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*Corresponding author: Abiola Babajide, Department of Banking & Finance, Covenant University, Ota, Ogun State, Nigeria
Email: abiola.babajide@covenantuniversity.edu.ng

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SOCIOLOGY | RESEARCH ARTICLE

Financial stability and entrepreneurship development in sub-Sahara Africa: Implications for sustainable development goals

Abiola Babajide^{1*}, Adedoyin Lawal², Abiola Asaleye³, Tochukwu Okafor² and Godswill Osuma²

Abstract: This study examined the relationship between financial stability and entrepreneurship development in Sub-Sahara Africa, thereby scaling up the achievement of SDGs 1, 5, 8, 9, 10 and 12. The study made use of pooled data from 24 sub-Sahara Africa countries covering the period from 2004 to 2017. The method of analysis utilised is the pooled ordinary least squares (OLS) and random effects techniques. The findings revealed that financial stability (which measures the financial strength of the banks, real economic stability and the level of financial market development in the region) have a significant positive effect on entrepreneurship development at one per cent (1 per cent) significance level in the study period. The findings of the study suggest that stability in the financial environment facilitates the provision of credit facilities for entrepreneurship and promotion of new business start-up in the study area. The result also shows that East African countries make a significant positive contribution to entrepreneurship development in terms of responsiveness to changes in financial stability, governance, strong institutions, economic development and human capital development than other regions in the continent. The policy implication of the study highlights the need to



Abiola Babajide

ABOUT THE AUTHOR

Dr Abiola Babajide is an Associate Professor of Development Finance in the Department of Banking & Finance, College of Business and Social Science, Covenant University, Ota, Nigeria. Research Interest areas are; Development Finance – Microfinance, Entrepreneurial Finance and Capital Market Development. Astute in research and have successfully executed research projects. She has published extensively in reputable journals such as *International Journal of Social Economics*, *International Journal of Economics and Financial Issues*. She is on the Editorial Board of the *Binus Business Review* (Binus University, Indonesia), *International Journal of Finance and Banking Studies* and *SAMANN* group of Research publication. Also, article editor for *Sage Open*. She has also participated in many national and international Conferences, Workshops, and Short Courses. Abiola reviews for a number of Journals like *African Development Review* (Wiley) *Sage Open*, *African Journal of Economics and Management Studies*.

PUBLIC INTEREST STATEMENT

The study examined the effect of financial System stability on Entrepreneurship development in Sub-Saharan Africa. The study proposes that if the financial system is stable, it will thrive, and it will be able to support the entrepreneurship drive and fund start-up in sub-Saharan Africa. The financial strength of the banks, real economic stability and level of financial market development are used to measure the financial system stability. The findings of the study suggest that the stability in the financial environment indeed facilitates the provision of credit facilities for entrepreneurship and promotion of new business start-up in the study area. The result also shows that other entrepreneurship enhancing variables such as level of economic development, quality of institutions and level education in Sub-Sahara Africa are not well-articulated to drive entrepreneurship development. The result on the regional geographical effect shows only East Africa Region has strong support for Entrepreneurship development in sub-Sahara Africa.

build strong institutions in Sub-Sahara Africa and the need for inclusive growth which has a direct effect on the citizens in terms of employment generation, poverty alleviation, good health and improve the standard of living. Human capital development should be the primary focus for governments in the region since national development depends on the level of the human capital.

Subjects: Sociology & Social Policy; Economics;; Finance; Business, Management and Accounting

Keywords: financial stability; entrepreneurial development; Sustainable Development Goals (SDGs); Nigeria

1. Introduction

The stability of the financial system enables business firms and household to store value and transfer a financial asset without fear of loss. This contributes to economic growth and development in society. One of the goals of the Sustainable Development Goals (SDGs) launched in 2015 is to alleviate poverty in all its ramification from everywhere in the world. Recent statistics show that extreme poverty was at the lowest point in history as at the end of 2018 but now concentrated in only one region in the world, and that is sub-Sahara Africa (World Bank, 2018a). In 1990, the world poverty rate was 36 per cent of the world's population; by 2015, it declined to 10 per cent (World Bank, 2018b). As the rest of the world poverty rate falls, sub-Sahara Africa number of people living in poverty grew to 413 million in 2015 from 278 million in 1990, which is about 67 per cent increase (Patel, 2018). Out of the 28 countries with a high poverty rate of above 30 per cent in the world, 27 are in sub-Sahara Africa (Patel, 2018). The average poverty rate of sub-Sahara Africa stood at 41 per cent while other regions are below 13 per cent (Barne & Wadhwa, 2018).

Nigeria has surpassed India in extreme poverty despite the huge difference in the two countries population (Kazeem, 2018). Poverty is defined as living on less than 1.90 USD per day (United Nation, 2018). Poverty is multidimensional; its features include deprivations in education, consumption, access to necessary infrastructures such as health care, potable water and sanitation, electricity, to mention a few (Amoo et al., 2019; Patel, 2018). The rising extreme poverty case in Africa is as a result of conflict and violence, weak institutions, slower growth rate, non-inclusive economic growth and widespread corruption (World Bank, 2019). The action needed is to create more inclusive, sustainable businesses across Africa. (Barne & Wadhwa, 2018).

Sustainability includes environmental protection, economic success, and social equity (UNCTAD, 2017), which are fully captured by the 17 sustainable development goals and its 168 targets and nearly all the countries in the world have committed themselves to the goals and working together to achieve the goals (United Nations, 2020). Governments across the globe have taken to entrepreneurship development in order to accelerate the achievement of sustainable development goals. Entrepreneurship can alleviate poverty (SDG 1), enhance economic development and create decent jobs (SDG 8) (United Nations(UN), 2019). It can also drive industrialisation, innovation and infrastructural development (SDG 9). Also, due to its involvement of women and youth, it encourages gender equality and reduced inequality (SDGs 5 and 10) and accountable production and consumption (SDG 12) (Amoo, 2018; Lubna, 2019). The UN general assembly initiated the need to pursue entrepreneurship aggressively at the sixty-seventh, sixty-ninth and seventy-first general assembly of 2012, 2014 and 2016, respectively. The importance of entrepreneurship to poverty eradication, employment generation and economic empowerment was highlighted at these meetings (UNCTAD, 2017).

The world leaders demonstrated their support for entrepreneurship and inclusive growth by initiating global fund for women entrepreneurs. The G7 in 2015 recognised women entrepreneurship as a key driver for growth, innovation and job creation, thereby setting up a fund to promote

their access to finance, capacity building, improved leadership opportunities and network for women. In 2017, 1 USD billion Women Entrepreneur Finance Initiative (We-Fi) was initiated by US President with an initial deposit of 325 USD million, supported by G20 world “leaders” donation to advance women entrepreneur activities (World Bank, 2017). Africa got her version of a similar fund in August 2019 when G7 leaders approved the sum of 251 USD million in support of African Development Bank (ADB) Affirmative Finance Action for Women in Africa (AFAWA) to support women entrepreneurs in Africa (ADB, 2019). Current research outcome shows that sub-Saharan Africa hosts the highest percentage of women entrepreneur in the world, with 25.9 per cent of the female adult populace as an entrepreneur. Female entrepreneurs reinvest 90 per cent of their income into consumption, nutrition, education, the health of their families and communities thereby generating more significant development impact compared to men who reinvest 30–40 per cent (Global Entrepreneurship Monitoring Global Report [GEM 2016/2017]).

The nexus between entrepreneurship and finance is well-established literature, starting from the early work of Schumpeter first published in 1911 and translated in English in 1934 as reviewed by Croitoru (2012). Schumpeter explains that temporary monopoly profits induce innovations, and financial institutions are essential intermediaries because they assess innovative activity and finance new invention. The financial system influences the decision to invest in productivity-enhancing businesses in two way; the first step is to evaluate potential entrepreneurs, and then fund the most favourable ones. The cost of investing in productivity-enhancing activity is reduced through the entrepreneurial selection process and thus stimulating economic growth. Financial system instability can, therefore, distort the rate of economic growth by reducing the capacity of the financial institution to fund innovative projects in an economy.

Distortion in the financial system implies an alteration of the original state which can be in various forms and bring about instability in the financial system. Volatility in the financial system hinders productive activities and constrains the economic prosperity of the citizens. An unstable financial market transfer pressure from its critical institutions into firms and household business by preventing capital flow into a productive asset which brings about systemic risk. The systemic risk could culminate into multiple business failures. A stable financial system, on the other hand, implies the ability of the financial system to withstand any form of shock or volatility from the internal or external business environment thereby, enabling a continuous functioning of the intermediation process. Easy access to credit and payment system, which a stable financial system provides allows household and firms to transfer the financial asset with ease and thereby contribute to the economic growth and development (Babajide & Olokoyo, 2017).

Measurement of the financial stability indicators is often done by the regulatory authorities and reported to the World Bank quarterly. The purpose of the compilation is to enable an objective assessment of the financial system through a systemic monitoring process using vital macroeconomic indicators to measure the strength and solidity of the financial system. In sub-Saharan Africa, there are just enough data to compute four significant constituents of stability measure, namely: asset quality, capital adequacy, profitability and earnings, and liquidity of the critical institutions (Essien & Doguwa, 2015).

Sub-Saharan Africa remains one of the fastest-growing regions in the world until recently, although pervaded with high unemployment and high poverty rate. The region exhibits a high level of entrepreneurial activity compared to other parts of the world. With a proper support system and a favourable economic environment, the region should be able to stem the tide of the unemployment rate and alleviate poverty. According to Herrington and Kelly (2012), the people in the region exhibit a positive attitude towards entrepreneurial activity, fear of failure does not seem to inhibit people’s entrepreneurial aspirations and actions. However, necessity appears to be the primary motivations of entrepreneurial activity in the region. While many people start enterprises, a significant proportion of them remains at the subsistence level. It is necessary to look at

the support system and the opportunity provided in the region to encourage start-up and innovation to enhance economic development.

2. Theoretical underpinning and literature review

Sub-Saharan African economic development initiative requires a consistent increase in its economic growth. Economic growth in this context can be described using economic indicators such as improved jobs creation and enhance standard of living of the citizenry. In contemporary, economic development denotes the process of altering the fundamentals of the economy towards a more technological advance economy based on real output production and innovative services (Naudé, 2010a). It refers to sustainable advancement in the society measurable in terms of productivity and employment, GDP per capita, human capital Index, Infant, and maternal mortality, enrolment in school, social equity, GDP output growth and poverty alleviation (Naudé, 2010b). Among other things, it has to do with the development of programs and policies aimed at business climate improvement through concerted effort resulting into access to finance, product marketing, favourable business environment, business expansion and retention, real estate development and technology transfer (OECD, 2008).

The role of entrepreneurship in enhancing economic development has been the focus of international organisations, government officials and policymakers across the globe. Since the turn of the millennium, attention has shifted from the old approach to economic development, which focuses on job creation through a large corporation to start-up and small business ventures. Some World leaders have increasingly recognised entrepreneurship not only as a solution to high unemployment rate but also as a mechanism to facilitate economic development through improve GDP per capita as well as inclusive growth. Entrepreneurship can accelerate attainment of Sustainable Development Goals (SDG) if given proper attention (UNCTAD, 2017). Success in entrepreneurship requires access to finance, and markets; government policies play a vital role in facilitating successful entrepreneurship (Kressel & Lento, 2012).

In the Schumpeterian view, entrepreneurship takes place under five circumstances, namely; new markets, new goods, sources of raw material, new production methods, or new establishment (Schumpeter, 1911). Entrepreneurship involves opportunities to introduce new processes, products, services, ways of organising, or marketing—a discovery or a re-evaluation of an old method (Olokundun, 2018). The Small Business Administration (1998) affirms that creation of new small firms in different segment of the economy continuously is a measurement of well-being and economic freedom in the society. In recent years, entrepreneurship has contributed significantly to job creation, and economic growth and national prosperity in both developed and developing economies. Entrepreneurship can trigger the early achievement of sustainable development goals for emerging economies if adequately harnessed. Thus, the inventions through new ventures and start-ups companies are some of the factors that link entrepreneurship to economic growth (Tomaa et al., 2014), which access to finance make possible. The available literature on finance and economic growth suggests that the private-sector-led growth slow-down in financial instability situation due to credit crunches (Carbó_ Valverde, Rodríguez_ Fernández, & Udel, 2016; IMF-GFSR, 2018).

Widespread credit rationing is prevalent during financial instability period, thereby constraining working capital funds for firms, and this ultimately leads to a decline in future production investment spending and firm failure (BIS, 2018, IMF-GFSR, 2018). Financial instability constitutes adverse credit supply shocks and thus leads to a deficiency in an economy's productive capacity. Financial system in emerging economies must be robust, adaptive and efficient to ensure financial stability irrespective of the prevailing conditions in the market. Even in a rapidly changing economic environment, it must continue to function efficiently without compromising fundamental economic principle and practice in allocating resource. Also, the financial system must be resilient enough to ensure reliable payment settlement and transaction without negative recourse to other economic agents (BIS, 1997).

Schinasi (2004) describes financial stability as the strength of the financial system to enable resource allocation that leads to wealth transfer and economic prosperity of individuals and the state. It is a situation where the financial system can efficiently manage financial risk through proper assessment and pricing as well as perform its primary function despite external shocks and volatility. The financial system through internal stabiliser must be able to return to an equilibrium position when hit by external shocks. According to Isărescu (2009), a stable financial system through the intermediation process improves the business environment and facilitate real economic growth. It ensures safe fund placement and absorbs all shock without impairment to economic growth. Financial instability exacerbates information asymmetric which hinders the financial intermediation process in an economy. Davis (2001) emphasises real sector growth through access to credit and payment system. He argues that systematic risk occurs through market liquidity failure and inadequate market infrastructure.

Ferguson (2003), concluded that financial instability ensued when there is a significant alteration in the domestic or the international credit market to the extent of inducing credit crunch. It also occurs when there is a substantial shift from the expected in financial asset prices or when the production level in an economy is not in tandem to the spending power of the citizen. Chant (2003) defines financial instability as financial market-induced threat on economic growth and performance as a result of malfunctioning of the financial system. The stage of development of the financial system determines the severity of the instability on the economy. Mishkin (1999) argues that there is a clear difference between financial instability and macroeconomic instability. Aggregate demand or supply shocks cause macroeconomic instability, while financial market imperatives induce financial instability. One of the major characteristics of the financial market is constant change in price and market conditions; as a result, financial instability should be treated based on its potential impact on the real economy.

Klapper and Love (2010) investigate the impact of the 2008 financial crisis on new firm creation (entrepreneurship). The result shows that the severity of the crisis on new firm creation is more pronounced in countries with a higher level of financial development. Nearly all the countries examined recorded a sharp drop in new business during the crisis. This implies that countries with more banking financing are likely to experience a decline in the new firm entry as a result of a credit crunch, which is a common feature of the financial crisis. A study carried out by Herrington and Kelly (2012) across ten (10) SSA countries reveals that access to finance and corruption are two significant constraints faced by entrepreneurs in those countries. The economic environment must improve significantly for entrepreneurs to make a meaningful impact in the region. Fayissa and Nsiah (2013), Liu et al. (2018) found a significant positive correlation between the quality of governance and economic growth. While high-quality governance enhances economic growth in developed economy, it has no significant impact on low-income economies and region. Kolstad and Wiig (2015), Karlan and Valdivia (2011) emphasise human development dimension of entrepreneurship. They both agreed that increase education enhances entrepreneurial development in an economy.

In the light of the above, there is a need to examine the impact of financial stability on entrepreneurial development in other to assess the capacity of sub-Saharan Africa financial system in enhancing entrepreneurship since attaining the SDGs through entrepreneurship depend on the strength of the financial system for support.

3. Methods and data

This study discusses financial stability and entrepreneurship development drive in selected sub-Saharan African countries. The financial stability measure is a composite index derived from normalisation process and the weighted mean of three indices which comprises of banking stability sub-index, sub-index of real economic stability and sub-index of financial market development (Isac, 2015). These sub-indexes were developed for each of the 24 African countries based on data availability. The scope of the study covered the period

from 2004 through 2017. The sample consists of 24 selected African countries which are further subdivided into four regions. These are the Southern region (Lesotho, Botswana, Namibia, and South Africa), the East region (Burundi, Djibouti, Kenya, Malawi, Mauritius, Madagascar, Tanzania, Rwanda, Seychelles, Uganda and Zambia), Central Africa region (Central Africa Republic, Congo Republic, Equatorial Guinea, and Gabon) and the West region (Cameroun, Cape Verde, Guinea, Ghana and Nigeria). For the study to test the effect of financial stability on entrepreneurship development, the financial stability index of the various countries was first computed and then regressed the result against the proxy for entrepreneurship.

The variables used are of three categories; the first measures each country’s framework of institutional quality through governance effectiveness. The second contains estimation by the economies of each country which is measured through the gross domestic product (GDP) per capita. The third category was concerned with the effect of basic educational skill development proxy by primary school enrolment. The variable for Entrepreneurship (number of new businesses registered) was sourced from World Bank Enterprise survey database while data for Economic Development, Financial Stability, and Primary school enrolment were sourced from the World Development Indicators (WDI) while, Governance variable was obtained from the World Governance Indicators database (See details in Table 1 below).

Table 1. Description of variables, data sources, measurements, with justification and a priori expectation

Variable description	Type/Source/ Measurement	Literature justification	‘Parameter’s a priori
NBR-New businesses registered (number)	Secondary/World Bank/ Composite Index	Entrepreneurship Survey and database, World Bank Group. (http://www.doingbusiness.org/data/exploretopics/entrepreneurship). Garcia (2014), Klapper and Love (2010)	
<i>FINSI</i> = Financial Stability Indicator	Secondary/World Bank/ Composite Index	Monetary and Capital Markets Department, International Monetary Fund. Nelson and Perli (2005), Sere-Ejembi et al. (2014), Isac B., Nelson and Perli (2005)	>0
Governance	Secondary/World Governance Indicators(WGI), Kaufmann and Kraay 2019: www.govindicators.org/consisting of regulatory quality; the rule of law, governance effectiveness	Kaufmann et al. (2009), Fayissa and Nsiah (2013), Liu et al. (2018)	>0
GDP per capita	Secondary/World Bank/ World Development Indicator	Carree et al. (2002), (Carree et al., 2007).	>0
PSE—Primary School Enrolment	Secondary/World Bank/ World Development Indicator	Kolstad and Wiig (2015), Karlan and Valdivia (2011)	

Source: “Authors” Synthesis (2020)

4. Method of analysis

The study model was estimated using pooled ordinary least square regression. However, to ascertain whether to use the fixed or random effect estimator, the study utilised the Hausman test estimation technique (Table A1, see in appendix). The Hausman null hypothesis assumes the existence uncorrelated idiosyncratic error term with the group-specific errors. Hence, the Hausman test was used to determine the best option between the fixed and random effect estimates. The result of the Hausman test accepts the null hypothesis of no serial correlation between the different error terms and the country-specific estimates. This, therefore, supports the use of the random effect estimator. Secondly, the Breusch and Pagan Lagrangian multiplier (Table A2, see in appendix) were used to test if any significant difference existed across the countries. The result provides evidence in support of significant differences across the country and region, which further informs our choice of the random effect estimator.

Based on the two tests, the model was estimated with three methods the pooled ordinary least squared, random effect estimate and the generalised estimating equations for robustness check.

Following Isac (2015) and Sere-Ejembi et al. (2014), derivation of financial stability index was adopted for this study and expressed as:

$$FINSI = \frac{\sum_1 nISB + RESI + FMDSI}{3} \quad (1)$$

Express as,

$$\frac{\sum_1 nISB_t + RESI_t + FMDSI_t}{3} \quad (2)$$

Where;

ISB_t: Bank stability sub-index which measures the soundness of the bank given as:

$$\frac{\sum_1 nIMGI_t + NIEGI_t}{2} \quad (3)$$

IMGI: Interest margin to gross income

NIEGI: Noninterest expenses to gross income.

Where,

RESI_t: measures the real economic stability sub-index represented as;

$$\frac{\sum_1 nCPI_t + GDP_t}{2} \quad (4)$$

CPI: Consumer price index

GDP: Gross Domestic Product

And,

FMDSI_t: Measures financial market development sub-index expressed as:

$$\frac{\sum_1 nMKCAP_t + FDI_t}{2} \quad (5)$$

MKCAP: Market capitalisation

FDI: Foreign direct investment

5. Model specification

The model for the study is a modified estimate of (Lahimer et al., 2013). Their gross loan portfolio and gross domestic product were used to account for the entrepreneurial development drive (opportunity, necessity and ratio of opportunity and necessity-driven entrepreneurship) while controlling for regional variables. In this study, entrepreneurial development proxy by number of the newly registered business is expressed as a function of financial stability index;

$$NBR_f(FINSI, GOV, GDPPC, PSE, DUM_{SAR}, DUM_{EAR}, DUM_{CAR}, DUM_{WAR}) \quad (5)$$

This is further represented in its econometric form as:

$$NBR = \lambda_0 + \lambda_1 \ln FINSI + \lambda_2 \ln GOV + \lambda_3 \ln GDPPC + \lambda_4 \ln PSE + \lambda_5 DU_{SAR} + \lambda_6 DU_{EAR} + \lambda_7 DU_{CAR} + \lambda_8 DU_{WAR} \quad (6)$$

Where;

NBR: Newly registered business

FINSI: Financial stability Index

GOV: Governance proxy by governance effectiveness a measure of the quality of institution and governance.

GDP: is the Gross domestic product per capita which is a measure of the country standard of living.

PSE: Primary school enrolment which measures human capital development while DU_{SAR} , DU_{EAR} , DU_{CAR} , DU_{WAR} are dummy regional variables for the South African countries, East Africa Countries, Central African countries and West African countries respectively

\ln is the logarithm transformation of the variables.

λ_0 is the intercept

$\lambda_1 \dots \lambda_8$ are the slope coefficients

ε_t is the stochastic error term

6. Results

The results in Table 2 show the estimations of the effect of financial stability on entrepreneurship development in selected African countries. The estimate allows for the test of financial stability, governance effectiveness, economic development (GDP per capita), and education (Primary school enrolment) on entrepreneurship development.

The model establishes a relationship between financial stability, governance, GDP per capita, primary school enrolment and entrepreneurship development proxy by new business registration. The empirical evidence from the analysis of financial stability shows a significant direct relationship with entrepreneurship development at 1 per cent significance level. Specifically, for the pooled regression and random effect, a percentage change in financial stability brings about a 20.76 percentage change in entrepreneurship development, and the same result was obtained for the generalised estimating equations (GEE) at the magnitude effect of 17.52 per cent, all things being equal. This could be explained by the fact that increases in financial stability will further facilitate the provision of access to credit for entrepreneurs and the promotion of new business initiatives in sub-Sahara Africa. This implies that a stable financial system enhances entrepreneurial promotion and development in Africa.

Table 2. Illustration of the effect of financial stability on entrepreneurship development in selected African countries

	Pooled OLS	P> t 	Random Effect	P> t 	GEE Effects	P> t
LnFINSI	20.7638*** (6.99695)	0.004	20.7638*** (6.99695)	0.003	17.5223*** (2.69334)	0.000
LnGOV	-0.4390* (0.24794)	0.081	-0.4390* (0.24794)	0.077	-0.0609 (0.20274)	0.764
LnGDPPC	-19.2055*** (6.8195)	0.006	-19.2055*** (6.8195)	0.005	-16.1813 (2.70508)	0.000
LnPSE	0.1505 (0.13686)	0.275	0.1505 (0.13686)	0.272	0.1982*** (0.12521)	0.114
SAR	1.3762 (1.33580)	0.306	1.3762 (1.33580)	0.303	-0.1027 (1.14970)	0.929
EAR	0.4832*** (0.13736)	0.001	0.4832*** (0.13736)	0.000	0.4798*** (0.12552)	0.000
CAR	-0.4262 (0.85580)	0.620	-0.4262 (0.85580)	0.618	0.55054 (0.73224)	0.452
WAR	2.8164 (2.15133)	0.195	2.8164 (2.15133)	0.190	0.7591 (1.87630)	0.686
F(8, 74) = 16.59; prob.> F = 0.000; R-Squared = 0.6420 Adj R-squared = 0.6033 Wald Chi ² (8) = 132.71 Prob.>Chi ² = 0.0000						

Source: E-views output, 2020

Standard errors in parenthesis, *p < 0.01 **p < 0.05 *p < 0.10, LnFIS—the logarithm transformation of financial stability, LnGOV—the logarithm transformation of governance, LnGDP—the logarithm transformation of GDP per capita, LnPSE—the logarithm transformation of Primary school enrolment. SAR is a South African region; EAR is the East Africa region, CAR is the Central Africa region, and WAR is the West African region.

It could be further observed that the quality of governance significantly retards entrepreneurship development at 10 per cent significance level. The estimated coefficient indicates that a percentage change in governance results to 0.44 percentage retardation in entrepreneurship development for the pooled and random effect and 0.06 per cent for the GEE estimate. This shows a significant adverse impact of poor governance on entrepreneurship development for the pooled and random effect results. Government policy affects the ease of doing business that bothers on payment of taxes, property registration, getting construction permits, access to credit, enforcement of the contract, starting a business, trading across the border, resolving insolvency and protecting minority investor. The result implies that the quality of governance in Africa countries inhibit entrepreneurship development drive.

The evidence from the estimated coefficient for GDP per capita shows a significant negative relationship with entrepreneurship development at 1 per cent level for all the results. Further investigation of the result from the pooled regression and random effect result shows that a per cent change in economic development results in 19.21 percentage decline in entrepreneurship development. This indicates that African countries economies have not developed sufficiently to support entrepreneurial development. Quality human capital development which is a variable for entrepreneurial success proxy by primary school enrolment shows an insignificant positive relationship with entrepreneurship and indicates that a percentage change in school enrolment leads to 0.15 percentage in entrepreneurship development though not significant. The GEE result further supports a significant inverse relationship between human development and entrepreneurship development and an insignificant direct correlation between primary school enrolment and entrepreneurial development. Evidence from the GEE estimates further affirms the empirical result with 16.18 and 0.19 percentage change on entrepreneurship development due to a percentage change in economic development and school enrolment. Therefore, it could be observed that the rate of economic development has not provided enough support for the development of entrepreneurship, especially among Africa economies. Although education suggests a direct relationship with the development of entrepreneurship, its significant effect is not ascertained in this investigation.

The result on the influence of the geographical region on entrepreneurship development shows that entrepreneurship development in the South, Central and West Africa region is associated with a low drive and slow performance compared to East African regions. The East Africa region result indicates strong support of 0.48 and 0.47 for the pooled and GEE result, respectively and significant at 1 per cent significance level. This result implies that the East Africa Region has strong support for entrepreneurship development. In contrast, entrepreneurship development in the South, Central and Western region exhibits a low degree of responsiveness to changes in financial stability, governance, economic growth and human capital development policy-related issues. The R-squared from the pooled regression result indicates that the variations in the exogenous variables jointly and significantly explained 64.20 per cent of the total variations in entrepreneurship. This shows a high goodness of fit for the model. The F-statistic (16.59) result suggests that the estimated model is statistically significant and fitted for the analysis. This further confirmed by the random effect Wald test (Wald χ^2 (8) = 132.71) and the generalised estimating equations (Wald χ^2 (8) = 318.88) result with their significance levels at 1 per cent.

7. Discussion

Micro, Small and medium enterprise dominated the sub-Sahara business landscape and accounted for over 90 per cent of all businesses and generate more than 60 per cent of total employment in urban and rural areas. These enterprises employ a more significant percentage of women, youth and low-income earners, thereby providing opportunities for even income distribution and sometimes the only source of employment in rural communities, thus alleviating poverty. These enterprises evolve a dynamic private sector-led economy, infuse locally adapted technology and innovations and aimed for infrastructure development and industrialisation. Therefore, pursuing entrepreneurial development strengthens the attainment of SDGs 1, 5, 8, 9, 10 and 12. With

affordable finance and strong institution in place, local enterprise can alleviate poverty, generate employment, provide a decent job, promote inclusive growth by providing practical solutions through value-added products and services thereby enhance GDP growth.

The evidence from the results above reveals that the degree of responsiveness of entrepreneurship development to the variations in the countries financial stability is highly elastic. The above findings are consistent with similar studies by Klapper and Love (2010), Klapper et al. (2017), Babajide and Olokoyo (2017), Babajide et al. (2018), Herrington and Kelly (2012), and Lawal et al. (2017). A stable financial system drives entrepreneurial development in Africa. Alliance for financial inclusion (Nyman, 2019) shared how financial inclusion and access to finance can be mutually reinforcing in driving economic growth through entrepreneurship and accelerating the attainment of SDGs in developing nations.

The influence of government policy in driving entrepreneurship cannot be overemphasised. Government policy form part of the economic environment, which goes a long way in determining the rate of success or failure of any entrepreneurship endeavour. Kaufmann et al. (2009) found a high positive relationship between good governance and economic growth, which implies that when good policies are advance and implemented by the government, it enhances growth and development at a faster rate thereby consolidating SDG 8 (decent work and economic growth). Fayissa and Nsiah (2013) found that governance is worst and sub-optimal to economic growth in poorer African countries than high-income countries, which further bolster the findings of this study. A recent study by Mira and Hammadache (2017) found a significant negative effect of governance on economic growth for Asian and Latin American Countries, similar to the findings of this study. The probable explanation for this result is that sub-Sahara Africa is bedevilled with a high level of corruption, weak institution and poorly conceived government policy and implementation, which resulted in poor performance of government policies in most sub-Sahara African countries.

Economic literature suggests that sub-Sahara Africa is one of the fastest-growing regions in the study period despite pocket of recession in some countries. The economic growth is expected to translate to economic development (proxy by GDP per capita) with a significant impact on the standard of living, life expectancy/health, poverty reduction and employment generation (Mbah & Ojo, 2018). The result of this study implies that the level of economic development in sub-Sahara Africa does not enhance entrepreneurial development. On the contrary extant literature show a robust positive relationship between entrepreneurship and economic growth (Adusei, 2016; Omoruyi et al., 2017), but no evidence for economic development because economic development implies infrastructural development to enhance the standard of living, low poverty rate, low unemployment rate, low infant and maternal mortality rate, high enrolment in school rate and high life expectancy rate. Sub-Sahara Africa nations have failed to translate high economic growth in the region to economic development. The socio-economic condition of the region proxy by economic development variable suggests the reasons for the increasing necessity-driven entrepreneurs instead of an opportunity-driven entrepreneur in the region due to low human capacity development in the study area (Rodrigues, 2018).

The theory has it that primary schooling provides a generalised form of competence that underpins the variety of skills an entrepreneur needs to succeed in business Kolstad and Wiig (2015), Acs et al. (2008), and Lahimer et al. (2013), described sub-Sahara African countries as being at the first stage of development characterised with cost inefficiency and without knowledge for innovation and export, therefore, cannot support entrepreneurship. Carree et al. (2002) result suggest entrepreneurship as a necessary condition for economic development. The result of education estimate obtained in this study is consistent with existing literature and theory. Kolstad and Wiig (2015), found a significant and substantial effect of an added year of primary education on entrepreneurial profitability. With a declining number of years in school due to conflict and communal clashes in many Africa countries, coupled with low investment in education

evidence in the high number of children out of school, Africa cannot excel in entrepreneurship like other continents in the world. Karlan and Valdivia (2011) result in randomised entrepreneurship training shows that the entrepreneurs who received training, kept a record of withdrawals and deposit, and implement innovations in their businesses recorded higher sales. Though education in this study is not significant, the result shows a positive relationship between education and entrepreneurship.

In summary, it is observed from this study that financial stability, governance and economic development are significant determinant entrepreneurship development in sub—Sahara Africa. Though, the effect of education appears not to have significantly enhanced entrepreneurship development as evidenced in the result. The degree of the responsiveness of entrepreneurship development to the variations in governance and economic development appears to be inelastic; it is, however, elastic with the financial stability of these countries. This implies that a proportionate change in the sub-Sahara African countries financial stability leads to a more proportionate change in entrepreneurship development.

First, the model tests the effect of financial stability on entrepreneurship development. The estimation shows that financial stability has a positive and significant impact on entrepreneurial development. This implies that as financial stability improves, entrepreneurship will develop and grow faster. Therefore, the level of the soundness of the financial institutions in African regions has a determinant role to play in entrepreneurial development in the region. The study uses financial stability index, which measures the financial strength of the banks, real economic stability and the level financial market development of the African economies. Some control variables were used to control for countries specifications. These were of three categories; the first controls estimate institutional quality. In this study, institutional quality framework proxy by the effectiveness of governance reveals a significant but negative relationship with entrepreneurship development, hence implies past and current state of governance in the region is not supportive enough.

The second category emphasises the level of economic development among African countries. This study posits that economic growth is different from economic development. When growth is consistent, it should translate to development, in Africa sub-region, that has not happened, hence because the growth is not inclusive, it cannot enhance entrepreneurial development in Africa. The level of economic development reveals a significant adverse effect on entrepreneurship development. However, it is observed that if Africa countries pursue economic development, perhaps it will drive entrepreneurial development and help African countries in harnessing entrepreneurial potentials of its citizenry. The developmental stage of many African countries induces a detrimental effect instead of a positive effect (Lahimer et al., 2013). The third category is concerned with entrepreneurship development from human capital development proxy by primary school enrolment. A direct link is established between human capital development and entrepreneurial development such that a percentage increase in human capital development brings about a corresponding change in entrepreneurial development though not significant enough.

Also, the study adopts dummy variables to determine the qualitative characteristics of the geographic region. The study estimated result considers four geographical regions such as the South African region (SAR), East Africa Region (EAR), Central Africa Region (CAR), and West Africa Region (WAR). In controlling for regional effects, the estimated result shows that entrepreneurship development in the South, Central and West Africa region is associated with a low drive and slow performance compared to East African regions though the result is insignificant for the three regions. East Africa region result indicates strong support for entrepreneurship development. The result further suggests that the East Africa Region has a highly significant contribution to entrepreneurial development. In contrast, entrepreneurship development in the South, Central and Western region exhibits a low degree of responsiveness to changes in financial stability, governance, economic growth and human capital development policy-related issues.

8. Conclusion and recommendations

The study concludes that sub-Sahara Africa financial stability in the study period enhances entrepreneurial development which should improve economic growth and accelerated achievement of the sustainable development goals. A lot still needed to be done by the government in sub-Saharan Africa countries in terms of infrastructural development, governance and human capital development to harness the full potential of the region and rid the region of the prevailing high poverty rate and unemployment rate. Government policy on school enrolment from age 6 to 16 should be made compulsory across the region. African leaders should take their peer review mechanism seriously and sanction corrupt leaders to enhance good governance across the region. The other areas of sub-Sahara Africa should learn from the East Africa region what are they doing differently that is improving growth and development in the region so that they can implement in their region.

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Author details

Abiola Babajide¹
E-mail: abiola.babajide@covenantuniversity.edu.ng
Adedoyin Lawal²
E-mail: Lawal.adedoyin@lmu.edu.ng
Abiola Asaleye³
E-mail: asaleye.abiola@lmu.edu.ng
Tochukwu Okafor²
Godswill Osuma²
E-mail: godswill.osuma@covenantuniversity.edu.ng

¹ Department of Banking & Finance, Covenant University, Ota, Ogun State, Nigeria.

² Department of Accounting and Finance, Landmark University, Omu Aran, Kwara State, Nigeria.

³ Department of Economics, Landmark University, Omu Aran, Kwara State, Nigeria.

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Appendix

Table A1. Hausman test result

Variables	Fixed(b)	Random(B)	Difference (b-B)	Std. Error
LnFIS	22.11651	20.76375	1.35276	8.241032
LnGOV	-0.4163261	-0.4390451	0.022719	0.143104
LnGDPPC	-20.527070	-19.205520	-1.321546	8.01317
LnPSE	0.1562107	0.150471	0.057397	0.0618469
SAR	1.417191	1.376182	0.041084	0.4648774
EAR	0.4987414	0.4831867	0.0155547	0.0593064
CAR	-0.4429503	-0.4261831	-0.0167672	0.2980824
WAR	2.916095	2.816438	0.0996565	0.7352889
<i>chi</i> ² (8) = 0.09; Prob> <i>chi</i> ² = 1.0000				

Source: E-views output, 2020

Table A2. The Breusch and pagan lagrangian multiplier tests result

	Var	sd = sqrt(Var)
Lnnbr	2.888484	1.699554
E	1.264199	1.124366
U	0	0

Source: E-views output, 2020 Test: Var(u) = 0; *chi*²(1) = 3.64; Prob > *chi*² = 0.056



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