

“Prosperity/pull or Recession/push hypothesis”: Empirical evidence from Nigeria’s entrepreneurial activities.

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Abstract: The paper aimed at investigating the influence of economic growth and standard of living on entrepreneurial activities in Nigeria. The study involves time series analysis using vector autoregression framework. The data were collected from various relevant government agencies for the period 1980 to 2010. The result reflects the left hand of U shaped curve as found in other previous studies in developing countries and supports the recession/push hypothesis. The study also revealed that as the standard of living improves in the country, necessity entrepreneurs decline their interest in entrepreneurship because they could have other options for wage employment opportunities. The proliferation of necessity entrepreneurs because of the dwindling economic position has insignificant effect on the country's economic growth as well as standard of living. There is little or no attempt by the previous studies to examine the influence of country's standard of living on entrepreneurship. This study is unique by going beyond the effect of economic growth to capture the status, economic power and wellbeing of the population into analysis.

Keywords: Entrepreneurship; Economic growth; Standard of living; Necessity entrepreneurs, Opportunities entrepreneurs, Developing countries

1. Introduction

Entrepreneurial activities became indispensable to the functioning and prosperity of both developed and developing contemporary economies. Entrepreneurship has been considered as a necessary condition for sound and genuine economic development (Naude, 2010; Sanyang and Huang, 2010; Yanya, Abdulhakim and Abdulrazak, 2011; Koster and Kumar Rai, 2008 and Carree and Thurik, 2003). Many countries based on the perceived importance of entrepreneurship to economic growth have embarked on series of programs and policies to support and promote entrepreneurial activity.

Entrepreneurship is seen as instrumental for country's economic growth because of its efficacy in creation of jobs, income, wealth and propelling competition and innovations in the economy (Hartog, Parker, Stel and Thurik, 2010). There are observed differences in the degree of entrepreneurial involvement between developed and developing countries. It is often argued in the literature that the existence of entrepreneurial activity is dependent on the country's level of economic development. In most cases developing countries exhibit high rate of entrepreneurial activities than the developed economies (Azmat and Samaratunge, 2009). But global entrepreneurship monitor (GEM) research provides a clear and more cogent explanation of why there are more entrepreneurial activities in developing than developed countries (Reynolds et al 2002). The high rate in developing countries is as result of bad economic conditions which pushes people to

massively engage in business start up because of the need to survive. While in developed countries entrepreneurial activities are mostly based on the existing and new opportunity created in the market (Koster and Kumar Rai, 2008). In other word there are more necessity and less opportunity entrepreneurs in developing countries and more opportunity and less necessity entrepreneurs in developed countries.

The complex and dynamic relationship between entrepreneurship and economic growth in developing and developed economies is reflected in U curve shaped relation. The left hand side of the curve explains the situation in developing nations which shows that as economic growth is increasing, the rate of necessity entrepreneurship is decreasing. And the right side shows how the rate of opportunity entrepreneurship is increasing with an increase in the economic growth. Policy makers are playing crucial role in promoting entrepreneurship based on their understanding of the dynamics and evolutionary trend in entrepreneurial activities in relation to economic growth. There is little or no attempt by the previous studies to examine the influence of standard of living on entrepreneurship. This study is unique by going beyond the relationship between economic growth and entrepreneurship as economic growth alone cannot capture the status, economic power and wellbeing of the population. Therefore, the objective of this study is to investigate the influence of economic growth and standard of living on entrepreneurial activities in Nigeria.

2. Theoretical framework

In the classical tradition the major argument is on how to create surplus “production of surplus”. It is assumed that resources are not scarce but naturally spread in different quality (Khalil 2006). The economic problem according to classical economist is how the agent can work in a productive way within the constraint of low quality resource to create surplus. For instance land as a factor of production is not scarce but it is geographically varies in term of quality and content, hence the agent must devise productive means if surplus must be made. The classical major policy conclusion is to increase surplus through curtailing unproductive activities. While neoclassical economists basically focused on scarcity. They believed that resources are scarce, therefore there is need for efficient allocation. In fact some argued that if there is no scarcity then there no justification for the existence of economics as a field of study. Although the role of creating surplus and efficient resource utilization has been attributed to the function of an agent, neither the classical nor neoclassical sees entrepreneur as a potential agent that carry out these functions.

In any attempt to understand the relationship between economic growth and any other economic variable, it is easier to start by ascertaining the causes of economic growth. There is division among economist on how to address this issue, some argued in favor of Smithian idea while others follow the Ricardian perspective. According to Smithian view innovation will lead to increase in division of labour which will consequently affect economic growth positively. While the Ricardians believed that in production function approach what will lead to economic growth is investment (Holcombe, 1998). But importantly Smith did not explicitly explain how innovation process should be carried out. Schumpeter (1934) considers entrepreneur as agent that creates a state of disequilibrium in the system through the process of innovation (Karlsson, Friis and Paulsson, 2004). He advocated for ‘creative destruction’ which is refers as new combination. The entrepreneur is described by Schumpeter as economic agent who innovates and introduces changes that radically alter the existing framework of economic system (Flulai yu, 1997). In other word entrepreneurs are those people who innovate by combining factors of production in a new way to bring about growth.

In a free market economy entrepreneur is the figure and champion of economic development for carrying out new combination (Jennings, 1994). The Austrian school determine two major forces behind the success of free market economy, they are both intertwined and dependent upon one another i.e. the concept of creative destruction and entrepreneur (Kiessling, 2004). The process of creative destruction is the essential fact about capitalism. It is through creative destruction that capitalist creates new things. The economic changes normally coming through innovations are carried out by entrepreneurs who are seeking for profit for continuous and dynamic process of economic development. The pattern of production has been revolutionized through the function of entrepreneurs by exploiting an invention or more generally an untried technological possibility for new commodity or

producing an old one in a new way, opening a new source of supply of material or new outlet for products by reorganizing a new industry (Kiessling, 2004). Innovation may result in chain reactions, which may have per reaching implication on the economic progress. One innovation may breed another form of innovation and it does not appear independently.

The Kirznerian entrepreneurship is to bring order to the system to achieve equilibrium state as oppose to Schumpeterian view that advocated for system disequilibrium. Kirzner (1973) consider entrepreneurs as people who are alert to profit opportunities (Holcombe, 1998). There are differences among people but what is peculiar to entrepreneurs is their ability to spot profit opportunity and respond accordingly. In essence both Schumpeterian and Kirznerian entrepreneurs play an important function of propelling economic progress. While in Schumpeter’s tradition entrepreneurs innovate to create business opportunities, Kirznerian entrepreneurs are constantly responding to those unseen profit opportunities (Khalil, 2006). Schumpeterian entrepreneurs are productive, innovative and opportunity seekers. The ‘prosperity/pull hypothesis’ explains how people become entrepreneurs in order to pursue unexplored opportunities in the market place. This kind of entrepreneurs makes high impact and promotes economic growth. On the other hand ‘recession/push hypothesis’ explain how people start up a business due to harsh economic condition, they are not engaged by mere existing opportunities but necessitated because there is no other options. This kind of entrepreneurs makes little or no meaningful contribution to economic growth.

3. Entrepreneurship, economic growth and development

The role of entrepreneurship in stimulating economic growth has been recognised and it is being considered as a prerequisite for any sound economic development (Kumar Rai and Koster, 2008; Acs and Szerb, 2007; Wennekers and Thurik, 1999; Carree and Thurik, 2003 and Baumol, 2002). Entrepreneurs always challenge the way things are conducted by creating something entire new or improve on the existing one. They came up both incremental and radical innovations to satisfy both latent and identified needs and wants of the customers. In most literature entrepreneurship is refers to as creation of new business start up. People may decide to initiate their own business in order to pursue an unexplored or unseen business opportunity. The new entrant must be innovative to capture market share adequate to sustain their business into the future.

The rate of new business created coupled with the intense competition place the incumbent firms in an undue pressure to become more innovative so as to retain the earlier gained market position. The high level of competition created in the environment as a result of these new entrants may lead to an increase in productivity reflecting in both quality and quantity of goods and services in the country. The benefit brought about by this competition is not only limited to given values or choices

to the customer but it may significantly influence economic growth. Therefore it is important when linking between entrepreneurship and economic growth to discuss the role of creating or founding business. The creation of new business into the market is good thing for the economy. Schumpeter believed that new firm entrants are the main source of motivation for technical progress, because for them to capture any market share from the existing firm, it requires high commitment and new innovative ideas.

The entry of new firms plays an important role in driving the price toward competitive level, thus it will enhance the technical as well as efficient allocation of resources (Wang, 2006). Wennerkers and Thurik (1999) singled out two major entrepreneurial roles, they are “new entry and newness” in general. They argued that the first role of entrepreneur is that of founding of new business and entrepreneur is someone who creates, organizes and operates a new business firm, whether or not there is anything innovative in those acts. The second role has to do with entrepreneurs’ ability to carry out innovations in economic life. The entrepreneur as the innovator is the one who transform inventions and ideas into economically viable entities, whether or not, in the course of doing so they create or operate an enterprise. There are several reasons for new entry and the rate of entries varies across industries.

One fundamental task of policy makers is to find out why the rate of business start up cannot be translated to economic growth and what can be done. There are arguments on the variation of entrepreneurial activities between developing and developed economies (Sternberg and Wennerkers, 2005 and Autio, 2007). Many researchers have shown that there is high rate of entrepreneurial activities in the developing countries than in the developed nations. Based on this outcome it may be interesting to ask whether developing countries are more entrepreneurial than the developed ones. If high rate of entrepreneurship absolutely leads to economic growth, it may be assumed that developing countries will achieve more economic performance than the developed countries. But the reality is that high entrepreneurial activities in developing countries are based on necessity. They are not high impact entrepreneurs and cannot stimulate the desired economic growth.

The differences on the extent of impact between necessity and opportunity entrepreneurship is very obvious among countries. Necessity entrepreneurs do not embark on radical innovation, they only imitate and produce something in existence in a different form. In many occasion they start up business because there is no other alternative means for subsistence. There is evidence of high rate of entry and exit among necessity entrepreneurs as such they cannot create the expected jobs, income and wealth. On the other hand opportunity entrepreneurs alter the status quo and always set a new market challenge by introducing something new that is not known before. They are high impact entrepreneurs that provide real job opportunities and generate economic prosperity in a country.

Moreover, new business start up which is motivated for the purpose of exploiting opportunities would probability lead to increasing economic growth.

Those starting business because of necessity may not likely to have meaningful impact on the country’s economic performance (Acs, 2007). It is important to state that both necessity and opportunity can be found in a particular country but what is important is the proportion between them. The ratio between necessity and opportunity in a country can be a good yardstick for understanding level of country’s economic development (Acs, 2007). The relationship between necessity entrepreneurship and economic growth is likely to be negative for developing countries and positive for developed nations. As developing nations are achieving high economic growth rate, the quantity of necessity entrepreneurs is expected to decrease and vice versa.

Entrepreneurs are not operating in a vacuum, they act in an environment which shape and regulate the nature of entrepreneurial activity in a country (Acs and Stenholm, 2008). The effectiveness and response of government institutions to economic and social issues varies between developed and developing countries. The level of economic development and the strength of the institutions in place determine the behaviours of the economic actors (North, 1990). The developed economies are able to have formidable and strong institutional framework that enhances quality of governance, transparency and accountability and efficient utilization of resources better than the developing countries. Therefore the environment matters in providing conducive atmosphere for innovative and opportunity entrepreneurship that will promote economic development. Different economic measures were considered in developing countries to provide atmosphere for growth and development. Many countries adopted structural adjustment program and other macroeconomic stability plans but in short term failed to propel the economy (Zhou and Zhang, 2012).

High standard of living is regarded as one of the feature of country’s economic development. Good standard of living in a country creates an opportunity for more economic prosperity by embarking on wide scale of economic activities. The task of bringing economic prosperity can be spearheaded by innovative entrepreneurs through production of large scale good and services at a lower price. They provide quality products to people at affordable cost which will help in raising standard of living. There is expected positive relationship between country’s standard of living and economic growth. Economic growth is mostly considered as a key to improving standard of living of a nation. Many developing countries are cherished to have a sustained increase in their country’s standard of living. Although increase in economic well being of the population is measured by the changes in GDP along with other macroeconomic variables, the income distribution within the population is of great concern to developing economies (Samli, 2009). The gap that exist between the poor and non poor determines the extent to which people are economically empowered to productively engaged in economic activities. A population in which poor constitutes overwhelming majority could only be driven by necessity to partake in entrepreneurship.

4. Methodology

4.1 Econometric model

$$\text{LENT} = \alpha_0 + \delta_1 \text{LEG} + \delta_2 \text{LSOL} + e$$

Where LENT is the logarithm of entrepreneurship, LEG is the logarithm for economic growth, LSOL stand for logarithm of country's standard of living, β is the parameter to be estimated and e is the error term.

4.2 Definitions and measurement of variables

Entrepreneurship: New business created over time is used as proxy for entrepreneurship. It is measured by the total number of business registered as private limited company and business names. The data was collected from corporate affairs commission (CAC), Nigeria from 1980 to 2010.

Economic growth: It is defined as the increase in the value of goods and services produced in an economy. It is basically an increase in the amount of goods and services produced by country's economy over a specified period of time. In this research real GDP values are used as a measure of economic growth from 1980 to 2010. The data for real GDP was collected from Central Bank of Nigeria (CBN).

Standard of living: Per capita income is often used as a measure of country's standard of living or rather the wealth of the population of a country particularly when making comparison with respect to other countries. GNI per capita income is used as a measure for country's standard of living. The data was gathered from World bank website from 1980-2010.

4.3 Method of data analysis

Vector autoregressive (VAR) framework is used in analyzing the time series data collected for the variables. VAR is a simple framework that provides a systematic way to capture rich dynamic in multiple time series. It is a collection of univariate autoregressive models to a vector of economic variables (Li and Liu, 2012). It is used to provide a coherent and good approach in data description, forecasting, structural inference and policy analysis (Stock and Watson, 2001; and Gujarati and Porter, 2009)

a) **Unit root test:** Unit root test is used to determine the properties of the data. It is useful method in testing the stationary of economic data. Most of the macroeconomic variable are non stationary or rather have unit root. For any further analysis to trend or difference a time series depends on the nature of the data. The augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were conducted.

b) **Johansen and Juselius (1990) cointegration test:** This technique involves two likelihood ratio (LR) test statistic (trace test and maximum eigenvalue test) which were used to find the number of cointegrating vectors (Ray and Ray, 2012). The notion of Johansen procedure is to find linear combination of Y_{t-1} that are most highly correlated with ΔY_t on the ground that I(0) and I(1) variables are not correlated (Maddala and Kim, 1998). The Johansen's methodology has to be started in the vector autoregression (VAR) of order p given by

$$y_t = \mu + A_1 y_{t-1} + \dots + A_p y_{t-p} + e_t$$

where y_t is an $nx1$ vector of variables that are integrated of order one I(1) and e_t is an $nx1$ vector of innovations.

c) **Error correction model (ECM) and Granger causality:** A good time series modelling should describe both short-run dynamics and the long-run equilibrium simultaneously. The cointegrating regression considers only the long-run property of the model, and does not explicitly account for the short-run dynamics. Therefore a vector error correction model (VECM) is develop for that purpose and can be represented by the following equations in which each variable become endogenous.

$$\begin{aligned} \text{ENT}_t &= \alpha_0 + \delta_1 \text{ENT}_{t-1} + \delta_2 \text{EG}_{t-1} + \delta_3 \text{SOL}_{t-1} + \lambda_0 \\ &\quad \text{ECT}_{t-1} + e_t \end{aligned}$$

$$\begin{aligned} \text{EG}_t &= \alpha_0 + \delta_0 \text{EG}_{t-1} + \delta_1 \text{ENT}_{t-1} + \delta_2 \text{SOL}_{t-1} + \lambda_0 \\ &\quad \text{ECT}_{t-1} + e_t \end{aligned}$$

$$\begin{aligned} \text{SOL}_t &= \alpha_0 + \delta_0 \text{SOL}_{t-1} + \delta_1 \text{ENT}_{t-1} + \delta_2 \text{EG}_{t-1} + \lambda_0 \\ &\quad \text{ECT}_{t-1} + e_t \end{aligned}$$

Additionally, since the study involves in determining the causality among variables, the use of Granger causality test become necessary. Most empirical studies examined such a relationship in the context of Granger causality in a multivariate framework (Jeong and Nishiyama, 2005)

5. Empirical results and discussion

Table 1: Unit root test result

ADF test		PP test	
Intercept	intercept & trend	intercept	intercept & trend
Level			
LENT	-2.136(0)	-2.906(0)	-1.838(5)
LEG	0.547(0)	-2.173(0)	0.099(3)
LSOL	-0.411(0)	-2.188(0)	-0.837(3)
First difference			
LENT	-5.560(0)***	-5.466(0)***	-7.886(16)***
LEG	-4.347 (0)***	-5.785(0)***	-4.383(2)***
LSOL	-4.333(0)***	-5.769(0)***	-4.368(2)***
			9.380(18)***
			-5.831(4)***
			-5.813(4)***

Note: *** denote statistical significance at 1% level. The critical value of ADF and PP can be found in MacKinnon (1996). The optimum lag length in the test was selected automatically based on Schwarz Information criterion and on Newey-West estimator using lag selected by Bartlett kernel

information criterion for ADF and PP respectively. Lag selection figures are shown in (). In both tests null hypothesis indicating presence of unit root was examined against alternative for stationarity. LENT is a natural log of ENT, LEG is a natural log of EG and LSOL is a natural log of SOL.

The table 1 shows the individual variables' stationarity tests. The results indicate that in all the variables are I(1) meaning they are integrated order of 1. It is stated in the economic literature that most of macroeconomic variables are I(1) process (see Bahmani- Osokoe,1995 and Gujarati and Porter, 2009). Based on this outcome which gives the same order of integration, it is considered suitable and appropriate to perform the cointegration test which examines the long run relationship among variables.

Johansen cointegration test result is presented in table 2. The result reveals that the null hypotheses are

Table 2: Johansen cointegration test

H ₀	H ₁	λmax	CV (max 5%)	Trace	CV (max 5%)
r = 0	r = 1	22.07904**	21.13162	35.40651**	29.79707
r ≤ 1	r = 2	13.08864	14.26460	13.32747	15.49471
r ≤ 2	r = 3	0.238824	3.841466	0.238824	3.841466

Notes: r indicates number of cointegrating relationships. Asterisk (**) indicate 5% level of significance.

Table 3 reveals the Granger causality result. It shows EG and SOL Granger caused ENT. Therefore, the hypotheses assuming that EG and SOL does not Granger caused ENT has been rejected. Although all the variables are statistically significant as shown by the error correction term (ECT), EG and SOL appears to be significant at 1% level, hence these variables will bear the brunt for any

rejected in both max eigenvalue and trace tests which indicated that there is no cointegrating vector (r=0), therefore alternative hypothesis is accepted indicating 1 cointegrating vector. The results have shown that the variables in the system share a common trend since long run relationship has been established. The selection of lag length is a necessary precondition to perform cointegration test. The Schwarz information criterion (SC) was selected based on its suitability and adequacy for small sample size.

short run adjustment to bring back the system to its long run equilibrium. It can be seen that in case of any innovations due to EG or SOL the speed of adjustment will be around 49% per year. This indicates that it will take the system more than 2 years to revert to the long run equilibrium.

Table 3: Granger causality result in VECM

Dependent variable	LENT	LEG	LSOL	ECT	t-ratio
	X ² - statistics				
LENT	-	7.359(0.02)**	7.406(0.02)**	-0.663**	-2.55
LEG	5.272(0.07)	-	2.069(0.36)	-0.488***	-2.68
LSOL	5.262(0.07)	2.052(0.36)	-	-0.490***	-2.69

Note: The VAR was based on 1year lag structure and a constant. ***, **, * indicates statistical significance at 1%, 5%, 10% level respectively. Figures in parenthesis () are p- value.

There are strong arguments from the literature that the relationship between entrepreneurship and economic growth is more likely to be positive for developed countries and negative for developing countries (Acs, 2007 and Acs and Stenholm, 2008). From table 4 the result of normalised cointegration and the likelihood ratio for exclusion test is reported. The result shows that the

coefficient estimating the cointegrating vectors is statistically significant at 1% level. The long run elasticity can be seen from the coefficient of each variable. Entrepreneurship is negatively related to both economic growth and country's level of standard of living.

Table 4: Johansen cointegration normalised equation estimate and likelihood ration restriction tests

Variables	Normalised estimate	Test for exclusion	
		Ho	LR
Constant	-27.336		
LENT	-1.000	β ₁	9.642(0.03)
LEG	-2.336	β ₂	9.736(0.02)
LSOL	-2.860	β ₃	9.767(0.02)

Note: The values in parentheses are the p-values for chi squared test statistics for lag exclusion

As economic growth is increasing entrepreneurship is decreasing. This result reflects the left hand side of U curve shaped hypothesis for developing countries and is supported by the findings of Carree et al (2002), Stel et al (2004), Wennekers et al (2005), Naude, et al (2012), Acs

(2007) and Koster and Rai (2008). It usually assumed that in developing countries people faces poor economic condition with low income and inadequate employment opportunities. Majority of the people have no other option than to engage in entrepreneurial activity as a

means for sustaining their lives. This kind of situation serves as a motivation to many to start up business and the country witnesses a proliferation of overwhelming necessity entrepreneurs. But as the country's economic condition improves these necessity entrepreneurs will decline their interest in entrepreneurial activity by looking for paid employment. Only opportunity entrepreneurs who have started their business because of perceived opportunity in the market will remain.

Most of findings using GEM research data provide a support for this kind of relationship for both developed and developing countries by confirming U

curve shaped hypothesis. The result further indicates that country's standard of living influences entrepreneurial activity negatively. This implies that as the standard of living of the entrepreneurs is increasing, people will similarly lost interest in partaking in entrepreneurship because they may have other wage employment opportunities. This result further shows that they are into self-employment because of the recession in the economy. There are other studies that found similar result which shows entrepreneurship is declining over time in developing countries as their economic conditions improve (Carree et al, 2002 and Wennekers et al, 2005).

Table 5: Diagnostic test result

JB	3.158(0.206)
ARCH (1)	1.624(0.212)
AR (2)	5.145(0.053)
HETERO	1.254(0.314)
RESET(1)	0.035(0.206)

Note: AR and ARCH are the Lagrange multiplier tests for serial autocorrelation and ARCH effect respectively. RESET refers to Ramsey Reset specification test. JB is the Jarque Bera statistics for residual normality test and HETERO refers to White general heteroscedasticity test. Figures in parenthesis are p- value.

Diagnostic test results are reported in Table 5, it indicates that the model is robust and satisfied the necessary conditions. The estimated residuals have normal distribution pattern, the residual are not serially correlated, there is evidence of homoscedasticity of variance and there is no problem of misspecification. The

recursive parameter estimate of CUSUM test is presented in figure 1. The test has shown that the model is relatively stable as the cumulative values are within the two standard deviations boundaries at 5% level of significance.

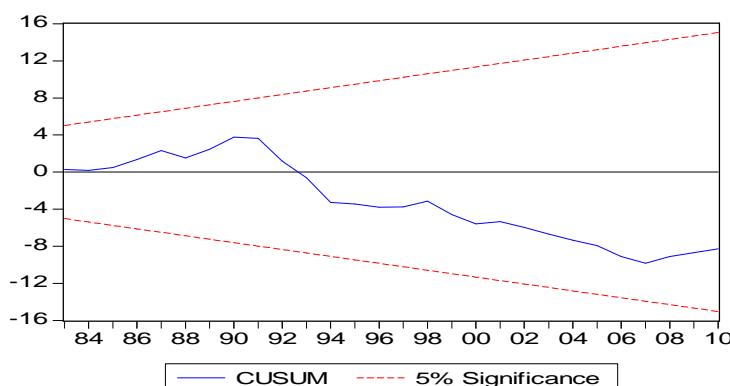


Figure 1: CUSUM test

6. Conclusion and policy implications

The practice of entrepreneurship cut across both developed and developing economies. The nature and features of entrepreneurs varies because of the environmental differences that shape each country's economy. The dynamism of entrepreneurship can be studied by understanding the trend in some macroeconomic indicators in every nation. Despite the indispensability of entrepreneurship in general to economic growth, it is important to trade off between the existence of necessity and opportunity entrepreneurs which will be a good pointer for development direction of the country. To ask whether economic growth is good for

entrepreneurship or the other way round is all depends on the prevailing circumstance. Entrepreneurship could drive economic growth through creation of goods and services that give value to the people thereby raising their standard of living.

Declining or negative economic growth can limit the strength of the economy and indirectly curtail economic power of the population in a country. The proliferation of necessity entrepreneurs because of the dwindling economic position could have insignificant effect on the improving economic growth as well as standard of living. The presence of negative relation between entrepreneurship and economic growth is an indication of recession/push effect in the country. The

government must rise to the expectation of creating necessary business environment that is conducive for particularly innovative and opportunity entrepreneurs. There is need for sufficient financial and physical infrastructural support to entrepreneurial activities which will in create employment opportunities, reduce poverty and economic prosperity in the country.

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