

**Entrepreneurship Development, Human Capital and Employment Growth in Selected West African Countries**

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**Abstract**

**T**his paper examines the relationship among entrepreneurship development, human capital and employment growth in selected West African countries for the period 1990-2018 based on data availability. Cost of business start-up procedures, new business registered, startup procedure to register a business and time required to start a business are adopted as variant measures of entrepreneurship development. Variables such as entrepreneurship development, human capital and employment growth were employed with control variables. After the necessary diagnostics, the study adopts the panel least squares estimation technique and the results obtained show that human capital development is necessary for entrepreneurship development particularly establishing new businesses, startup procedure to register a new business and then reduction in cost of business startup procedures. Furthermore, entrepreneurship development fosters employment opportunity as indicated by the coefficients of new business registration, startup procedure to register a business and time required to start a business testifying to the Schumpeterian theoretical assertion.

*Keywords: Entrepreneurship development, Human capital, Employment growth, Panel Least Squares*

*JEL Classification: E24, O15*

**1.0 INTRODUCTION**

Entrepreneurship considered as a process leading to the creation and expansion of firms, plays a significant role in every economies' growth and development process. It remains the driver of the economy and the engine of growth and development through increasing communities' standard of

living. There is a positive link between the share of innovative entrepreneurs in the labour force and economic growth (Dejardin, 2000). Moreover, entrepreneurial activity fosters the efficient use of economic resources through raising the level of competition in the product market (OECD, 2003). The significant role of entrepreneurship research in growth, innovation and employment has increased its popularity over time. The relationship between entrepreneurship activities and human capital has been established by the Lazear's theory on entrepreneurship (Lazear, 2004; Lazear, 2005). The argument here is that employees in large corporations have expertise in various divisions including research and development, production, and marketing. Owners of business are expected to possess the general knowledge of all these divisions and people with such academic and professional capacity are likely to be successful entrepreneurs. On the contrary, owners do not know all but only have the organizational skills and monitor various jobs (Astebro & Thompson, 2011). In summary, for entrepreneurial activities to be successful, they must be complemented by adequate in depth and diverse human capital development (Ryota, 2013). Moreover, for individuals of a nation to achieve their laid down aspirations and have useful impacts on growth and development, they need to have the entrepreneurship skills. In African countries, West Africa inclusive, entrepreneur activities are hindered by low level of financial markets, poor access to required capital and technology and high interest rates. While entrepreneurship development certainly requires skills, knowledge and attitudes to carry out economic activities, it is important as one of the challenges of employment opportunities faced by the developing nations is linked to scarcity of resources and other restrictions on public sector employment. The constraint in employment opportunities has given rise to unprecedented magnitude in unemployment in developing countries of the world including Africa. While the present generation of youths is mostly educated, they are facing rising unemployment crisis following gross inadequacy of formal employment which often makes youth seek informal employment as an alternative. However, this sector is characterized by insufficient wages, poor social security and health benefits with working conditions outside the boundary of public evaluation (De Soto, 1989). The restrictions in employment opportunities in Africa give rise to low aggregate demand, low income, low living standard, and poverty in general. These consequently lead to high crime rate, social disorder and general economic instability. The link between entrepreneurship, human capital and employment leads to the following questions: Does human capital creates expected entrepreneurship ability in

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the selected West African Countries? Does entrepreneurship development lead to employment opportunities in the countries in question? Therefore, this paper addresses these through the following objectives: These are to

- \*Examine the relationship between human capital and entrepreneurship development in the selected West African countries
- \*Identify the link between entrepreneurship and employment opportunities in the countries in question

A strong motivation for this research centers on the low level of African countries' level of development occasioned by many challenges ranging from low level of investment, unemployment, low level of capacity development and persistent increase in poverty among others. A way of improving entrepreneurship development through human capital training that can facilitate employment opportunities remains key to the region. Moreover, this research comes around at the point when the notion of many nations is how poverty can be alleviated. Thus, it is important to focus on the factors that can successfully influence entrepreneurship development in West African region; this then serves as a major guide towards addressing issues of unemployment and poverty in general. This study attempts to complement existing work on entrepreneurship development incorporating the link among it and human capital and job creation.

Closely following the introduction is session II which focuses on the literature review. Session III is the stylized fact while session IV discusses the theory and the methodology adopted. Session V takes care of the analysis and discussion while session VI concludes.

## **2.0 LITERATURE REVIEW**

Academic literature on entrepreneurship development, human capital and employment growth is on the rising trend even though is being spread across various disciplines. Entrepreneurship is known to be associated with high recognition and entrepreneurs given kudos for contributing immensely to the society in relation to job creation, healthy rivalry, growth and inclusiveness, and innovation. The potential benefits arising from these have attracted interest in the subject matter

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from the academia and political arena in policy development. In most developed world, governments significantly finance entrepreneurship development as a motivating factor (Shane 2009; Acs et al. 2016). Policies for entrepreneurship promotion entail education for entrepreneurship career development, financial assistance, transfer facility for business flow among others. Role of entrepreneurship in influencing these policies have been positive. Interests have been on observing the differences between debate on empirical-fact finding and the approach to entrepreneurship within policy cycles. Since the 1980s, relationship between entrepreneurship and job gains (losses) has been investigated. Birch (1979) as cited in Block (2017) observes that small firms have disproportionate contribution to net job creation (Birch 1979, 1987; Davidsson, Lindmark, & Olofsson 1998; Henrekson & Johansson 2010; Neumark, Wall, & Zhang 2011; Haltiwanger, Jarmin, & Miranda 2013). Apart from its effect on job creation, more interests are attracted to the role entrepreneurship plays on innovation, growth and welfare (Van Praag & Versloot 2007). Issues on the positive effect of small job creation have arisen. For example, it has been shown that young firm rather than small firms are responsible for creating jobs (Haltiwanger, Jarmin, & Miranda 2013) and in some cases poor quality of job result (Coad et al. 2014).

Human capital may be seen as a special form of entrepreneurship which can determine the current output level and sustainable growth paths. This follows the fact that an innovative entrepreneur results through the dynamic process of entrepreneurial knowledge. Human capital role in entrepreneurship development fosters investment in innovations in commercial and industrial knowledge aside from formal school. This human capital in question boosted by higher education and institutional ideas serve as complements to other basic channels of human capital formation and directly connects investment in entrepreneurship and hence determining output and per capita income (Ehrlich et al, 2017). In the growth literature of Schmitz (1989 as cited in Ehrlich et al, 2017), an individual has the options of becoming an entrepreneur or an employee. Entrepreneurs adopt technologies from innovators through the learning-by-doing styles and with this they add to their existing stock of knowledge. The prediction here is that entrepreneurship spurs growth since more knowledge is being utilized. Braumerhjelm et al. (2010) through some modifications assume that knowledge is not only produced by R&D workers in existing firms but through entrepreneurial investment take-off who are not engaged in research. The argument is that stock of knowledge

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produced through research plays little role in growth unless it is reflected in commercial use through entrepreneurial activities.

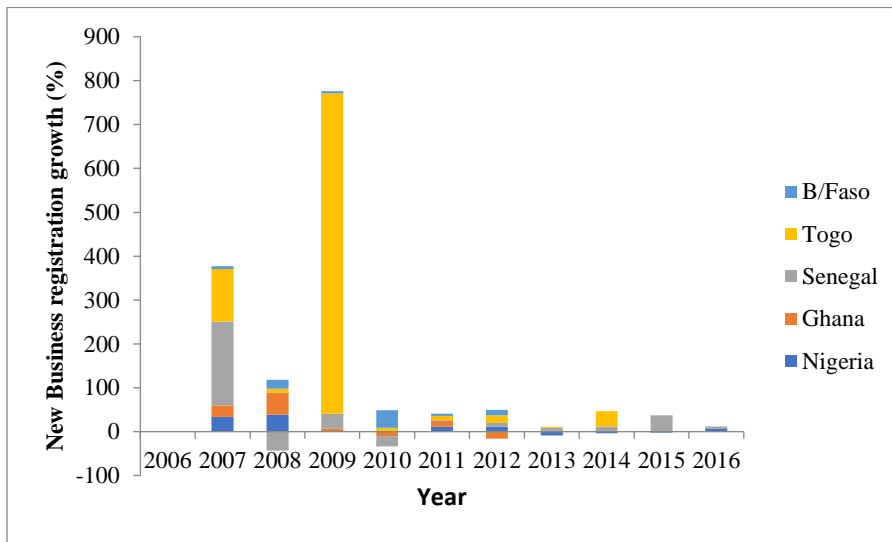
Empirical facts have emerged on the relevance of entrepreneurship. Wennekers et al. (2005) establishes existence of positive correlation between entrepreneurial activity and innovative capacity in developed countries. Hence increasing level of entrepreneurial activity can foster relevant innovations. Similarly many studies have found positive relationship between entrepreneurship and economic growth, However, the complex causal relationship between entrepreneurship and economic growth is well acknowledged (Wennekers & Thurik 1999). In a study carried out by Enu-Kwesi and Asitik (2012) in a district of Ghana, their analysis shows mixed results and suggests that there is an existence of gap between secondary school education outputs and what is required for entrepreneurship development. Also youth unemployment in the district is caused by limited opportunities or that there is lack of driving force including creativity and poor innovation, or that the youths are selective and create preference for white collar jobs.

### **Entrepreneurship Development, Human Capital and Employment in West Africa**

At the global level, entrepreneurship is closely linked with employment, innovation and growth. For almost 40 years now, entrepreneurship has been practiced within African countries. Since Africa's problem is strongly related to youth unemployment, attracting youth into the business sector can fast track solutions to unemployment, underemployment and poverty problems in the region. The expected positive outcomes from entrepreneurial activity remain an attraction for people to engage in it and this subsequently play a significant role in the wellbeing and economic growth. In the Sub-Saharan Africa, there exists a high perception on existing opportunities for new business take-off except for South Africa with about 35% lower than the region's average of 70% (WDI); this apparently differs for developed economy. The perception of individuals with real skill to start off a business is more than 76% in every countries compared to South Africa of about 39%. In Nigeria, between 2006 and 2007, growth of new business was highest in 2008 reaching about 38.5% up from 36.9% in 2007 compared to Ghana's 50.5% up from 25.7% in 2007. This dropped significantly to about 1.7% for Nigeria and 5.8% for Ghana in 2009 before turning negative for both countries in 2010, a reason that could be attributed to the aftermath effect of global recession. The rise in business growth for Ghana compared to Nigeria may be linked to

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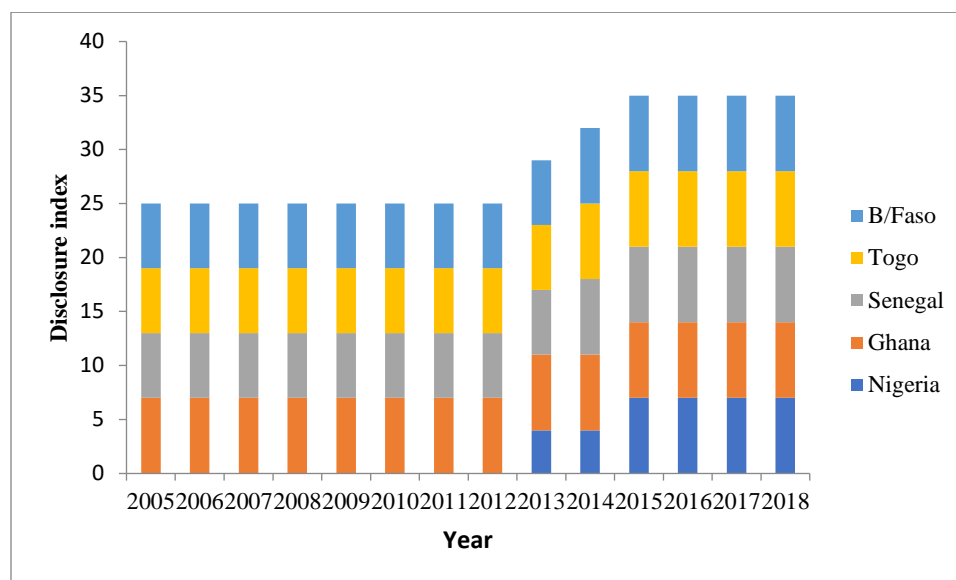
stable business attractive factors such as electricity. Growth of new business for Nigeria in 2013, 2014, and 2015 again reached -8%, -3% and -2% respectively before picking up in 2016 to 7% (WDI). Senegal only had two episodes of negative business growth rates of -43.0% and -23.3% in 2008 and 2010 respectively while for other years, positive growth rates were recorded. However, a growth rate of business was encouraging in 2007 even higher than those of Nigeria and Ghana. Togo and Burkina Faso are characterized by positive new business growth in most periods. A most probable reason could be the lingering unemployment crisis in West Africa and more pronounced in some notable regions like Togo and Burkina Faso.



**Figure 1: New Business Registration Growth (%) in West Africa: 2006-2016**

Source: WDI

Data has shown that most West African countries are characterized by high business disclosure especially for Burkina Faso, Togo, Senegal, Ghana and Nigeria. The business disclosure index was highest at an average of 7 for Ghana during 2005-2018 compared to other countries.



**Figure 2: Business Disclosure index in West Africa: 2005-2018**

Source: WDI

By implication relevant company information that influence investment decisions such as financial conditions, operating results and management compensation are well released.

Based on data from UNDESA, UNESCO, UN and The World Bank, The average achievement in human development -longevity, healthy life, knowledge and living standard- is low in SSA including the West Africa region. The average human development index (HDI) for 1990-2017 reached 1.12 and 0.537 for 2017 alone. This is exceptionally low for a progressive capacity development. For Nigeria, Ghana, Senegal and Togo, Ghana had the highest HDI for 2017 of 0.592 compared to Nigeria of 0.532. On a comparative level, Ghana surpassed Nigeria having better HDI even though this is low for a meaningful capacity development. Togo recorded the lowest HDI of 0.503 during same year. (See table 1).

**Table 1: Human Development Index in SSA: 1990-2017**

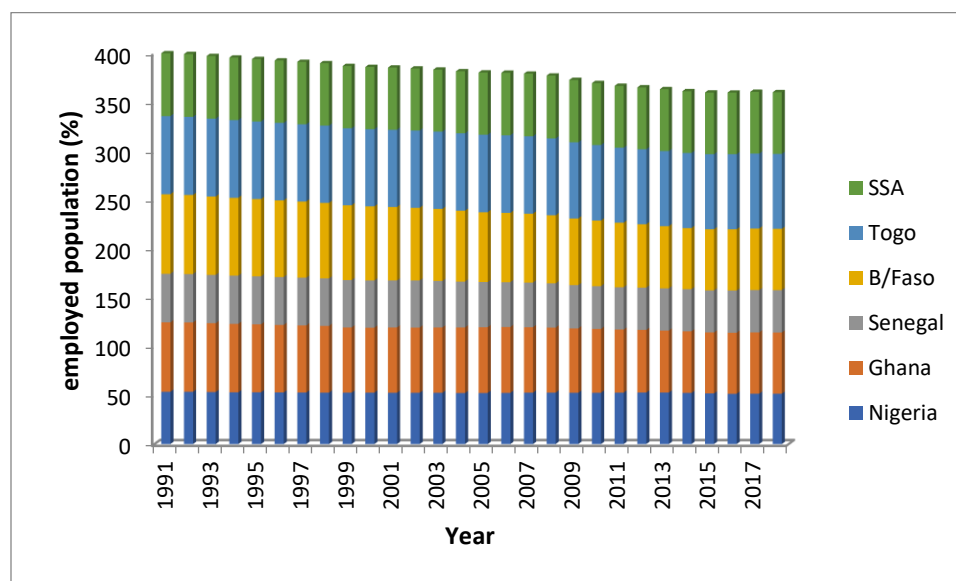
Year	SSA	Nigeria	Ghana	Senegal	Togo
1990	0.398	-----	0.455	0.367	0.405
2000	0.421	-----	0.484	0.380	0.425
2010	0.498	0.484	0.554	0.456	0.456
2012	0.514	0.512	0.570	0.476	0.466
2014	0.526	0.524	0.576	0.486	0.481

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2015	0.531	0.527	0.585	0.492	0.495
2016	0.534	0.530	0.588	0.499	0.500
2017	0.537	0.532	0.592	0.505	0.503
1990-2000	0.570	-----	0.620	0.360	-----
1990-2017	1.12	-----	0.980	1.200	-----
2000-2010	1.70	-----	1.360	1.840	-----
2010-2017	1.09	1.36	0.940	1.470	0.630
2012-2017	-----	-----	0.000	5.000	-2.000

Sources: Statistics based on computation from UNDESA (2017a), UNESCO (2018), UN Statistics Division (2018b), World Bank (2018b).

For the five countries in question, the average proportion of employed population for 1991-2018 was highest for Togo with value of about 78.2% followed by Burkina Faso with 71.5% and then Ghana with about 67.0%. Nigeria came with the least proportion of employed population of about 52.9% during the period. Hence, proportion of employed population in Nigeria, Ghana and Senegal is apparently below the SSA average of about 63.4% based on computation from WDI database. Even at that unemployment remains an economic catastrophe within African context. Nigeria is one of those countries in West Africa battling with high level of joblessness over the years; subsequently, giving rise to various socio-economic problems including poverty and inequality, civil unrest, corruption, insecurity and other social vices.



**Figure 3: Employed population (%) total population: 1991-2018**

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Source: WDI

These lingering crises have attracted various strategies at containing the situation. For example, in Nigeria programmes such as the N-power and Traders' are meant to increase employment opportunities. Unfortunately, the problem of inclusiveness remains unresolved.

So far the stylized facts presented have demonstrated weak linkages among entrepreneurship development, capacity development and job opportunities. Episodes of unemployment believed to result in entrepreneurship initiatives are not equally supported by the required infrastructural facilities. Research has shown that the average age of starting a business is 40 or 39 as average and median age of founders of technology companies. However, this is not encouraged in Africa as capacity development is below expectation and thus cannot foster viable entrepreneurial ability; thus making unemployment pervasive within the region. The complementary relationship between capacity development and entrepreneurship is therefore doubtful and subject debate. While entrepreneurship can foster value creation, risks taking and improve living standard, it is seen as not being a permanent solution to the society's social ills. A significant impact of it on the society is reduction in acute unemployment among the youths as long as the society follows rationalization, change and restructuring policies.

### **3.0 THEORY AND METHODOLOGY**

Issues of unemployment have been surrounded with strong level of debates among various schools of thoughts. Argument put forward by the classical economists, neo classical economists and the Austrian school of thoughts relies on the fact that market mechanisms can only resolve problems of unemployment. Their arguments are in contrary to external influence such as regulatory framework on the labour market. But according to Keynes, because unemployment is cyclical in nature, there should be intervention which would reduce unemployment level. Accordingly, government intervention should involve financial stimulation, job creation and embarking on expansionist monetary policy. Schumpeter argued that these policies would boost entrepreneurial ability to create jobs and subsequently reduce unemployment.

Increasing entrepreneurial ability can theoretically be linked to the presence of unemployment in the society. A process which successfully speed-up entrepreneurship development is usually

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known as the “refugee effect”. This view is traceable to Oxenfeldt (1943) as cited in Nkechi et al (2012) who demonstrated that individuals under underemployment problems and with low opportunities for a gainful wage employment can alternatively result to being self-employed. Thus, individuals can make a choice among being unemployed, self-employed and employed. The income choice theory provides more weight to the refugee effect and opines that rising unemployment create an avenue for business start-up as long as the opportunities of not starting a business declines (Evans & Leighton, 1990; Blanchflower & Meyer, 1994). This view appears popular in the theoretical literature. Given this start-up of business, newly existing firms hire more workers and thus reducing unemployment. However, some other views give a contrary effect. The Schumpeterian effect sees entrepreneurial activity arising from unemployment to further create employment opportunities in the society. With this there are substantial increases in employment rates. Advocate of the Schumpeterian effect on the basis of their separate studies are Garofoli (1994) and Audretsch and Fritsch (1994), together with Lucas (1978) and Jovanovic (1982) as cited in Anyadike et al (2012). It is summarily put that if the propensity in gaining entrepreneur ability is low, then unemployment automatically results. Intuitively, unemployment is pervasive in a society like the West Africa due to low level of human capital endowments and entrepreneurial initiatives to build up new firms and keep them running. In the African society both theories- refugee effect and the Schumpeterian effect- are applicable. Starting first with unemployment syndrome and then broadening initiatives to become an entrepreneur which subsequently lead to more hands (initially idle) in the initiatives created. This transformation for some level of unemployment to some level of employment must be backed up by efficient human capital investment through adequate capacity development-knowledge, skills and other aspect of human development-. This would broaden the individuals’ horizon for a better structural transformation.

From the foregoing discussion, our basic variables emanate from the three key variables- entrepreneurship development, human capital and employment growth. In this paper, we consider the variants measures of entrepreneurship; these are cost of business start-up procedures, new business registered, start-up procedure to register a business and time required to start a business. Human capital is measured using the human development index; this becomes necessary because it takes care of longevity, healthy life, knowledge and living standard- which are essential ingredients for effective entrepreneurial ability. Employment growth is captured using percentage

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of employed population in total population. Basically, we have three fundamental relationships; Firstly, the relationship between entrepreneurship development and human capital, second, the relationship between employment growth and entrepreneurship development and third, the relationship between employment growth and the interaction between entrepreneurship development and human capital development. We specify the baseline models as follows:

$$entrep_{it} = \alpha_{it} + \delta entrep_{it-1} + \beta_{it} hdi_{it} + \sum_{i=1}^n X_{it} + \varepsilon_{it} \quad 1$$

$$em_{it} = \theta_{it} + \mu em_{it-1} + \lambda_{it} entrep_{it} + \sum_{i=1}^n X_{it} + \varepsilon_{it} \quad 2$$

$$em_{it} = \tau_{it} + \phi em_{it-1} + \omega_{it} (entrep * hdi)_{it} + \sum_{i=1}^n X_{it} + \varepsilon_{it} \quad 3$$

Where *entrep* indicates entrepreneurship development which is the explained variable in the model and measured by cost of business start-up procedures (*cbs*), new business registered (*nbr*) start-up procedure to register a business (*spb*) and time required to start a business (*trb*) and *entrep*<sub>*it-1*</sub>, its lag. *hdi* is human development index capturing human capital in the model, *em*<sub>*it*</sub> and *em*<sub>*it-1*</sub> are employed population as a percentage of total population and its lag respectively, and (*entrep \* hdi*) is the interactive term where each measures of entrepreneurship interacts with human development index, a measure of human capital.  $\sum_{i=1}^n X_{it}$  is a vector of other control variables used to avoid omitted variable bias. These control variables include, development assistance (*das*), domestic credit (*dc*), foreign direct investment (*fdi*), gross capital formation (*gcf*), inflation (*inf*) and savings (*sav*). Essentially, inflation captures extent of instability within the countries selected.  $\alpha, \delta, \beta, \theta, \mu, \lambda, \tau$  and  $\omega$  are parameters to be estimated. *i* and *t* are the cross sectional and time series dimensions and  $\varepsilon$  is the error term independently and identically distributed.

Five West African countries-Nigeria, Ghana, Senegal, Burkina Faso and Togo- are selected for the analysis on the basis of data availability signifying the nature of entrepreneurship development in these countries. In all honesty, data which is collected mainly from the World Development Indicators (WDI) appears grossly inadequate and has limited the study to span the period 1990-2018. Even at that, experiences of missing data remains inevitable. Nigeria appears to put entrepreneurship development in focus as observed from the data series.

**4.0 ANALYSIS AND DISCUSSION**

In this session, we present the empirical analysis and this is followed by general discussion.

**Table 2: Descriptive statistics**

	Mean	Median	Std dev.	Skewness	Kurtosis
<i>cbs</i>	4.13	4.14	0.73	0.23	2.25
<i>des</i>	20.10	20.22	23.16	-0.21	3.28
<i>dc</i>	2.99	3.06	3.89	-0.88	4.43
<i>em</i>	4.13	4.17	0.20	-0.29	-1.68
<i>gcf</i>	3.07	3.09	0.31	0.11	3.68
<i>fdi</i>	19.0	18.79	2.17	-0.14	2.53
<i>hdi</i>	-0.71	-0.70	0.12	-0.63	3.26
<i>inf</i>	1.65	1.99	1.36	-0.42	2.52
<i>nbr</i>	8.22	7.76	2.12	-0.12	2.38
<i>sav</i>	2.75	2.83	-1.36	-1.36	7.01
<i>spb</i>	1.89	1.95	0.47	-0.25	1.86

Source: Computed using E-views

Table 2 describes the statistical behaviour of variables employed for the analysis. Although the number of observations has been irregular across variables due to inevitable missing observations. The development aid assistance comes with the highest mean (20.10), median (20.22) and standard deviation (23.16) over the period compared to other variables. This may describe the volume and spread of aids flow into these countries over the period. Foreign direct investment is next except for its standard deviation (2.17) which is lower than that of the domestic credit (3.89). Thus, capital flows seemed to be enhanced during the period. Only the cost of business start-up procedures variable is positively skewed (0.23) implying that its right tail is longer than the left tail while all

variables have positive kurtosis showing that the distribution is peaked and characterized by thick tails.

**Table 3: Panel unit root**

variable	Test method	Method	Prob.	O.I	decision
<i>Cbs</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Das</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Dc</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Em</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Gcf</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(0)	stationary
<i>Fdi</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Hdi</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(0)	stationary
<i>Inf</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(0)	stationary
<i>Nbr</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00/0.37	I(1)	stationary
<i>Sav</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Spb</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00	I(1)	stationary
<i>Trb</i>	Ind. intercept	L,L & C, Lm, P &S, ADF-Fisher, PP-Fisher	0.00/0.07	I(1)	stationary

Source: Computed using E-views

Panel unit root in table 3 employs all available test methods for comparison purpose. Based on Levin, Lin & Chut  $t^*$ , Im, Pesaran and Shin W-stat, ADF-Fisher Chi-square and PP- Fisher Chi-square, only inflation rate, human development index and gross capital formation variables are stationary in their level forms. For the new business registered and time required to start a business variables, their first difference stationarity conditions are supported by the Levin, Lin & Chut  $t^*$  and PP-Fisher Chi-square methods. In addition, the ADF –Fisher Chi-square supports the stationarity condition for the time required to start a business. However, differencing variables on inadequate number of observations further reduces number of observations and may be a potential problem to the analysis. Due to this argument, we consider detrending the variables through taking the growth rates and natural logarithmic transformation.

**Table 4: Panel Least Squares Regression for Entrepreneurship Equation**

Dep.var : <i>cbs</i>			<i>nbr</i>		<i>Spb</i>		<i>trb</i>		
	<i>coef.</i>	<i>prob</i>	<i>coef.</i>	<i>prob</i>	<i>coef</i>	<i>prob</i>	<i>coef</i>	<i>prob</i>	
<i>C</i>	3.22	0.43	4.90	0.00	2.78	0.17	2.84	0.01	
<i>cbs(-1)</i>	0.01	0.00	-----	----	-----	-----	-----	-----	
<i>nbr(-1)</i>	-----	-----	1.00	0.00	-----	-----	-----	-----	

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<i>spb(-1)</i>	-----	-----	-----	-----	0.76	0.00	-----	-----	
<i>trb(-1)</i>	-----	-----	-----	-----	-----	-----	0.79	0.00	
<i>das</i>	-0.07	0.71	-0.18	0.40	-0.06	0.40		0.35	
<i>dc</i>	0.13	0.77	-0.13	0.88	-0.23	0.21		0.33	
<i>gcf</i>	-0.18	0.55	0.04	0.92	-0.14	0.32		0.86	
<i>fdi</i>	-0.01	0.95	0.001	0.10	0.01	0.80		0.35	
<i>hdi</i>	-3.19	0.05	2.23	0.45	0.43	0.49		0.47	
<i>inf</i>	-0.04	0.48	-0.03	0.60	0.01	0.72		0.95	
<i>sav</i>	-0.07	0.64	0.25	0.24	0.03	0.61		0.95	
<i>R<sup>2</sup></i>	0.97		0.998		0.977			0.95	
<i>AIC</i>	-0.66		-0.77		-2.58			-0.03	
<i>SC</i>	-0.21		-0.36		-2.13			0.42	
<i>H-QC</i>	-0.58		-0.81		-2.50			0.05	
<i>DW</i>	3.07		2.96		3.97			0.72	

Source: Computed using E-views

The variant measures of entrepreneurship development pave way for sensitivity analysis. From the panel least squares estimation, lagged value of cost of business start-up procedures positively and significantly relate with the current cost implying that cost of business startup procedures increase with time. Similarly lagged value of new business registered (1.00), start-up procedure for business registration (0.76), and time required to start a business (0.79) also relate positively and significantly with their current values. As expected, cost of business start-up procedures and time required to start a business are found negatively related to the human development variable (-3.19, -1.42). This is evident that increasing quality of capacity building can reduce cost of business take-off as well as the time required to start a business. Meanwhile, new business registered and start-up procedure to register a business relate positively with human development. This is equally expected because growing capacity building tends to create more initiative for business and start up business procedure. Inflation rate, a measure of instability, comes with negative coefficient (-0.03) for new business registered regression. Well, this appears sensible because a low level of instability is required for better initiative to establish more businesses. Similarly, an unstable system (0.01) prolongs the procedure for a business take-off. Development assistance variable reduces cost of business start-up procedure (-0.07), start-up procedure for business registration (-0.06) and time required to register a business (-0.24). Foreign technology in form of capital flows enhance low cost of business take-off and new business registration as indicated by the positive coefficient (-0.01). Domestic credit flow relates positively (0.13) with the cost of business start-up

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procedures. However, credit availability encourages business take off and the zeal for better business initiatives. The coefficients are negative in other variants measures.

**Table 5: Panel Least Squares Regression for Employment growth Equation**

Dep.var : <i>em</i>								
	<i>coef.</i>	<i>prob</i>	<i>coef.</i>	<i>prob</i>	<i>coef</i>	<i>prob</i>	<i>coef</i>	<i>Prob</i>
<i>c</i>	0.99	0.62	0.07	0.26	0.02	0.73	0.07	0.00
<i>em(-1)</i>	0.77	0.00	0.98	0.00	0.99	0.00	0.99	0.00
<i>cbs</i>	0.01	0.16	-----	-----	-----	-----	-----	-----
<i>nbr</i>	-----	-----	0.001	0.45	-----	-----	-----	-----
<i>spb</i>	-----	-----	-----	-----	0.01	0.01	-----	-----
<i>trb</i>	-----	-----	-----	-----	-----	-----	-0.00	0.89
<i>dc</i>	0.01	0.33	0.02	0.01	0.01	0.01	0.002	0.73
<i>gcf</i>	0.0002	0.10	-0.003	0.67	0.001	0.88	0.01	0.91
<i>fdi</i>	-0.001	0.32	-0.002	0.18	-0.001	0.24	-0.001	0.53
<i>inf</i>	0.0003	0.67	0.0004	0.68	0.0001	0.89	0.001	0.53
<i>Ar(1)</i>	0.98	0.00	0.56	0.00	0.15	0.01	0.70	0.00
<i>R<sup>2</sup></i>	0.9997		0.9996		0.9996		0.9996	
<i>AIC</i>	0.9996		-8.10		-7.81		-7.70	
<i>SC</i>	-7.78		-7.74		-7.48		-7.36	
<i>H-QC</i>	-7.45		-7.98		-7.69		-7.57	
<i>DW</i>	-7.66		2.07		1.60		1.82	

Source: Computed using E-views

Turning to the employment growth equation, all lagged employment values relate positively and significantly with the present; an indication that reducing employment in the past may result in reducing level of present employment. Here we perform the sensitivity analysis first incorporating the new business registered. The new business registered start-up procedure to register a business variable directly (0.001) relates to employment growth in the five countries. This is strongly in line with Schumpeterian effect (1942) and advocated by Garofoli (1994) and Audretsch and Fritsch (1994), together with Lucas (1978) and Jovanovic (1982) as cited in Nkechi et al (2012). Meanwhile, as time required to register a business increases, employment growth declines as indicated by the negative though negligible coefficient (-0.0003). Prolonging business registration time delays time scheduled for employment. Looking at impact of some control variables, an increase in the gross capital formation increases employment growth as expected where start-up procedure to register a business and cost of business start-up procedure are included as explanatory

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variables. Domestic credit impacts positively on employment rate where new business registered, start-up procedures to register a business, cost of business start-up procedures and time required to start a business are included as part of the explanatory variables. Where all the variants measures are included, foreign direct investment shows a negative impact on employment growth and is contrary to expectation.

In all the equations, all the explanatory variables have a high explanatory power and autocorrelation appears not to be a major problem. Other diagnostics are with expected signs.

## **5.0 CONCLUSION AND POLICY IMPLICATION**

This paper examined the link between entrepreneurship development and human capital development and between employment growth and entrepreneurship development in carefully selected five countries in West Africa. Trend in entrepreneurship development indicates that it is below expectation within the five countries selected. In a more recent time, new business registration growth is extremely low particularly for Nigeria and Senegal which may be linked to socio-economic factors. Human development index is low compared to other regions and this seems to further reduce quality of entrepreneurial activity. Consequently employment growth has not been within the limits expected. The analysis carried out showed that human capital development can spur low cost of business start-up procedures and likewise encourage new business registration. Results also showed that new business registered, start-up procedures to register a business can improve the employment in the countries. In addition to this, the shorter the time required in starting up a business, the greater the opportunity to lower unemployment level. This is indeed a verification of the Schumpeterian effect. Furthermore, the paper found that human capital development can complement start-up procedure and new business registered to enhance employment growth in Nigeria, Ghana, Senegal, Togo and Burkina Faso in West Africa. On this note, entrepreneurship should be well supported in these countries through capacity development in both formal and informal training, provision of infrastructural facilities-good road net work, electricity, water etc-, less stringent regulatory frame work and above all government needs to encourage a very friendly business atmosphere across all countries in question in order that unemployment reduces. For example, the attention of Nigerian government to some poverty

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alleviation strategies through creating opportunities for local entrepreneurship development is welcoming but should be more inclusive to reduce unemployment problems to a more considerable level. Above all, we are all Africans; we should collaboratively move the region forward.

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