Nigerian businesses to effectively compete internationally remain significant challenges. Issues such as corruption, bureaucratic inefficiencies, inconsistent policy implementation, and inadequate infrastructure continue to hinder the effectiveness of these initiatives (Transparency International, 2021; BudgIT, 2022). This suggests that while efforts have been made, they have not fully addressed the underlying structural issues and the specific challenges posed by intensified international competition, leaving a critical gap in achieving sustainable and inclusive entrepreneurship development.

The latent problem that has informed this study stems from the observation that despite the increasing exposure of Nigerian businesses to international competition, a comprehensive understanding of its nuanced impact on entrepreneurship development is still lacking. While macro-level data on trade and investment flows are available, there is a need to delve deeper into how this competition influences the decisions, strategies, and performance of individual entrepreneurs and nascent ventures across different sectors and regions of Nigeria. Are Nigerian entrepreneurs responding to this competition by innovating and becoming more efficient, or are they being stifled and displaced? What are the specific challenges and opportunities presented by international competition at the firm level? Furthermore, there is a need to understand how different types of international competition – from imported goods to the entry of multinational corporations – affect different segments of the entrepreneurial ecosystem, from informal micro-enterprises to formal SMEs. This gap in knowledge hinders the development of targeted and effective policies and support programs that can truly empower Nigerian entrepreneurs to not only survive but thrive in

the face of global competition. Addressing this knowledge gap is crucial for formulating strategies that leverage the potential benefits of international competition while mitigating its negative consequences for domestic entrepreneurship. Understanding and addressing the impact of international competition on entrepreneurship development in Nigeria is not merely an academic exercise; it holds significant implications for the country's economic future. A thriving entrepreneurial sector is essential for job creation, particularly for the rapidly growing youth population (NBS, 2023). It is also crucial for diversifying the economy away from its dependence on oil revenues and fostering a more resilient and sustainable growth path (Okigbo, 1987; Ifechukwu-Jacobs, C. J. (2022; Ifechukwu-Jacobs, Ezeokafor & Ekwere, 2021). By understanding how international competition affects Nigerian entrepreneurs, policymakers can develop more effective strategies to support domestic businesses, enhance their competitiveness, and create a more favorable environment for entrepreneurial activity. This could involve targeted support programs for specific sectors, initiatives to improve access to technology and finance, and policies that ensure a level playing field for domestic and international firms (UNCTAD, 2018). The benefits of addressing this latent problem are substantial, including increased economic growth, reduced poverty, enhanced innovation, and a more diversified and resilient Nigerian economy capable of competing effectively in the global arena. The historical trajectory of entrepreneurship in Nigeria, marked by both indigenous resilience and evolving economic policies, has culminated in a landscape increasingly shaped by international competition. While this competition presents potential opportunities for innovation and efficiency, it also poses significant challenges for many Nigerian entrepreneurs. The latent problem lies in the insufficient understanding of the specific impacts of this competition at the firm level and the effectiveness of existing efforts to support domestic businesses in this environment. Filling this knowledge gap is essential for developing targeted and effective strategies that can empower Nigerian entrepreneurs to thrive in the global marketplace. This study, by focusing on the nexus of international competition and entrepreneurship development in Nigeria, aims to contribute to this crucial understanding, providing valuable insights for policymakers, business support organizations, and entrepreneurs themselves, ultimately paving the way for a more vibrant and competitive entrepreneurial ecosystem in Nigeria.

Statement of the Problem

Despite the growing recognition of entrepreneurship as a vital engine for economic development in Nigeria, a significant and pressing challenge confronting domestic entrepreneurs is the escalating intensity of international competition. The increasing integration of Nigeria into the global economy, marked by trade liberalization and foreign direct investment inflows, has exposed local businesses to a level of competitive pressure they have not previously encountered (Ogunleye & Adewale, 2019; Atueyi, Nkechukwu & Ifecukwu-Jacobs, *2019*). While this globalization theoretically offers opportunities for growth and efficiency gains, the immediate problem is the observed struggle of many Nigerian entrepreneurs, particularly small and medium-sized enterprises (SMEs), to effectively compete with more established, technologically advanced, and financially robust international firms. This struggle manifests in various forms, including difficulty in accessing markets dominated by imported goods, challenges in adopting the latest technologies, and a general vulnerability to the strategic moves of global players (Adegbite, 2017; Ifechukwu-Jacobs, 2022; Ifechukwu-Jacobs, Ezeokafor & Ekwere, 2021). The lack of a comprehensive understanding of how this specific form of competition impacts the survival, growth, and overall development of diverse entrepreneurial ventures within Nigeria constitutes the core issue driving this investigation.

This problem is highly topical and warrants urgent empirical investigation due to the rapidly changing global economic landscape and its direct implications for Nigeria's development trajectory. The COVID-19 pandemic, for instance, has further highlighted the vulnerabilities of

domestic supply chains and the increased reliance on international markets, potentially intensifying competitive pressures on local producers (UNDP, 2020). Furthermore, ongoing global trade dynamics and regional integration efforts within Africa necessitate a nuanced understanding of how Nigerian entrepreneurs can navigate and leverage these changes. While previous research has examined the broader impacts of globalization on developing economies, there is a dearth of recent empirical studies specifically focusing on the micro-level effects of international competition on the diverse entrepreneurial ecosystem in Nigeria. Understanding the contemporary challenges posed by this competition is crucial for developing relevant and effective policy responses and support mechanisms tailored to the current economic realities faced by Nigerian entrepreneurs.

The impact of international competition on entrepreneurship development in Nigeria is complex and potentially double-edged. While some studies suggest that exposure to competition can drive innovation and efficiency improvements among domestic firms, leading to enhanced competitiveness in the long run (Anyanwu, 2014), others highlight the risks of market displacement, reduced profitability, and even business failure for less prepared local enterprises (Oyelaran-Oyeyinka & Adeya, 2002). There is a critical need to empirically investigate which of these outcomes is more prevalent in the Nigerian context and how the impact varies across different sectors, firm sizes, and levels of entrepreneurial experience. Furthermore, understanding how specific dimensions of international competition, such as the influx of cheap imports versus the entry of multinational corporations, differentially affect entrepreneurial activity is crucial for developing targeted interventions. Previous research has often provided general insights but has not fully captured the granular dynamics of how international competition shapes the entrepreneurial landscape within the specific socio-economic context of Nigeria, leaving a gap in our understanding of the precise mechanisms at play.

Previous researchers have attempted to address aspects of this problem by examining the general challenges faced by SMEs in Nigeria or the broad effects of trade liberalization. However, these studies have often failed to yield the desired results in terms of providing actionable insights specifically on how to empower Nigerian entrepreneurs to effectively navigate and benefit from intensified international competition. Many existing interventions, while well-intentioned, have not adequately addressed the specific competitive disadvantages faced by local businesses when pitted against global players. The inevitable consequence of not conducting this research is a continued lack of targeted and effective support for Nigerian entrepreneurs, potentially leading to the stagnation or decline of domestic industries, increased unemployment, and a missed opportunity to harness the full potential of entrepreneurship for sustainable development. Therefore, this study is imperative to provide the necessary empirical evidence to inform policy and practice, enabling Nigerian entrepreneurs to not only survive but thrive in the face of increasing international competition.

Objectives of the Study

This study examines international competition and entrepreneur development in Nigeria**.** Specifically the study intends to determine the effect international competition, Foreign direct investment, Per capita income, Technology, Foreign aids, Market size, Poverty alleviation and Employment generation on entrepreneur development in Nigeria.

2. METHODOLOGY

Model Specification

The model equation for this study is stated as follow:

The structural form of the model is:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8)$ . . . . . (1)

The mathematical form of the model is:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8$. (2)

The econometric form of the model is:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \mu_i$. (3)

Where Y = entrepreneurship development (END) proxied by END growth rate

X_1 = International competition (INC) proxied by trade openness

X_2 = Foreign direct investment (FDI)

X_3 = Per capita income PCI)

X_4 = Technology (TEC)

X_5 = Foreign aids (FAS)

X_6 = Market size (MKZ) proxied by MKZ growth rate

X_7 = Poverty alleviation (POV)

X_8 = Employment generation (EMG) proxied by EMG growth rate

β_0 = Intercept of the model

$\beta_1 - \beta_8$ = Parameters of the regression coefficients

μ_i = Stochastic error term

Method of Data Analysis

The economic technique employed in the study is the ordinary least square (OLS). This is because the OLS computational procedure is fairly simple a best linear estimator among all unbiased estimation, efficient and shown to have the smallest (minimum variance) thus, it become the best linear unbiased estimator (BLUE) in the classical linear regression (CLR) model. Basic assumptions of the OLS are related to the forms of the relationship among the distribution of the random variance (μ_i).

OLS is a very popular method and in fact, one of the most powerful methods of regression analysis. It is used exclusively to estimate the unknown parameters of a linear regression model. The Economic views (E-views) software will be adopted for regression analysis.

Stationarity (unit root) test

The importance of this test cannot be overemphasized since the data to be used in the estimation are time-series data. In order not to run a spurious regression, it is worthwhile to carry out a stationary test to make sure that all the variables are mean reverting that is, they have constant mean, constant variance and constant covariance. In other words, that they are stationary. The Augmented Dickey-Fuller (ADF) test would be used for this analysis since it adjusts for serial correlation.

Decision rule: If the ADF test statistic is greater than the MacKinnon critical value at 5% (all in absolute term), the variable is said to be stationary. Otherwise it is non stationary.

Cointegration test

Econometrically speaking, two variables will be cointegrated if they have a long-term, or equilibrium relationship between them. Cointegration can be thought of as a pre-test to avoid

spurious regressions situations (Granger, 1986). As recommended by Gujarati (2004), the ADF test statistic will be employed on the residual.

Decision Rule: if the ADF test statistic is greater than the critical value at 5%, then the variables are cointegrated (values are checked in absolute term)

Evaluation of Parameter Estimates

The estimates obtained from the model shall be evaluated using three (3) criteria. The three (3) criteria include:

1. The economic a priori criteria.
2. The statistical criteria: First Order Test
3. The econometric criteria: Second Order Test

Evaluation based on economic a priori criteria

This could be carried out to show whether each regressor in the model is comparable with the postulations of economic theory; i.e., if the sign and size of the parameters of the economic relationships follow with the expectation of the economic theory. The a priori expectations, in tandem with the manufacturing sector growth and its determinants are presented in Table 3.1 below, thus:

Table 1: Economic a priori expectations for the model

Parameters	Variables		Expected Relationships	Expected Coefficients
	Regressand	Regressor		
β_0	END	Intercept	+/-	$0< \beta_0 >0$
β_1	END	INC	+	$\beta_1 > 0$
β_2	END	FDI	+	$\beta_2 > 0$
β_3	END	PCI	+	$\beta_3 > 0$
β_4	END	TEC	+	$\beta_4 < 0$
β_5	END	FAS	+	$\beta_5 > 0$
β_6	END	MKZ	+	$\beta_6 > 0$
β_7	END	POV	-	$\beta_7 < 0$
β_8	END	EMG	+	$\beta_8 > 0$

Source: Researchers computation

A positive '+' sign indicate that the relationship between the regressor and regressand is direct and move in the same direction i.e. increase or decrease together. On the other hand, a '-' shows that there is an indirect (inverse) relationship between the regressor and regressand i.e. they move in opposite or different direction.

Evaluation based on statistical criteria: First Order Test

This aims at the evaluation of the statistical reliability of the estimated parameters of the model. In this case, the F-statistic, standard error, t-statistic, Co-efficient of determination (R^2) and the Adjusted R^2 are used.

The Coefficient of Determination (R^2)/Adjusted R^2

The square of the coefficient of determination R^2 or the measure of goodness of fit is used to judge the explanatory power of the explanatory variables on the dependent variables. The R^2 denotes the percentage of variations in the dependent variable accounted for by the variations in the

independent variables. Thus, the higher the R^2, the more the model is able to explain the changes in the dependent variable. Hence, the better the regression based on OLS technique, and this is why the R^2 is called the co-efficient of determination as it shows the amount of variation in the dependent variable explained by explanatory variables.

However, if R^2 equals one, it implies that there is 100% explanation of the variation in the dependent variable by the independent variable and this indicates a perfect fit of regression line. While where R^2 equals zero. It indicates that the explanatory variables could not explain any of the changes in the dependent variable. Therefore, the higher and closer the R^2 is to 1, the better the model fits the data. Note that the above explanation goes for the adjusted R^2.

The F-test: The F-statistics is used to test whether or not, there is a significant impact between the dependent and the independent variables. In the regression equation, if calculated F is greater than the F table value, then there is a significant impact between the dependent and the independent variables in the regression equation. While if the calculated F is smaller or less than the table F, there is no significant impact between the dependent and the independent variable.

Evaluation based on econometric criteria: Second Order Test

This aims at investigating whether the assumption of the econometric method employed are satisfied or not. It determines the reliability of the statistical criteria and establishes whether the estimates have the desirable properties of unbiasedness and consistency. It also tests the validity of non-autocorrelation disturbances. In the model, Durbin-Watson (DW), unit root test, co-integration test are used to test for: autocorrelation, multicolinearity and heteroskedasticity.

Test for Autocorrelation

This test is carried out to see if the error or disturbance term (μ_t) is temporarily independent. That is, the values of μ_t at every different period are not the same. It tests the validity of non autocorrelation disturbance. The Durbin-Watson (DW) test is appropriate for the test of First-order autocorrelation and it has the following criteria.

1. If d* is approximately equal to 2 (d* =2), we accept that there is no autocorrelation in the function.
2. If d*= 0, there exist perfect positive auto-correlation. In this case, if 0<d*< 2, that is, if d* is less than two but greater than zero, it denotes that there is some degree of positive autocorrelation, which is stronger the closer d* is to zero.
3. If d* is equal to 4 (d*=4), there exist a perfect negative autocorrelation, while if d* is less than four but greater than two (2<d*< 4), it means that there exist some degree of negative autocorrelation, which is stronger the higher the value of d*.

Test for Multicolinearity

This means the existence of an exact linear relationship among the explanatory variable of a regression model. It is use to determine whether there is a correlation among variables.

Decision Rule: From the rule of Thumb, if correlation coefficient is greater than 0.8, we conclude that there is multicolinearity but if the coefficient is less than 0.8 there is no multicolinearity. Also, reject the null hypothesis (H_0), if any two variables in the model are in excess of 0.8 or even up to 0.8. Otherwise we reject.

Test for Heteroscedasticity

The essence of this test is to see whether the error variance of each observation is constant or not. Non-constant variance can cause the estimated model to yield a biased result. White's General

Heteroscedasticity test would be adopted for this purpose.

Decision Rule: We reject H_0 if $F_{cal} > F_{tab}$ at 5% critical value. Or alternatively, we reject H_0 (of constant variance i.e., homoskedasticity) if computed F-statistics is significant. Otherwise accept at 5% level of significance.

Test for Research Hypotheses

This study will test the research hypothesis using t-test. The t-statistics test tells us if there is an existence of any significance relationship between the dependent variable and the explanatory variables. The t-test will be conducted at 0.05 or 5% level of significance.

Decision rule: Reject H_0 if $t_{cal} > t_{\alpha/2}$, (n-k). Otherwise, we accept.

Nature and Source of Data

All data used in this research are secondary time series data which are sourced from the Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS) annual reports.

3. DATA PRESENTATION, DATA ANALYSIS AND DISCUSSION OF FINDINGS

Data Analysis

Summary of Stationary Unit Root Test

Establishing stationarity is essential because if there is no stationarity, the processing of the data may produce biased result. The consequences are unreliable interpretation and conclusions. We test for stationarity using Augmented Dickey-Fuller (ADF) tests on the data. The ADF tests are done on level series, first and second order differenced series. The decision rule is to reject stationarity if ADF statistics is less than 5% critical value, otherwise, accept stationarity when ADF statistics is greater than 5% criteria value. The result of regression is presented in table 2 below.

Table 2: Summary of ADF test results

Variables	ADF Statistics	Lagged Difference	1% Critical Value	5% Critical Value	10% Critical Value	Order of Integration
END	-7.697126	1	-3.646342	-2.954021	-2.615817	*I*(1)
INC	-6.659575	1	-3.653730	-2.957110	-2.617434	*I*(1)
FDI	-6.945599	1	-3.661661	-2.960411	-2.619160	*I*(2)
PCI	-4.933695	1	-3.646342	-2.954021	-2.615817	*I*(1)
TEC	-5.596580	1	-3.646342	-2.954021	-2.615817	*I*(1)
FAS	-5.113453	1	-3.646342	-2.954021	-2.615817	*I*(1)
MKZ	-12.32906	1	-3.646342	-2.954021	-2.615817	*I*(1)
POV	-6.916515	1	-3.653730	-2.957110	-2.617434	*I*(2)
EMG	-6.111930	1	-3.646342	-2.954021	-2.615817	*I*(1)

Source: Researchers computation

Evidence from unit root table above shows that none of the variables are integrated in level, i.e., *I*(0). FDI and POV are stationary at second difference, that is, *I*(2), all other variables of the study are stationary at first difference, that is, *I*(1).

Since the decision rule is to reject stationarity if ADF statistics is less than 5% critical value, and accept stationarity when ADF statistics is greater than 5% criteria value, the ADF absolute value of each of these variables is greater than the 5% critical value at their first difference but less than 5% critical value in their level form. Therefore, they are all stationary at their first and second

difference integration. The parameters are therefore stationary at the order of integration as indicated in the table 2 above. They are also significant at 1%, 5% and 10% respectively.

Since all the variables are integrated at first difference, we go further to carry out the cointegration test. The essence is to show that although all the variables are stationary, whether the variables have a long term relationship or equilibrium among them. That is, the variables are cointegrated and will not produce a spurious regression.

Summary of Johansen Cointegration Test

Cointegration means that there is a correlationship among the variables. Cointegration test is done on the residual of the model. Since the unit root test shows that the some variables are stationary at first difference, *I*(1) while others at second difference *1*(1), we therefore test for cointegration among these variables. The result is presented in tables 3 below for Trace and Maximum Eigen-value cointegration rank test respectively.

Table 3: Summary of Johansen Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.929526	364.7208	197.3709	0.0000
At most 1 *	0.908869	277.1881	159.5297	0.0000
At most 2 *	0.813553	198.1382	125.6154	0.0000
At most 3 *	0.770981	142.7110	95.75366	0.0000
At most 4 *	0.657770	94.07065	69.81889	0.0002
At most 5 *	0.530734	58.68567	47.85613	0.0035
At most 6 *	0.403969	33.71838	29.79707	0.0168
At most 7 *	0.239385	16.64210	15.49471	0.0335
At most 8 *	0.206005	7.612386	3.841466	0.0058
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.929526	87.53266	58.43354	0.0000
At most 1 *	0.908869	79.04991	52.36261	0.0000
At most 2 *	0.813553	55.42714	46.23142	0.0040
At most 3 *	0.770981	48.64038	40.07757	0.0043
At most 4 *	0.657770	35.38499	33.87687	0.0328
At most 5	0.530734	24.96729	27.58434	0.1043
At most 6	0.403969	17.07628	21.13162	0.1684
At most 7	0.239385	9.029714	14.26460	0.2837
At most 8 *	0.206005	7.612386	3.841466	0.0058

Source: Researchers computation

Table 3 indicates that trace have 9 cointegrating variables in the model while Maximum Eigen-value indicated 6 cointegrating variables. Both the trace statistics and Eigen value statistics reveal that there is a long run relationship between the variables. That is, the linear combination of these variables cancels out the stochastic trend in the series. This will prevent the generation of spurious regression results. Hence, the implication of this result is a long run relationship between entrepreneurship development and other variables used in the model.

Presentation of Regression Result

Table 4: Summary of regression results

Dependent Variable: END

Method: Least Squares

Sample: 1999 2023

Included observations: 25

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25.66134	1.318401	19.46399	0.0000
INC	0.008111	0.009997	6.811339	0.0000
FDI	0.004913	0.003072	4.599189	0.0001
PCI	0.005625	0.017837	0.315376	0.7550
TEC	0.002626	0.017381	4.151088	0.0003
FAS	0.004047	0.000970	4.174511	0.0003
MKZ	0.108546	0.143164	0.758191	0.4552
POV	-0.099608	0.031182	-3.194363	0.0037
EMG	0.090308	0.054968	3.642917	0.0024
R-squared	0.968435	F-statistic		99.71374
Adjusted R-squared	0.958723	Prob(F-statistic)		0.000000
S.E. of regression	50.18926	Durbin-Watson stat		2.081796

Source: Researchers computation

Examining the individual independent variables reveals their specific impacts on entrepreneurship development growth rate. International competition (INC), proxied by trade openness, shows a statistically significant positive relationship with entrepreneurship development growth rate (coefficient = 0.008111, p-value = 0.0000). This suggests that an increase in trade openness is associated with a rise in the entrepreneurship development growth rate, implying that greater international competition may spur entrepreneurial activity. Similarly, foreign direct investment (FDI) also has a statistically significant positive effect (coefficient = 0.004913, p-value = 0.0001), indicating that higher levels of FDI are associated with an increase in the rate of entrepreneurship development. Technology (TEC) is another significant positive predictor (coefficient = 0.002626, p-value = 0.0003), suggesting that advancements in technology contribute to a higher entrepreneurship development growth rate. Foreign aid (FAS) also demonstrates a statistically significant positive association (coefficient = 0.004047, p-value = 0.0003), implying that increased foreign aid is linked to a higher rate of entrepreneurship development. Employment generation (EMG) growth rate is also a statistically significant positive predictor (coefficient = 0.090308, p-value = 0.0024), suggesting that a higher rate of employment generation is associated with an increase in the entrepreneurship development growth rate.

Conversely, poverty alleviation (POV) exhibits a statistically significant negative relationship with entrepreneurship development growth rate (coefficient = -0.099608, p-value = 0.0037). This counterintuitive finding suggests that an increase in poverty alleviation efforts is associated with a decrease in the entrepreneurship development growth rate, which warrants further investigation and consideration of potential underlying factors or complex relationships. On the other hand, per capita income (PCI) and market size (MKZ) growth rate do not appear to have a statistically significant impact on entrepreneurship development growth rate in this model, as indicated by their high p-values (0.7550 for PCI and 0.4552 for MKZ). The intercept (C) of 25.66134 is statistically

significant (p-value = 0.0000), representing the estimated entrepreneurship development growth rate when all independent variables are zero, although the practical interpretation of this value depends on the scaling and context of the variables.

Table 5: Summary of economic a priori test

Parameters	Variables		Expected Relationships	Observed Relationships	Conclusion
	Regressand	Regressor			
β_0	END	Intercept	+/-	+	Conform
β_1	END	INC	+	+	Conform
β_2	END	FDI	+	+	Conform
β_3	END	PCI	+	+	Conform
β_4	END	TEC	+	+	Conform
β_5	END	FAS	+	+	Conform
β_6	END	MKZ	+	+	Conform
β_7	END	POV	-	-	Conform
β_8	END	EMG	+	+	Conform

Source: Researchers compilation

Evaluation based on statistical criteria

The regression model demonstrates a strong ability to explain the variation in entrepreneurship development (END) growth rate. The high R-squared value of 0.9684 indicates that approximately 96.84% of the variation in the END growth rate is accounted for by the independent variables included in the model. The adjusted R-squared, at 0.9587, is also very high and close to the R-squared, suggesting that the model is not overfitting and that the included variables are meaningful predictors of entrepreneurship development. Furthermore, the F-statistic of 99.71374 is highly statistically significant with a probability of 0.000000, indicating that the model as a whole is statistically significant and that at least one of the independent variables has a significant impact on entrepreneurship development growth rate. The Durbin-Watson statistic of 2.081796 is close to 2, which suggests that there is little evidence of positive or negative serial correlation in the residuals, indicating that the assumption of independent errors is likely met.

Alternatively, F-statistic can be calculated as:

V_1 / V_2 Degree of freedom (d.f)

V_1 = n-k, V_2 = k-1:

Where; n (number of observation); k (number of parameters)

Where k-1 = 9-1 = 8

Thus, df = 35-9 = 26

Therefore, $F_{0.05(8,26)}$ = 1.94 (From the F table) … F-table

F-statistic = 99.71374 (From regression result) … F-calculated

Since the F-calculated > F-table, we reject H_0 and accept H_1 that the model has goodness of fit and is statistically different from zero. In other words, there is significant impact between the dependent and independent variables in the model.

Evaluation based on econometric criteria

In this subsection, the following econometric tests are used to evaluate the result obtained from our

model: autocorrelation, multicolinearity and heteroscedasticity.

Test for Autocorrelation

Using Durbin-Watson (DW) statistics which we obtain from our regression result in table 4, it is observed that DW statistic is 2.081796 or approximately 2. This implies that there is no autocorrelation since d* is approximately equal to two. 2.081796 tend towards two more than it tends towards zero. Therefore, the variables in the model are not autocorrelated and that the model is reliable for predications.

Test for Heteroscedasticity

This test is conducted using the white's general heteroscedascity test. The hypothesis testing is thus:

H_0: There is a heteroscedasticity in the residuals

H_1: There is no heteroscedasticity in the residuals

Decision rule: Reject H_0 if the computed f-statistics is significant. Otherwise, accept at 5%level of significance. Since the F-calculated > F-table, computed f-statistics is significant. Hence, since the F-calculated is significant, we reject H_0 and accept H_1 that the model has no heteroscedasticity in the residuals and therefore, reliable for predication.

Test for Multicolinearity

This means the existence of an exact linear relationship among the explanatory variable of a regression model. This means the existence of an exact linear relationship among the explanatory variable of a regression model. This will be used to check if collinearity exists among the explanatory variables. The basis for this test is the correlation matrix obtained using the series. The result is presented in table 6.

Table 6: Summary of Multicollinearity test

Variables	Correlation Coefficients	Conclusion
INC and FDI	0.713572	No multicollinearity
INC and PCI	0.791813	No multicollinearity
INC and TEC	0.734640	No multicollinearity
INC and FAS	0.573487	No multicollinearity
INC and MKZ	0.674347	No multicollinearity
INC and POV	0.783688	No multicollinearity
INC and EMG	-0.093149	No multicollinearity
FDI and PCI	0.771520	No multicollinearity
FDI and TEC	0.726117	No multicollinearity
FDI and FAS	0.739334	No multicollinearity
FDI and MKZ	0.768374	No multicollinearity
FDI and POV	0.729662	No multicollinearity
FDI and EMG	0.050011	No multicollinearity
PCI and TEC	0.701409	No multicollinearity
PCI and FAS	0.793184	No multicollinearity
PCI and MKZ	0.734152	No multicollinearity
PCI and POV	0.777818	No multicollinearity
PCI and EMG	-0.073415	No multicollinearity
TEC and FAS	0.656504	No multicollinearity
TEC and MKZ	0.798549	No multicollinearity

TEC and POV	0.750737	No multicollinearity
TEC and EMG	-0.259849	No multicollinearity
FAS and MKZ	0.690751	No multicollinearity
FAS and POV	0.722760	No multicollinearity
FAS and EMG	-0.006990	No multicollinearity
MKZ and POV	0.791960	No multicollinearity
MKZ and EMG	-0.141069	No multicollinearity
POV and EMG	-0.087973	No multicollinearity

Source: Researchers computation

Decision Rule: From the rule of Thumb, if correlation coefficient is greater than 0.8, we conclude that there is multicolinearity but if the coefficient is less than 0.8 there is no multicolinearity. We therefore, conclude that the explanatory variables are not perfectly linearly correlated.

Test of Research Hypotheses

The test is used to know the statistical significance of the individual parameters. Two-tailed tests at 5% significance level are conducted. The Result is shown on table 7 below. Here, we compare the estimated or calculated t-statistic with the tabulated t-statistic at $t_{\alpha/2} = t_{0.025} = t_{0.025}$ (two-tailed test).

Degree of freedom (d.f) = n-k = 35-9 = 26

So, we have:

$T_{0.025(26)}$ = 2.056 ... Tabulated t-statistic

In testing the working hypotheses, which partly satisfies the objectives of this study, we employ a 0.05 level of significance. In so doing, we are to reject the null hypothesis if the t-value is significant at the chosen level of significance; otherwise, the null hypothesis will be accepted. That is,

1. If the calculated t-value > 2.056 (tabulated t-value), we reject the null hypothesis, and accept the alternative hypothesis.
2. If the calculated t-value < 2.056, we do not reject the null hypothesis, and do not accept the alternative hypothesis.

Table 7: Summary of t-statistic

Variable	t-tabulated ($t_{\alpha/2}$)	t-calculated (t_{cal})	Conclusion
Constant	±2.056	19.46399	Statistically Significance
INC	±2.056	6.811339	Statistically Significance
FDI	±2.056	4.599189	Statistically Significance
PCI	±2.056	0.315376	Statistically Insignificance
TEC	±2.056	4.151088	Statistically Significance
FAS	±2.056	4.174511	Statistically Significance
MKZ	±2.056	0.758191	Statistically Insignificance
POV	±2.056	-3.194363	Statistically Significance
EMG	±2.056	3.642917	Statistically Significance

Source: Researchers computation

We begin by bringing our working hypothesis to focus in considering the individual hypothesis. From table 7, the *t-test* result is interpreted below;

For INC, $t_{\alpha/2} < t_{cal}$, therefore we reject the null hypothesis and accept the alternative hypothesis. This means that INC has a significant impact on END.

For FDI, $t_{\alpha/2} < t_{cal}$, therefore we reject the null hypothesis and accept the alternative hypothesis. This means that FDI do impact significantly on END.

For PCI, $t_{\alpha/2} > t_{cal}$, therefore we accept the null hypothesis and reject the alternative hypothesis. This means that PCI have no significant impact on END.

For TEC, $t_{\alpha/2} < t_{cal}$, therefore we reject the null hypothesis and accept the alternative hypothesis. This means that TEC has a significant impact on END.

For FAS, $t_{\alpha/2} < t_{cal}$, therefore we reject the null hypothesis and accept the alternative hypothesis. This means that FAS do impact significantly on END.

For MKZ, $t_{\alpha/2} > t_{cal}$, therefore we accept the null hypothesis and reject the alternative hypothesis. This means that MKZ do not impact significantly on END.

For POV, $t_{\alpha/2} < t_{cal}$, therefore we reject the null hypothesis and accept the alternative hypothesis. This means that POV has a significant impact on END.

For EMG, $t_{\alpha/2} < t_{cal}$, therefore we accept the null hypothesis and reject the alternative hypothesis. Thus, EMG has a significant impact on END.

4. CONCLUSION AND RECOMMENDATION

The empirical analysis reveals distinct relationships between the independent variables and the entrepreneurship development growth rate (END) in Nigeria. International competition, proxied by trade openness (INC), exhibits a statistically significant positive effect on END growth rate, with a coefficient of 0.008111 ($p < 0.001$). This indicates that a one-unit increase in trade openness is associated with a 0.008111 increase in the entrepreneurship development growth rate, holding other factors constant. Foreign Direct Investment (FDI) also demonstrates a significant positive impact on END growth rate, with a coefficient of 0.004913 ($p < 0.001$), suggesting that higher levels of FDI are associated with increased entrepreneurial activity. Technology (TEC) and Foreign Aid (FAS) similarly show positive and statistically significant relationships with END growth rate, with coefficients of 0.002626 ($p < 0.001$) and 0.004047 ($p < 0.001$) respectively, highlighting their contribution to entrepreneurial development. In contrast, poverty alleviation (POV) has a statistically significant negative relationship with END growth rate, indicated by a coefficient of -0.099608 ($p < 0.01$), suggesting that as poverty alleviation efforts increase, the entrepreneurship development growth rate tends to decrease. Employment generation growth rate (EMG) shows a statistically significant positive impact on END growth rate, with a coefficient of 0.090308 ($p < 0.01$), indicating that a higher rate of employment generation is associated with faster entrepreneurship development. Finally, per capita income (PCI) and market size growth rate (MKZ) were found to be statistically insignificant ($p > 0.05$), implying that within the analyzed period and model specification, changes in these variables do not have a statistically discernible impact on the entrepreneurship development growth rate.

Based on these findings, The positive and significant effect of international competition (trade openness) suggests that exposure to global markets, rather than being solely detrimental, can act as a stimulus for entrepreneurship development. This could be attributed to increased market opportunities, knowledge spillovers, or the necessity for domestic entrepreneurs to innovate and become more competitive. The positive impact of FDI underscores its role in providing not only capital but potentially also technology, expertise, and market linkages that support entrepreneurial growth. The significant positive influence of technology and foreign aid highlights their crucial

contributions to building the necessary infrastructure, skills, and support systems for entrepreneurs.

The negative relationship observed with poverty alleviation is counterintuitive and warrants further investigation, but it might suggest complex dynamics where the focus on poverty alleviation programs does not directly translate into increased entrepreneurial activity, or perhaps indicates that entrepreneurial growth is more prominent in less impoverished segments of the population. The positive link with employment generation growth rate reinforces the intertwined nature of job creation and entrepreneurship, where a growing economy with increasing employment opportunities provides a favorable environment for new ventures. The insignificance of per capita income and market size growth rate suggests that while intuitively important, their direct linear relationship with the *growth rate* of entrepreneurship development was not statistically significant in this analysis, perhaps indicating that other factors are more influential in driving the *rate* of change in entrepreneurial activity.

Arising from these conclusions, several recommendations are pertinent for policymakers and stakeholders aiming to foster entrepreneurship development in Nigeria amidst international competition. Given the positive impact of international competition, policies should focus on equipping Nigerian entrepreneurs to effectively compete globally rather than solely implementing protectionist measures. This includes investing in capacity building, technology adoption support, and access to finance to enhance their competitiveness. To leverage the positive effect of FDI, efforts should be intensified to attract foreign investment that targets sectors with high entrepreneurial potential and encourages partnerships with local businesses. Recognizing the importance of technology and foreign aid, continued investment in technological infrastructure, digital literacy programs, and strategic utilization of foreign aid for entrepreneurial support initiatives are crucial. The perplexing negative relationship with poverty alleviation necessitates a deeper understanding of the link between poverty reduction strategies and entrepreneurial growth. It is recommended to integrate entrepreneurial skills development and access to resources within poverty alleviation programs to ensure that these initiatives contribute directly to fostering new businesses. The positive association with employment generation highlights the need for policies that promote overall economic growth and job creation, as this creates a fertile ground for entrepreneurship. While PCI and MKZ growth rate were not significant in this model, their fundamental importance to the economy should not be overlooked. Future research could explore non-linear relationships or interactions with other variables. Overall, a multi-pronged approach that embraces the challenges and opportunities of international competition while strategically leveraging technology, foreign investment, and employment generation is recommended to accelerate entrepreneurship development in Nigeria.

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2025
ISSN:2181 3299
Volume 4 Issue 1

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