Entrepreneurship as a Driver of Economic Growth: Evidence from Enterprise Development in Nigeria

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Abstract

This study provides an econometric analysis of the role of entrepreneurship in economic growth in Nigeria. The study also assesses the areas where the country has developed enterprise and innovations. Findings from empirical analysis confirm the roles of entrepreneurs as good drivers of economic growth in the country. Specifically, results reveal that credit to SMEs is statistically significant in the determination of economic growth, implying that increase in entrepreneurial financing has significant effect on economic growth in Nigeria. Particularly, the increase in the operations and activities of SMEs in Nigeria remains indispensable to the pursuit of economic growth and development as a nation. However, the major hindrance inhibiting entrepreneurship as a growth driver in Nigeria include; poor infrastructural facilities, inadequate start-up process, financial management problems, lack of strategic planning and other socio-cultural problems. The study recommends building an in-country entrepreneurial capacity by incorporating requisite enterprise trainings and development progammes into the nation's education system at all levels. Also, government, banking institutions and the organized private sector should increase financial support for entrepreneurial oriented initiatives.

Keywords: **Entrepreneurship, Enterprise Development, SMEs, MSMEs, SMEDAN, YouWin.**

1. INTRODUCTION

Entrepreneurship plays a significant role in the growth and development of any contemporary economy. Entrepreneurship is seen as the engine of economic growth and a driving force of decentralisation, economic restructuring and movement in the direction of market economy. Conceptually, entrepreneurship is the process of acting upon previously unnoticed profit opportunities to produce a new process or output. Entrepreneurs bear the risk associated with economic development because they undertake new ideas and commit resources into new business venture, from which substantial rewards are expected, both immediately and in the foreseeable future economy. The linkage between entrepreneurship and economic growth is shown when entrepreneurs act upon profit opportunities and in the process make the economy more productive by creating more economic activities which invariably generate employment opportunities and boost the gross domestic product (Kirziner, 1973; Ogbo and Nwachukwu, 2012).

In positioning entrepreneurship as a veritable tool for driving self-sustaining industrial development, it is often predicated within the framework of small and medium scale enterprises (SMEs). Entrepreneurship is strongly linked with SMEs because they are the main developing force of the developed market economies. SMEs provide the catalyst for industrial take-off and

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economic growth. That is the reason why most policy interventions, especially in a developing country like Nigeria, are often directed towards stimulating entrepreneurship development through the ambient of small and medium scale enterprises. Also, SMEs are generally synonymous with indigenous businesses because they possess enormous capability to grow an indigenous enterprise culture more than any other strategy. Therefore, in most developing economies, SMEs represent the sub-sector of special focus for any meaningful economic restructuring programme that targets employment generation, poverty alleviation, food security, rapid industrialization and reversing rural-urban migration. Without doubt, entrepreneurship has the potency and drive to accelerate economic growth and development in any country (Ebiringa, 2011; Odufayo, 2010).

In Nigeria, reports show that there are about 8.4million SMEs operating in Nigeria; with enterprises comprising 80 per cent of the total number (about 1.3 million) and small business constituting 15 percent (around 420,000). In terms of SMEs contribution to national output in Nigeria, it has been reported that the SMEs, by revenue, contribute about 75 per cent all entrepreneurial activities that make up Nigeria's gross domestic output (GDP), 21 per cent within the enterprises while 4% belong to the large complex organizations. It also scored high in entrepreneurial dominance because of its potential in pooling skilled and semi-skilled workers, which has boosted its growth potentials (Akingunola, 2011 and Ebiringa, 2011). Thus, the growth potentials of entrepreneurs would be greatly hampered in Nigeria, if SMEs do not receive the needed attention and financing required for effective and viable operation (Oluba, 2009).

Entrepreneurship is seen as a veritable tool to achieve economic growth and development. It poses a policy alternative to the already over-bloated and oil- dominated Nigerian economy. Accordingly, as a way of diversifying the single-product dominated Nigerian economy, it is important to understand and identify the role of entrepreneurship in economic growth in Nigeria; particularly recognizing the role SMEs as drivers of economic growth in Nigeria. This is the objective of this study.

The rest of the paper is as follows: section two presents the stylized facts about enterprise development in Nigeria. Section three reviews the empirical literature. Section four presents the theoretical framework and research methodology while section five presents the empirical analysis and results. The last section six concludes.

2. STYLIZED FACTS ABOUT ENTERPRISE DEVELOPMENT IN NIGERIA

There are different areas where Nigeria has developed enterprise. These are readily perceptible when we consider the sectoral analysis of the contributions of entrepreneurs. However, several factors have contributed immensely to enterprise development in Nigeria. These include; government efforts towards enterprise development in the country, specific areas of contribution, and the actions of the entrepreneurs both as individual and as a group. These are discussed in the sub-sections below:

2.1 Government Efforts towards Enterprise Development in Nigeria.

The role of government in enterprise development is very germane. Government helps to encourage entrepreneurship by providing security to safeguard life and property; maintaining law and order, and providing an enabling environment where businesses can thrive. Also government

encourages entrepreneurial culture by providing enterprise opportunities such as grants, business competitions, etc.

Particular efforts had been made in Nigeria to develop enterprise and innovation in the country. For instance, government participation in entrepreneurship development became perceptible only after the civil war, between 1967 and 1970. This was later strengthened when Structural Adjustment Program (SAP) was introduced. In addition, more entrepreneurial oriented institutions such as the National Directorate of Employment (NDE), National Open Apprenticeship Scheme (NOAS) and, the Small and Medium Enterprise Development Association of Nigeria (SMEDAN), were established in 1986, 2014 and 2003 respectively. Recently, the entrepreneurship focused programmes included: NEEDS, NAPEP, the Youth Enterprise with Innovation in Nigeria (YouWin) program, and Subsidy Re-investment Program (Sure-P). These programmes and policies included enterprise development programmes at different levels.

Other avenues for enterprise development in Nigeria include; organizing seminars and workshops at both local and international levels to encourage the formation, registration and co-operation of micro, small and medium business associations. Professional associations were created to stimulate growth of businesses and industrial organization through co-operation, linkages and franchising of entrepreneurship activities. Examples of these associations include the Nigerian Association of Small and Medium Scale Enterprises (NASME), International Council of Small Business (ICSB), Abuja Enterprises Agency (AED), and Acadia Centre for Small Business and Entrepreneurship (ACSBE).

Table 2.1: Areas Where Nigeria has Developed Enterprises.

Agriculture/agro-allied activities	**Foodstuff, restaurant, fast food vending etc.**
Solid mineral	Quarrying, germ stone cutting/polishing and crushing engineering
Power and transport	Power generation, Haulage business (cargo and passengers)
Information and telecom business	Manufacturing and repairs of GSM accessories
Hospitality and tourism business	Hotels, accommodation, resort centers, film and home video production
Oil and gas business	Construction and maintenance of pipelines, drilling, refining/bye-products.
Environmental and waste management business	Refuse collection/disposal, recycling, and drainage/sewage construction job
Financial and banking services	Banking, insurance and stock trading.
Engineering and fabrication work	Machines and tools fabrication
Building and construction	Plan and design services, material sourcing

Source: Compiled by the Author

2.2 The Actions of Entrepreneurs in Economic Growth and Development

The actions of entrepreneurs had undoubtedly contributed immensely towards the growth and development of the country. This contribution is perceptible when we look at the performance of variables such as gross domestic product, export, employment creation, capital formation, and per capita income.

- **Export Trade Performance**

Entrepreneurs help in promoting a country's export-trade, which is an important ingredient of economic development. They produce goods and services in large scale for the purpose earning huge amount of foreign exchange from export trade and also fulfil the import dues requirement. Hence, import substitution and export promotion ensure economic independence and development. For instance, as shown in Table 2.2 below, export rose from N885.67 million in 1970 to N14,186.7 million in 1980 and further N109, 886.10 million, N1, 945,723.30 million and N11, 035,794.50 million for 1990, 2000 and 2010, respectively. During the period, 1970, 1980, 1990, 2000 and 2010, the nominal GDP grow by N5,281.10 million, N49,632.30 million, N267,550 million, N4,582,127.30 million and N29,108,670.82 million, respectively, whereas the real GDP grow by 1.3, 16.1, 3.6, 14.5 and 11.8 per cents for the same period. Undoubtedly, this has been influenced by increase in the export capacity for non-oil products which is attributable to increase in entrepreneurial drives.

Table 2.2: Performance of Selected Variables from 1970-2010

Year	Export (N'Millions)	Nominal GDP (N'Millions)	Growth Rate (%)
1970	885.67	5,281.10	1.3
1980	14,186.7	49,632.30	14.1
1990	109,886.10	267,550	3.6
2000	1, 945,723.30	4,582,127.30	14.5
2010	11, 035,794.50	29,108,670.82	11.8

Source: CBN Statistical Bulletin, (2014)

- **Capital Formation**:

Entrepreneurs promote capital formation by utilising the idle public savings in form of loans and advances obtainable from commercial banks for diverse projects. This fund can be used to set up new enterprises or expand existing ones. Such type of entrepreneurial activities could lead to value addition and creation of wealth, which is very essential for the industrial and economic development.

- **Large-Scale Employment Opportunities**:

Entrepreneurs provide immediate large-scale employment to the unemployed which is a serious problem of underdeveloped nations. With the setting up of more and more outlets by entrepreneurs, both on small and large-scale, numerous job opportunities are often created for others. As time passes, these enterprises grow and provide direct and indirect employment opportunities to many more. In this way, entrepreneurs play an effective role in reducing the problem of unemployment in the country, which in turn clears the path for economic development. For example, the rate of unemployment increased from 13.7 percent in 2006 to

14.6 percent in 2007 and 21.1 percent in 2010. One of the factors responsible for this was enterprise development.

- **Gross National Product and Per Capita Income**:

Entrepreneurs are always on the lookout for opportunities. They explore and exploit opportunities, encourage effective resource mobilisation of capital and skill, bring in new products and services and develops markets for growth of the economy. In this way, they help increase gross national product as well as per capita income of the people in a country. Increase in gross national product and per capita income is a sign of economic growth.

3.REVIEW OF EMPIRICAL LITERATURE

There is a consensus in various studies that entrepreneurship contributes meaningfully to economic growth and development, particularly when well-funded. A review of some of the empirical literature is provided below:

Morenikeji and Oluchukwu (2012) studied the impact of small and medium scale enterprises in the generation of employment in Lagos state. Two different statistical methods were employed by the researcher for data analysis. The results show that SMEs and sustainable development of the Nigeria economy are related, just as promotion of SMEs and improvements in employment generation are related. They therefore concluded that for a nation irrespective of its economic ideology to achieve meaningful and sustainable development, adequate attention must be given to wide spread of economic activities through entrepreneurship and small and medium scale enterprise generation.

Entrepreneurship Development and Growth of Enterprises in Nigeria was investigated by Ebiringa (2011). The study found that enterprise development is directly related to economic development and therefore recommended that Government and the organized private sector should increase their support for entrepreneurial/vocational training programs as part of the tertiary education system. They should also strengthen institutions like the Standard Organization of Nigeria (SON) and the Raw Material Development Council of Nigeria to provide assistance to entrepreneurs regarding product quality. Easy business registration, tax holidays, basic infrastructure should be provided by the government to encourage the growth/expansion of entrepreneurial ventures in Nigeria.

Umaru, and Obeleagu-Nzelibe, (2009) evaluated entrepreneurial skills and profitability of small and medium enterprises (SMEs) as resource acquisition strategies for new ventures in Nigeria. The study made use of simple t-test and survey methodology, and administered questionnaire for data collection from a stratified random sample of 250 owners and employees of SMEs in major industrial cities in Nigeria. Entrepreneurial skills, proper record keeping, access to financing, concessional taxation, longer period of operation and consistent policies were found to be significant factors required for business success and profitability in Nigeria. Seminars and workshops were recommended to improve SMEs entrepreneurs' capabilities, as well as the institutional co-ordination of the efforts of relevant agencies and institutions, and the streaming of the myriad of taxes stifling SMEs.

The issue of the impact of entrepreneurial characteristics on the performance of small scale manufacturing industries in Nigeria was investigated by Adegbite, et al (2007). Using descriptive and inferential statistics with correlation and regression analysis, the study examined the relationship between contextual variables and business performance. The results showed that human resource factors and the sales revenue were inadequate and severely inhibited the potentials of the entrepreneurs for performance and growth. However, length of years in business and working experience were found to have positive contribution on their performance. While majority (7) of the 10 Personal Entrepreneurial Characteristics (PEC) of the respondents made negative contribution on the sales revenue, only demand for efficiency and product quality, information seeking; and systematic planning and monitoring had positive impact. The study concluded that the negative attributes exhibited by the respondents in most of the PEC were critical factors in the dismal performance of the small-scale manufacturing industries, which need to be developed in the entrepreneurs through training.

Ogbo and Agu, (2012) analyzed the contributions of entrepreneurship in the economic development through SME development in Nigeria using descriptive statistics. The study found that SMEs have played and would continue to play significant roles in the growth, development and industrialization of many economies of the world. In the case of Nigeria, SMEs have performed below expectation due to a combination of problems which ranges from attitude and habits of SMEs themselves through environmental related factors, instability of governments and frequent government policy changes etc. the study recommended that promoters of SMEs should thus ensure that entrepreneurs possess managerial capacity and acumen before pursuing financial resources for the development of their respective enterprise.

Akingunola, (2011) assessed specific financing options available to SMEs in Nigeria and contribution with economic growth via investment level. The Spearman's Rho correlation test was employed to determine the relationship between SMEs financing and investment level. The analysis reports a significant Rho value of 0.643 at 10%. This indicated that there is significant positive relationship between SMEs financing and economic growth in Nigeria via investment level. Descriptive statistics were also used to appraise certain financing indicators. The study recommended that accessibility to relative low interest rate finances should be provided to small and medium enterprises in Nigeria in order to enhance economic growth.

Chu, Kara, and Benzing (2008) did an empirical study of Nigerian entrepreneurs' success, motivations, problems, and stress using a 5 point- Likert Scale and a Pearson correlation. Results revealed that independence, satisfaction and growth, increasing income and past training/experiences as important motivators for Nigerian entrepreneurs. Factors contributing to business success were mainly attributed to hard work, excellent management skills, and good customer services.

Entrepreneurship Venturing and Nigeria's Economic Development with particular focus on the Manufacturing Sector was the interest of Ebiringa (2011). Using descriptive statistics, the study found that SMEs were the business model often used by entrepreneurs to participate in economic development of their environment. In Nigeria, the immediate economic reason for venturing into SMEs by entrepreneurs is to create employment for themselves and their family members as evidence available shows that SMEs in Nigeria generate more employment opportunities per unit

of investment than large scale firms. However the output of these SMEs as a percentage contribution to overall national productivity or gross domestic product has remained grossly insignificant due to factors beyond the control of entrepreneurs. The study concluded that concerted effort should be made by stakeholders especially government to provide the enabling environment needed for sustainable SME activities.

Oyelola, et, al (2013) evaluated the role of entrepreneurship for sustainable economic growth in Nigeria using narrative-textual case study (NTCS) methodology. Findings from the study showed that entrepreneurship has been instrumental in economic growth, balanced regional development and job creation in most dynamic economies, where technology is changing at a faster rate and the product lifetime cycle is shrinking.

Etuk, Etuk, and Baghebo (2014) used descriptive analysis to investigate the relationship between small and medium scale enterprises (SMEs) and Nigeria's economic development. The study found that Small and Medium Scaled Enterprises (SMEs), if fully developed, had been identified as being beneficial in alleviating poverty through wealth and job creation. This sector can benefit any government that develops it to the extent that it has the capacity to grow a country's GDP, generate taxes and other revenue, as well as assist in bringing stability in the polity of a country. The study concluded that the corporate world could also gain from the specialized goods and services of SMEs and the healthy market competitiveness it promotes. This would eventually engender a strong private driven economic sector, with entrepreneurs springing up.

Eigbiremolen and Igberaese, (2013) investigated the role of Small and Medium Enterprises (SMEs) in the achievement of economic growth in Nigeria using linear regression model and granger causality test. Study result indicates that SMEs are indispensable in achieving sustainable economic growth as they exhibit positive impact on the economy. This implies a boost to the economy for every increase in the operations and activities of SMEs. The granger causality test reveals a unidirectional causal relationship between SMEs and economic growth, running from the former to the latter. The study recommended an adequate and coordinated financing with relatively low interest rate should be made available and assessable to SMEs across Nigeria, as the issue of inadequate funding has remained the major bane to their successful operations. Also, government should make available needed infrastructure and incentives like regular power supply, good roads and tax holiday. These would greatly enhance and encourage the activities of SMEs and position them to play their all important role in the achievement of sustainable economic growth in Nigeria.

These studies differ methodologically because modeling the role of entrepreneurship in economic growth has been elusive since the concept of entrepreneurship is difficult to parameterize. However, entrepreneurial insights lay the foundation which drives growth process (Gwartney, 1996; Scully, 1992 and Knack, 1996). Therefore, as part of contribution to empirical literature on entrepreneurship-economic growth nexus, the present study uses parsimonious error correction model (ECM) to model the role of entrepreneurship in economic growth in Nigeria.

4. THEORETICAL FRAMEWORK AND METHODOLOGY

4.1 Theoretical Framework

The framework adopted in this work is based on cognitive school theory, the occupational choice theory and endogenous growth models (Sternberg, 1985, Khan 1974, Hemphill 1974 and Moran 1989). Although it is not common for endogenous growth models to explicitly address the issue of entrepreneurship as driving force of technological and economic development, the framework adopted in this study relies on the Solow (1957), Klenow (2001) and Mankiw et al (1992). This framework is however similar to that of Dauda (2010).

Drawing from the linkages described above, the occupational choice could be illustrated in a simple model where an economy endowed with a population of L individuals that live for two (or more) periods. In the first period incumbents employ all individuals, but between periods they make inter-temporal choices between remaining an employee or becoming an entrepreneur.

Due to the uneven distribution of entrepreneurial ability (e_i), i.e. successful intelligence, individuals (i) at the higher end of the distribution will identify more opportunities to commercially exploit as compared to individuals with lower ability. By combining given entrepreneurial capacity with the aggregate knowledge stock (A) in an economy operating at efficiency level σ (which is an efficiency parameter that influences entrepreneurial opportunity), a certain share of the population (L_E) will identify profitable opportunities in running their own firms and become entrepreneurs in the periods sequencing the first. Thus, at a given point in time,

$$e_i = f(e_i, A, \sigma),$$

Then, $\sum_{i=1}^{L} \equiv L_E$

Where: e_i = entrepreneurial ability, A = aggregate knowledge stock

σ = efficiency parameter that influences entrepreneurial opportunity; L_E = share of the population

As a share L_E shift from being employees to become entrepreneurs, part of the given aggregate knowledge stock will be exploited in the commercialization process.

Simultaneously, L_E could also be interpreted as belonging to the knowledge stock (entrepreneurial knowledge), as well as augmenting the existing knowledge stock through entrepreneurial activity thereby introducing new products, new ways of organizing production or simple by defining a market niche.

There are policy implications of this simple model as it relates to economic growth. A policy that increases the probability of success, e.g. by reducing the regulatory burden or making knowledge more accessible (increasing efficiency), increases the expected return from becoming an entrepreneur. Similarly, policies that increase the expected pay-off even though the probability of success is held constant, such as tax-cuts, tend to encourage more of entrepreneurial activity. But it also suggests that increasing the stock of knowledge (A) has a similar effect on entrepreneurial activities. Moreover, it provides an instrument that connects entrepreneurship, knowledge and growth, where entrepreneurship and growth is endogenized through investment in knowledge. Appropriate policies can then set of a virtual cycle characterized by knowledge investments, entrepreneurship and growth. (Murphy, Schleifer and Vishny (1991).

4.2 Model Specification

In line with the specific objectives, our model specification examines the role of entrepreneurship in achieving growth and development of the Nigerian economy over time. Owuru *et al* (2014) explained that based on the theoretical framework for credit rationing and corporate social responsibility of banks, four important variables matter for this estimation, they include: credit to private sector, entrepreneurship, percentage to total credit and real gross domestic product. Inflation rate, interest rate were however used as the intervening variables. Therefore, the growth-entrepreneurship relation is specified in the following function:

$$RGDP = F(CRPS, ENTRE, PTCR, INFR, INT) \tag{4.1}$$

The regression form of the model specification is thus:

$$RGDP_t = \alpha_0 + \alpha_1 CRPS_t + \alpha_2 ENTRE_t + \alpha_3 PTCR_t + \alpha_4 INFR_t + \alpha_5 INT_t + \mu_t \tag{4.2}$$

$$(\alpha_1, \alpha_2, \alpha_3\ \alpha_4, \alpha_5 > 0)$$

Where the dependent variable is RGDP and other variables on the right-hand side are independent variables.

RDGP = Real Gross Domestic Product as a proxy for economic growth; CRPS = credit to private sector; ENTRE = credit to SMEs is used as a proxy for entrepreneurship; PTCR = Percentage share of commercial banks' credit to SMEs in relation to the total credit to the economy; INFR = inflation rate; INT = Interest rate.; μ_t = Error term; α_0 = Intercept of relationship in the model; $\alpha_1 - \alpha_5$ = Coefficient of each exogenous or explanatory variable.

It is theoretically expected that when there is an increase in the level of entrepreneurship, proxy by credit accessibility by SMEs, the growth of the economy will increase consequent upon the increase in the performance of SMEs. Also, since entrepreneurship is often reflected in business expression, if the percentage of the share of SMEs loans accessed from the commercial banks increases, it would have a positive effect on the level of economic growth in Nigeria. In determining the cost of borrowing and the problem of financial inadequacy in relation to the time lag between procurement and repayment, interest rate and inflation were used as the intervening variables. A single digit level of inflation and a moderate level of interest rates are expected to predicate sustainable economic growth.

4.3 Sources of data

This study employs annual time-series data on selected variables covering the period 1980-2015. The main sources of data for most of the variables are the International Monetary Fund's database 2015, The World Bank Development Indicators (2015), and the Central Bank of Nigeria Statistical Bulletin. However, gaps in IMF database were filled with matching data from the South African Reserve Bank as well as from other Internet sources such as Index Mundi (2015).

4.4 The Error Correction Modeling

As pointed out by Engle and Granger (1987), if the variables are co-integrated, then any classical Granger test which does not consider the error correction vector is not appropriate, hence the need for Error Correction Model (ECM). ECM is a category of multiple time series model that

directly estimates the speed at which a dependent variable returns to equilibrium after a change in an independent variable. ECM incorporates the long-run equilibrium in the dynamic adjustment (that is the short-run model). The ECM is also closely bound up with the concept of cointegration. Such models can be specified thus;

$$In\Delta \ (RGDP)_t = \mu_1 In\Delta(ENTRE)_t + \mu_2\Delta In(CTPS)_t + \mu_3\Delta(PTCR)_t + \mu_4\Delta(INFR)_t + \mu_5\Delta(INT)_t + \emptyset ECM_{t-1} + \mathcal{E}_t$$

where: In= Natural Logarithm.;
Δ= Delta which means change;
 ECM= Error Correction Model.
E_t= Error term or white noise;
Ø=the speed of adjustment which shows how variables reverts to long-run equilibrium;
t-1= the time lag of variations in the variable

5. EMPIRICAL ANALYSIS AND RESULT

5.1 Descriptive Statistics

The summary statistics of the variables drawn for the study is presented on Table 5.1 below. Deviations of variables used in the estimation did not show much variation. The results further revealed that the average CRPS over the period was about 5.40%, with a maximum of 7.02% and minimum of 3.79% respectively. The GDP averaged 3.20% with a maximum of 4.61% and minimum of 1.71%. The ENTRE averaged 2.78% over the study period with a maximum of 4.95 and minimum of 0.00. The PTCR was at the average of 0.05% and it fluctuated between the upper limit of 0.17% and a lower limit of 0.00%. Also, the average INFR during the period stood at 17.60%, with a maximum of 76.76% and minimum of 0.00%. For INT, the average figure was 17.39% with fluctuations between the highest of 29.80% and a lowest of 7.50%. Inflation was double digits average during the period.

Table 5. 1: Summary Statistics of Data

	LENTRE	LRGDP	LCRPS	PTCR	INT	INFR
Mean	2.783079	3.200720	5.404993	0.054706	17.39762	**17.60235**
Median	4.232467	3.448352	5.438818	0.035000	17.76781	**11.80000**
Maximum	4.955093	4.614663	7.027760	0.170000	29.80000	**76.76000**
Minimum	0.000000	1.713758	3.794782	0.000000	7.500000	**0.000000**
Std. Dev.	2.231050	1.027055	1.070437	0.061705	5.192495	**20.24239**
Sum	94.62467	108.8245	183.7698	1.860000	591.5191	**598.4800**
Sum Sq. Dev.	164.2603	34.80977	37.81254	0.125647	889.7461	**13521.89**
Observations	34	34	34	34	34	34

Source: Author's computation

Note: *lentre, lrgdp, lcrps* are the log of *entrepreneurship, gross domestic product, credit to private sector while infr, int and ptcr are inflation rate, interest rate and the percentage share of credit to entrepreneur in relation to total credit respectively.*

5.2 UNIT ROOT TEST RESULTS

This study commences its empirical analysis by testing the properties of the time series used for investigation. The stationarity tests on the variables were carried out using both the Augmented Dickey-Fuller (ADF) and the Philip-Perron (PP) tests. The augmented Dickey-Fuller (ADF) and Philip-Peron (PP) techniques employed are based on the McKinnon critical values. The unit root tests results for stationarity for ADF and PP at levels and at first difference are presented in tables 5.2 and 5.3 respectively below;

Table 5.2: Unit Root Tests Results for Stationarity: ADF and PP at levels

Variables	ADF		PP		Order of Integration
	Intercept	Intercept And trend	Intercept	Intercept And Trend	
RGDP	4.9102 (1.0000)	1.6601 (1.0000)	5.6238 (1.000)	1.1959 (0.9999)	Non-stationary
CRPS	0.2180 (0.9685)	1.3212 (0.9999)	1.1565 (0.9972)	-0.4670 (0.9802)	Non-stationary
ENTRE	-1.5606 (0.4910)	-1.3394 (0.8599)	-1.5411 (0.5007)	-1.3394 (0.8599)	Non-stationary
INFR	-2.5908 (0.1049)	-2.4992 (0.3264)	-2.5908 (0.1049)	-2.4992 (0.3264)	Non-stationary
INT	-3.0770 (0.0823)	-2.8565 (0.1906)	-3.00079 (0.0445)	-2.8761 (0.1826)	Non-stationary
PTCR	-1.1369 (0.6891)	-2.1918 (0.4783)	-1.1535 (0.6823)	-2.2608 (0.4424)	Non-stationary

Note: significance at 1% Level and * at 5% Level. Figures within parenthesis indicate p-values.
MacKinnon (1991) critical value for rejection of hypothesis of unit root applied.

Table 5.3: Unit Root Test for Stationarity: ADF and PP at First Difference.

Variables	ADF		PP		Order of Integration
	Intercept	Intercept And trend	Intercept	Intercept And Trend	
RGDP	0.4641 (0.9823)	-8.6784 (0.0000)	-5.0838 (0.0002)	-8.1925 (0.0000)	I~I(1)
CRPS	7.8877 (0.0000)	-6.9869 (0.0000)	-2.0816 (0.0001)	-2.0389 (0.0003)	I~I(1)
ENTRE	-6.0066 (0.0000)	-6.0437 (0.0001)	-5.9972 (0.0000)	-6.0472 (0.0001)	I~I(1)
INFR	-5.8419 (0.0000)	-6.8936 (0.0000)	-5.8419 (0.0000)	-6.8936 (0.0000)	I~I(1)
INT	-5.5330 (0.0001)	-5.8215 (0.0002)	-9.0624 (0.0000)	-9.5829 (0.0000)	I~I(1)
PTCR	-5.7909 (0.0000)	-5.7498 (0.0002)	-5.9068 (0.0000)	-5.9745 (0.0001)	I~I(1)

Note: significance at 1% Level and * at 5% Level. Figures within parenthesis indicate p-values.
MacKinnon (1991) critical value for rejection of hypothesis of unit root applied.

From the results presented in Tables 5.2 and 5.3, it was observed that all the variables were non-stationary at 5 per cent level of significance in their level form, thus leading to test at first differences, which revealed that all the variables are stationary at first difference, that is,

integrated of order one I(1). After establishing stationarity, next is the examination of the co-integration relationship among the variables.

5.3 COINTEGRATION TEST RESULTS

The cointegration test results of trace statistics and maximum Eigen-value statistics are presented in tables 5.2 and 5.3 respectively below;

Table 5.4 : Johansen Unrestricted Cointegration Rank Test (Trace)

Null	Alternative	Trace Statistics	95% Critical Values	Prob.**
r=0	r≥1	139.6770	95.75366	0.0000
r≤1	r≥2	80.68384	69.81889	0.0053
r≤2	r≥3	47.98283	47.85613	0.0486
r≤3	r≥4	25.73857	29.79707	0.1367
r≤4	r≥5	7.953949	15.49471	0.4703
r≤5	r≥6	0.442774	3.841466	0.5058

Johansen Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Null	Alternative	Maxi-Eigen Statistics	95% Critical Values	Prob.**
r=0	r≥1	58.99314	40.07757	0.0001
r≤1	r≥2	32.70101	33.87687	0.0686
r≤2	r≥3	22.24426	27.58434	0.2081
r≤3	r≥4	17.78462	21.13162	0.1381
r≤4	r≥5	7.511174	14.26460	0.4306
r≤5	r≥6	0.442774	3.841466	0.5058

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

From the economic growth model involving RGDP, ENTRE, CRPS, INF, INT, PTCR; it was observed that the null hypothesis of no co-integration, for r=0, r≤1 and r≤2 was rejected by both the trace statistics while r=0 was rejected by the maximum Eigen-value statistics. The statistical values of these tests were greater than their critical values. The null hypothesis of no co-integration for r≤3, r≤4 and   r≤5 could not be rejected by trace statistics while the null hypothesis of no co-integration for r≤1, r≤2, r≤3, r≤4 and r≤5 could not be rejected by the maximum Eigen-value statistics. The statistical value of the trace statistics and the maximum Eigen-value statistics were greater than their critical values. The results of the co-integration test therefore indicated that there are one co-integrating equations by the maximum Eigen-value statistics while the trace statistics indicated three co-integrating equations at 5%. The implication of this is that there is the possibility that a long run relationship exist among economic growth, entrepreneurship, credit to private sector, percentage share of commercial banks' credit entrepreneurs in relation to total credit and other macroeconomic variables.

5.4 OLS REGRESSION RESULT

$$RGDP_t = 750.44 + 0.074\ ENTRE_{t-1} + 0.004\ CRPS_{t-1} - 11815.99\ PTCR_{t-1} - 9.164\ INT_{t-1} - 11.655\ INFR_{t-1} + \varepsilon_t$$

| (0.0021) | (0.0000) | (0.5162) | (0.9402) | (0.7302) |
| [3.389] | [11.751] | [-0.657] | [-0.075] | [-0.348] |

$R^2 = 0.959797$; Adjusted R-squared = 0.952618; Durbin Watson = 2.0182
Note: Values in parenthesis indicate: p-value and t-statistics respectively.

With emphasis on entrepreneurship as proxy by credit to SMEs, the result of the model estimated above showed that entrepreneurship and total credit to private sector are significant determinant of economic growth in Nigeria. This result implies that one percent increase in entrepreneurship would increase economic growth by 0.074 percent in the long run. The result of the regression shows that the independent variables (ENTRE, PTCR, INT, INFR and CRPS) jointly explained about 95% variations or changes in economic growth. Specifically, the result reveals that entrepreneurship financing has a positive impact on economic growth. Holding all other variables constant, the growth rate of the economy will increase by 0.074 for every 1 unit increase in ENTRE on the average. In addition, the result indicates that ENTRE is statistically significant in explaining economic growth in Nigeria. That is, entrepreneurship is fundamental to achieving economic growth in Nigeria. The model results also show that interest rate (INT), inflation (INFR) and percentage share of commercial banks' credit entrepreneurs in relation to total credit (PTCR) have negative impact on economic growth. This implies that the cost of borrowing (i.e. the rental cost of capital), the purchasing power and the percentage share of commercial banks' credit entrepreneurs in relation to total credit affects the capacity of entrepreneurs' contribution to economic growth in Nigeria.

This result supports the findings of Ebiringa (2011), which opined that enterprise development is directly related to economic development and therefore recommended that Government and the organized private sector should increase their support for entrepreneurial/vocational training programs as part of the tertiary education system. It also corroborates the findings of Onokoya, et al (2013) which shows that credit to SMEs or entrepreneurs have a positive impact on the economic performance.

5.4 ERROR CORRECTION MODEL ESTIMATES
The establishment of presence of cointegration among the variables avails us the opportunity to separate long-run equilibrium relationship from the short-run dynamics. Table 5.6 shows the parsimonious error correction model estimates. The parsimonious result indicates that some of the variables are significant at their levels or current values, while others were significant at their lags.
The estimates indicate that current value of ENTRE has significant impact on RGDP. The parameter estimate associated with this variable, though it has a negative sign, is statistically significant at 10%. This implies that economic growth is well influenced by entrepreneurship in Nigeria. This result is similar to the findings of Eyo (2008). The parameter estimates revealed that the lagged values of RGDP are statistically significant in explaining the behaviour of economic growth in Nigeria, particularly during the period under consideration. This is an indication that economic growth in Nigeria is not only influenced by current economic

environment, but also predicated upon its past behavior. The first and second lagged values of RGDP have positive and significant effect on economic growth in Nigeria. The coefficients are significant at 1 percent. The result indicates Nigeria economic growth is greatly influenced by its past values.

The parameter estimates reveal that the first, second and third lagged values of CRPS are statistically significant in explaining the behaviour of economic growth in Nigeria. The coefficient of CRPS has negative sign and statistically significant at 1% in its first and third lags, while in its third lag, CRPS has the correct sign and is statistically significant at 1%. This indicates that credit to private sector in Nigeria is greatly only influenced by its past behavior. However, the coefficient of the current value of CRPS though has the correct sign but not statistically significant 1%, 5% or 10%.

Table 5.6. Parsimonious Error Correction Model Estimates

Variable/Constant	Coefficient	Standard Error	t-statistic	Probability
C	223.0811	194.0504	1.149604	0.2632
D(RGDP(-2))	0.549479	0.120448	4.561953	0.0002
D(RGDP(-3))	0.835950	0.121231	6.895502	0.0000**
D(CRPS)	0.000536	0.000509	1.053155	0.3042
D(CRPS(-1))	-0.002886	0.000622	-4.638689	0.0001
D(CRPS(-2))	0.004373	0.000589	7.426896	0.0000
D(CRPS(-3))	-0.003194	0.000449	-7.120650	0.0000
D(ENTRE)	-0.024030	0.012700	-1.892167	0.0723*
ECM(-1)	-0.133707	0.083802	-1.595503	0.0012

R2=0.884619, Adjusted R-squared=0.8804665; F-statistic=20.12579; Prob (F-statistic)=0.0000. Durbin Watson= 1.842902; Log likelihood =-237.7452, S.E. of regression =799.7018, Sum squared resid =13429981, Mean dependent var =1370.662, S.D. dependent var =2003.421, Akaike info criterion =16.44968, Schwarz criterion =16.87004, Hannan-Quinn criter =16.58416

*, ** denotes 5% and 1% level of significance respectively
Source: Author's computation using E-Views 7.2

The error correction term (ECM_1) has a negative sign and is statistically significant; these are in line with expectation. The absolute value of the error correction term indicates that the variables adjust very fast towards their long-run equilibrium position. The model is generally robust; this is shown by the value of the F-statistic which is statistically significant at 1%. The model has a good statistical fit. The Durbin-Watson statistic, which is 1.84, suggests that the model does not suffer from first order autocorrelation. Thus the estimates of the model are reliable and should be taken with high degree of confidence.

6. CONCLUSION

This study has provided evidence on the role of entrepreneurs in economic growth in Nigeria using error correction mechanism (ECM) and Ordinary Least Square (OLS) estimation techniques. It is clear from the analysis that credit to SMEs is statistically significant in the determining the level of economic growth, implying that increases in entrepreneurial financing have significant effect on economic growth in Nigeria. This confirms the roles of entrepreneurs as good drivers of economic growth in the country. Particularly, the increase in the operations and activities of SMEs in Nigeria remains indispensable in our pursuit of economic growth and development as a nation. The added control variables CRPS, is statistically significant in

explaining economic growth, while PTCR, INFR and INT, are not statistically significant. Also, CRPS impacted positively on economic growth, while PTCR, INT and INFR exhibited negative effects.

The study provided linkages on how has financing entrepreneurship had facilitated economic growth in Nigeria. Credit framework via money deposit banks (DMBs) and micro-finance banks assisted entrepreneurs with soft loans when still in their infancy. Innovative entrepreneurship brought about technical progress through capital-saving, efficient production techniques and higher levels of output or economic growth. These entrepreneurs stimulate growth in various enterprises and industrial organizations. The financial support made available also helped to expand the depth and reach of impactful entrepreneurial development in every sector of the economy.

However, the major hindrance inhibiting SMEs as growth drivers in Nigeria include; poor infrastructural facility, poor start-up process, inadequate financial resources, poor management capacity, poor strategic planning and other socio-cultural problems.

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