FOREIGN BANKS' PRESENCE, BANKING SECTOR OPENNESS AND NEW FIRM CREATION IN SELECTED AFRICAN COUNTRIES

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Abstract

This paper analyzes the dynamic impact of foreign banks' presence and openness of banking sector on new firm creation in a panel of African countries. The analysis is based on Panel corrected standard error estimate (PCSE) and system Generalised Method of Moment (SGMM). Using data of sixteen countries in Africa between 2006 and 2017, the results reveal that foreign banks' presence and banking sector openness have significant positive impacts on new firm creation. The study also examines the causality between the variables via Toda and Yamamoto approach. The results confirm a bidirectional causality between banking sector openness and new business creation. This means that there is a two-way flow between the variables. Banking sector openness drives entrepreneurial development and entrepreneurial activities also drive openness of the banking sector. This implies that foreign banking firms through their access to advanced technologies, increase the efficiency in the domestic banking sector of the economy. They grant loanable funds to domestic entrepreneurs for setting up new firms. The findings suggest that the presence of multinational banks is a blessing to African economies.

Keywords: Foreign Banks, Liberalization, Entrepreneurial Start-up.

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1. Introduction

The presence of foreign and multinational banks has increased tremendously in most developing countries and African region is not an exception after the adoption of bank liberalization policy (Claessens & Van Horen, 2014; Léon & Zins, 2018). African banking system experiences transformation and growth of banking sector openness due to the implementation of financial liberalization in most African countries (Ukaegbu & Oino, 2014). The most prominent one in terms of consequence is the huge inflows of foreign banks into the banking industry. For instance, the proportion of foreign banks in African banking sector is almost 60 percent with the number growing to 80 percent in countries like Burkina Faso and Mali (Sulemana et al. 2018). According to Claessens and van Horen (2012), the growth rate of total number of foreign banks in Africa is approximately 31 percent since 2008, which describes the possible reasons why many scholars have raised concerns on the roles of foreign banks' presence in Africa ranging from, efficiency, soundness, credit availability to bank stability, in which their results remained mixed (Ukaegbu & Oino, 2014; Sulemana et al. 2018; Fiador et al. 2021). Despite the growth of literature, questioning the importance of foreign bank's presence in Africa, little or no study has examined the impact of openness of the banking sector and foreign bank's presence on the birth of new firms in African perspectives and this study can be seen as a reaction to above. Against this background, the authors address the question of how banking sector openness and foreign banks' presence affect new firm entry. This study enriches prior literature by investigating the effect of multinational banks' presence and banking sector openness on new firm entry in selected African countries.

The study offers a number of contributions. First, the academic discourse on the impact of foreign banks' presence and banking sector openness on new firm entry have been well advanced in developed countries, but this is rarely featured in the context of developing regions like Africa. Therefore, this paper has the potential to reveal the potential impact of foreign banks' presence on new firm entry in the perspective of African countries. In addition, this study examines the dynamic relationship among the banking sector openness, foreign banks' presence and new firm entry via causality approach which previous studies had overlooked. The growth of foreign banks' inflow and the nature of banking sector openness have fostered an increasing interest in African banking system. The extant literature only examines the impact of foreign bank presence on credit availability and the other consequences of international bank participation in domestic banking sector without investigating the interaction among the key variables (Fiador et al. 2021). Foreign banks account for more than 51percent in African banking industry and they play prominent role in influencing government policy on business environment such as infrastructure provision, and tax policy among others (Hartwell & Michael 2015). Banking liberalization may influence government and its agents to implement business reforms that make the business environment more conducive that will increase

the foreign and indigenous entrepreneurs' inflow (Lensink & de Haan, 2004). These reforms enhance efficiency in the banking sector (Tadesse, 2002).

2. Literature Review

Theoretical issues

There are theoretical views on the nexus between banking sector openness and entrepreneurial startups in economic literature. The first proposition can be viewed as *home advantage hypothesis* described by Berger et al. (2000). Based on this view, foreign and multinational banks are inefficient compared to domestic banking firms especially where there is no transparency in the operation of the domestic entrepreneurs. This information asymmetry between foreign banks and domestic firms makes credit accessibility by entrepreneurs to be more difficult. Loan officers of foreign do not understand the operations of most domestic firms leading to adverse selection in the industry. In addition, the costs of getting such information are too high compared to the returns from such loans, thereby causing discrimination in granting credit facilities. This means that the more transparent a firm is, the more accessibility to credit facilities it has(Dell'Ariccia & Marquez, 2004; Bermpei et al. 2019). The second view relates to the *global advantage hypothesis*. This view is based on the assumption that foreign banking firms have access to advanced technologies to track and monitor the transactions of domestic new firms in the host economies which make them to have competitive advantages over the domestic banks, most importantly in lending and tracking financial operations at a cheaper cost. This makes them to be more effective and they grant loanable funds to a good number of domestic entrepreneurs when compared to domestic banks within the financial market (Berger & Udell, 2006). Furthermore, the absence of competition in the banking industry may lead to inefficiency in the financial intermediate function of banking firms including inefficient management of credit allocation to new firms. However, the banking sector's openness may increase the level of competition which may increase the level of efficiency in the sector leading to efficient allocation of credits (Glaessner & Oks, 1994; Levine, 1996; Cull & Peria, 2007). This action also leads to a reduction in overhead costs through the use of financial technology which is enjoyed by domestic banks and the same action leads to the presence of foreign banking firms with sophisticated technologies (Berger & Hannan, 1998).

There are various, but ambiguous, channels by which banking sector openness and foreign banks' presence in an economy may affect the level of new firm creation (Hartwell & Michael, 2015). Foreign banks' presence in an economy may promote entrepreneurial activities due to their access to a large pool of funds which help in maintaining higher levels of enterprises' lending requests. Furthermore, relaxing entry barriers to foreign banking firms may reduce the external costs of sourcing for foreign loans by indigenous entrepreneurs. Dynamically, an economy with a high cost of financing may

attract foreign banking firms with low cost of raising capital. Foreign banks with adequate risk management and higher level of financial resources may explore the advantage of providing credits to entrepreneurs facing financial constraints leading to higher birth to new firms in the host country (Ghosh, 2020). In addition, foreign banks may pressurize the government of the host country to improve the infrastructural facilities. This role may lead to major improvement in the business environment, making domestic banks to be more efficient in financial services delivery (Berglof & Bolton, 2002; Hartwell & Michael, 2015). On the other hand,, the presence of foreign banks' may have negative side effects in the economy, one of which happens in the presence of information asymmetry which may lead to adverse selections in the banking industry. Most small businesses lack the capacity to maintain accurate financial reports needed by most of the foreign banks. This implies that entry of international banks into the domestic country's banking sector may affect the availability of credit allocations to young enterprises. This is because foreign banking officers may not understand the local laws and production system of the small-medium enterprises which make it difficult to analyze their suitability for the loanable funds (Alfraro & Charlton, 2007; Havrylchyk, 2012; Beck et al.2018). As explained by Ghosh (2020), entrepreneurs may suffer setbacks in the presence of foreign banks, most especially due to their inability to understand host country's culture and distance barriers between the entrepreneurs and foreign banks, loan officers, make it difficult to recover loans in the case of loan default (Hass & Naaborg, 2005).

Empirical literature

There are few studies that examine the nexus between the openness of the banking sector and credit to private sector with little studies focusing on its effect on starting up new firms. However, their conclusions remain mixed. The Chinese study of Lin (2011) documented that profitable firms have more access to credits after the entrance of multinational banks in the domestic banking sector. The study also indicates that if the rights of creditors are not protected, collateral plays an insignificant role in reducing asymmetric information. Manlagñit (2011) revealed that in the Philippines banking sector foreign banks increased competition in domestic banking sector. Huat (2012) confirmed that the presence of foreign banks developed buffer shock function in the banking industry of Latin America over a period of 1995-2001 using ARCH techniques. Baltaci et al. (2014) also showed in transition economies over a period of 1995-2010, foreign banks decreased the accessibility of credits to private sector.

The study of Berger et al. (2001) revealed that multinational banks find it more difficult to extend credits to small and medium scale enterprises (SME). Similarly, Tadeo (2004) and Clarke et al. (2001) documented that foreign banks do not supply loans to SMEs. They further explained that most foreign banks merely focused on large enterprises due to information asymmetry of the small businesses leading to opaqueness in the case of financial appraisal. Havrylchyk (2012) documented that acquisition of domestic banking firm reduces new firm

entry and increases the level of firm exits. The study provided new evidence that presence of foreign banking firms worsens information asymmetry and increases the level of credit constraints to domestic firms. The recent study of Hartwell and Michael (2015) revealed that foreign banks assisted in reshaping the business environment and had positive impact on business setups in 107 countries. Their study applied system GMM technique after conducting panel unit root and co-integration tests on the variables. Bermpei et al. (2019) investigated how the presence of foreign banks affected new firm entry in large panel of countries within a period of 2005-2013. Using IV estimation technique, the results showed that the foreign banks affected the firm's entry positively. In addition, this impact subsides in the presence of strong creditors' right protection, further strengthening when there is availability of credit information. In the same vein, Ghosh (2020)'s results confirmed that the openness of banking industry significantly improved the level of new business formation. This means that foreign banks may increase the level of efficiency, effectiveness and competitiveness in the domestic banking industry (Demirguc-Kunt et al.1998; Haber & Musacchio, 2004; Yin et al. 2015). The study of Fiador et al. (2021) further buttressed this point by examining the impact of foreign banks' penetration on credit to private sector. Using fixed effects and GMM estimator, they confirmed that financial liberalization and deregulation have positive and significant impact on credit accessibility.

In summary, it is obvious that few studies investigate the impact of foreign bank presence on new firm creation. Our study complements this existing literature to investigate the dynamic relationship between foreign banks' presence, banking sector openness and new firm creation in African perspectives.

3. Methodology

Empirical model

This study is set to test the effects of foreign banks and banking sector openness on new firm creation in Africa. The baseline model for the analysis is stated as follow:

$$NBE_{it} = \varphi_0 + \varphi_1 FB_{it} + \varphi_2 EL_{it} + \omega' Z_{it} + u_i + e_t + \varepsilon_{it}$$

Note that *i* and *t* are cross-sectional and time identities respectively, (*NBE)* is new business creation, (*FB*) is foreign banks' presence, *(EL)* stands for banking sector openness and *Z* is the control variables. Control variables include Infrastructure (*AIDI*), Gross domestic product per capita growth (*GR*), time required to register (*Time*), *(Inf) is inflation rate,* foreign direct investment inflow as a percentage of GDP *(FDI),* Banking sector concentration *(BC)* and procedures to start business operation (*Stup*). Intercept is φ_0, while φ_1 , φ_2 and Z are coefficients. u_i and e_t are fixed and year effects respectively. ε_{it} is the white noise.

Our selection of control variables follows the existing literature. It has been empirically confirmed that higher concentration in the banking industry may increase the level of financial constraints, thereby reducing firm creation.

This implies that a competitive banking system will benefit entrepreneurial system compared to a high concentrated banking system (Backman, 2015). The cconomic condition is confirmed to influence entrepreneurial startup which can be positive or negative depending on the level of economic advancement (Carree et al. 2007; Stel et al. 2005; Adusei, 2016). Time required to startup and the number of registration procedure are normally used to proxy startup costs and business regulation respectively (Munemo, 2018; Ajide, 2021a). According to the existing literature, inflation rate can be used to proxy the level of monetary policy stability in the economy. It can limit the level of entrepreneurial flourishment depending on its tradeoff with other monetary policy objectives (Porter & Schwab, 2009). Foreign direct investment is included to capture the influence of multinational corporations on domestic entrepreneurial development (Albulescu & Tămăşilă, 2014). In this manner, good infrastructure tends to influence entrepreneurial development positively (Ajide, 2020).

Data sources, scope of the study and variable measurements

The study relies on data sourced from World Development indicators, Entrepreneurship and Financial Structure Database between 2006 and 2017. The list of African nations used are listed in appendix (Table A) which is based on data availability. Table 1 shows the list of variables and their description.

Table 1: Variables and their measurements

Variables	Measurements	Sources
New firm creations (NBE)	This is proxied as the new firm density which is measured as new firm registrations per 1000 adults between the age of 15 to 64 years	Entrepreneurship database by World Bank
Infrastructural index (AIDI)	This is proxied by a composite index and it comprises transport, ICT index, water & sanitation, and electricity indicators	Infrastructure Database by ADB
Inflation (Inf)	Change in consumer price index	World Development Indicators (WDI)
Procedures to start a business (Stup)	Number of procedures to start a business	Doing Business
Foreign direct investment (FDI)	FDI inflow expressed (as% of GDP).	WDI
Economic growth (GR)	Rate of per capita GDP growth	WDI
Time to complete business registration activities (Time)	Number of days it takes to complete business registration	Doing Business
Banking sector competition (BC)	Bank Concentration is the big-5 commercial bank assets (expressed	Global Financial Development (GFD) database

	as a fraction of total assets of commercial banks)	
Foreign bank's presence (FB)	Number of foreign banks expressed as a ratio of the number of total banks	GFD database
Banking sector openness (EL)	External loans and deposits of banks as a percent of domestic deposits	GFD database

Source: Compiled by authors

Table 2 shows the descriptive statistics of key and control variables. The new business entry variable has a mean value of 2.418 with a minimum value of 0.008 while the higher value is 20.09. This implies that on average, new firm creation is approximately 2 per 1000 adults in the selected countries. In African banking industry, about 52.25 percent of banking firms are foreign banks with a maximum of 94 percent. This shows that there is a high level of presence of foreign banks in the region. In addition, the level of external loan is approximately 23.4 percent in the selected countries while the number of days to register a firm is about 32 days in the selected countries with a minimum of 4 days. This means that there is some level of improvement in the timing of registration.

Table 2: Variables' Descriptive statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
NBE	2.418	3.816	0.008	20.090
AIDI	28.020	19.081	4.892	79.634
Inf	5.384	3.993	-2.409	17.869
Stup	8.703	2.992	4	17
FDI	3.071	2.261	-1.032	18.817
GR	4.684	3.574	-17.668	19.675
Time	31.595	26.218	4	105
BC	62.930	14.453	35.384	100
FB	52.25	21.836	0	94
EL	23.433	27.231	1.505	209.782
Number of observations = 192				

Source: Compiled by authors

In Table 2, the level of banking concentration is high, accounting for 63 percent on average while in some countries, the banking sector displays monopolistic features. Furthermore, in order to get a firm registered, 9 procedures are undertaken on average with a maximum of 17 procedures in some cases. The level of FDI in the selected countries is not encouraging, accounting for 3 percent of GDP with a maximum of 19.7 percent. Table 3 also reflects the pairwise correlation among the variables. It is clear that the coefficient of the

variables is below 0.6 indicating that all the variables can be estimated in a model and no presence of any potential high level of multicollinearity.

Table 3: Pairwise correlation

	NBE	AIDI	Inf	Stup	FDI	GR	Time	BC	FB	EL
NBE	1.000									
AIDI	0.527*	1.000								
Inf	-0.001	-0.168*	1.000							
Stup	-0.173*	-0.215*	0.262*	1.000						
FDI	-0.160*	-0.241*	0.169*	0.052	1.000					
GR	-0.197*	-0.299*	0.147*	0.044	0.187*	1.000				
Time	0.139	-0.134	0.030	0.347*	0.101	-0.035	1.000			
BC	0.013	-0.119	-0.158	0.012	0.063	-0.011	0.451*	1.000		
FB	0.047	-0.150*	0.124*	0.127	0.205*	0.106	-0.367*	-0.416*	1.00	
EL	0.285*	0.083	0.285	0.108	0.086	0.164*	-0.121	-0.226*	.154*	1.00

Notes: *denote significance at 5%, Source: Authors' compilation
Source: Compiled by authors

Furthermore, key independent variables (EL and FB) have a positive association with dependent variable (NBE) which is in line with theoretical explanations. The same applies to AIDI, time and BC. However, the inf, stup, FDI and GR have a negative association with NBE.

Estimation strategies

On estimation strategy, an ordinary least square (OLS) regression leads to spurious results in the presence of autocorrelation, heteroscedasticity and contemporaneous correlation across the African economies. To address this, a panel corrected standard errors proposed by Beck and Katz (1995) was applied. To correct for endogeneity in the model, Panel Generalised Method of Moments (PGMM) technique was employed. This dynamic behaviour wass considered to capture the dynamic structure of the economic relationship among the variables of interest (Seetaram, 2012). In specific, system GMM of Arellano and Bover (1995) which presents a reliable coefficient and estimates was employed. The technique also accommodates for lagged dependent variable to correct for endogeneity issues. For diagnostics, two tests were employed in this respect in accordance with the extant literature (Arellano & Bond, 1991). The first was the acceptance of no second-order serial correlation [AR (2)] while the first order serial correlation [AR (1)] was normal in the GMM estimations. The second test deals with the validity of instruments via Sargan/Hansen. In addition to this, the causality among the variables were analyzed to establish the causal directions based on Toda and Yamamoto (1995) for the case of African economy after establishing the appropriate lag-length using Akaike Information Criterion (AIC).

4. Results and discussion

Estimated results

Table 4 presents that baseline results of the study showing that the coefficient of foreign banks' presence (FB) is positive and significant across the estimations at 1 percent significance level. This implies that the presence of foreign banks in Africa increases the level of new firm creation towards entrepreneurial development. In addition, the coefficient of banking sector openness (EL) is significant at 1 percent, showing that banking sector openness improves the level of new firm creation. These results support the findings of Hartwell and Michael (2015) who confirmed that foreign banks' presence significantly influenced business activities in 107 countries between 1983 and 2012. Fiador et al. (2021) showed that foreign banks' presence improved the level of credit availability in African countries. However, this is not in line with the submission of Berger et al (2001) who found that foreign banks have more difficulties in making credit available to small businesses in Argentina. The same applied to Tadeo (2004). He analysed that foreign banks have problems in supplying credits to small businesses due to asymmetric information.

Table 4: Regression results from OLS (Random effect) and panel-corrected standard errors (PCSE)(Dependent variable: NBE)

Variables	OLS-Random	PCSE (1)	PCSE (2)	PCSE(3)
AIDI	0.100***	0.112***	0.093***	0.100***
	(0.00)	(0.00)	(0.00)	(0.00)
Inf	0.077	0.146***	0.069	0.077
	(0.187)	(0.009)	(0.220)	(0.166)
Stup	-0.349***	-0.315***	-0.287***	-0.349***
	(0.00)	(0.00)	(0.00)	(0.00)
FDI	-0.250**	-0.214***	-0.173***	-0.249***
	(0.014)	(0.000)	(0.002)	(0.000)
GR	-0.090	-0.365	-0.092	-0.091
	(0.154)	(0.637)	(0.305)	(0.292)
Time	0.057***	0.054***	0.046***	0.571***
	(0.00)	(0.000)	(0.00)	(0.00)
BC	0.023	0.039	0.008	0.024*
	(0.192)	(0.214)	(0.428)	(0.075)
FB	0.037***	0.0395***		0.037***
	(0.001)	(0.009)		(0.00)
EL	0.043***		0.044***	0.043***
	(0.00)		(0.00)	(0.00)
Constant	-2.810	-2.536	-0.099	-2.810*
	(0.102)	(0.079)	(0.928)	(0.065)
R-sq	0.480	0.404	0.450	0.480
Wald test(χ^2)	18.418***	264.82***	661.64***	589.07***
	(0.00)	(0.00)	(0.00)	(0.00)

Hausman Test(χ^2)	2.923 (0.967)	n/a	n/a	n/a
No. of group	16	16	16	16
No. of Obs	189	191	189	189

Notes: *, **, *** denote significance at 10%, 5% and 1% respectively
Source: Compiled by authors

Furthermore, some of the control variables have a significant impact on firm entry in Africa. The results show that infrastructural development has a significant impact on firm entry. This means that good infrastructure is very important for firm creation and growth. This confirms the submission of Ajide (2020), Audretsch *et al*. (2015), Haller and Lyons (2015). They showed that good infrastructure system improves firms' productivity and efficiency (Ajide, 2021b). The coefficients of Startup procedures show a significant negative impact on new business entry. This is not a surprise because when there are several registration procedures, it increases the cost of starting a business, thereby demotivating the entrepreneurs from formalizing their business activities, thereby the findings are consistent with Munemo (2018) and Asongu and Odhiambo (2019). The study of Klapper and Love (2011) also buttressed this point showing that the number of procedures reduced firm creation in a large number of countries. The coefficient of FDI is also negative and significant across the estimations. This implies the impact of foreign direct investment on new firm creation constitutes crowd out in the selected countries due to the multinational companies (MNCs)' competition with indigenous producers in Africa. This may also be the consequences of an increase in the technology barriers due to its huge costs and labour working conditions of local firms compared to MNCs (Munemo, 2018). This result confirms the submission of Zheng and Musteen (2018). The time required in creating a business is positively significant across the estimations. This implies that after completion of registration procedures, individual entrepreneurs are encouraged to commence the business on a faster mode (Ajide, 2021b). This may happen if tax holidays and other incentives are granted. The results further show that the inflation coefficient is insignificant except in the estimated results reported in column 2. The significant coefficient implies the stability of monetary policy improves the level of entrepreneurial startup as confirmed by Arin et al. (2015). Finally, the coefficients of GDP growth (GR) is not significant, which is consistent with Munemo (2018).

Addressing endogeneity

In addition to the results reported earlier, the key variables of interest of the study were further examined by estimating system GMM of Arellano and Bover (1995) as reported in Table 5. This estimate, compared to one-step GMM, produces reliable and asymptotically efficient results. This estimator addresses the problem of reverse causality and endogeneity issues among the variables. In specific, foreign banks may help in boosting new business creation and entry. At

the same time, the presence of foreign banks in an economy may foster agitations for a more friendly business environmental reform. In addition, the presence of foreign banks may facilitate the activities of foreign investors. This implies that the impacts are expected to flow in both ways. High level of new business entry is expected to create market opportunities for foreign banks, which eventually draws foreign banks into the economy (Lensink & de Haan 2004; Davis, 2006). One lag and the specification test results of AR (2) which were employed show that the results do not suffer from second order serial correlation while the Sargan test reveals the validity of the instruments; implying that instruments of the current study do not correlate with error term and there is no case of weak instrument in the estimation as all the tests including AR(2) pass the diagnostic analysis for the case of system GMM. This confirms that the estimated coefficients are valid. Similarly, diagnostic tests of the current study such as Wald-Test also confirms the overall significance of the model. This means the estimate is robust and reliable.

Table 5: Syst. GMM results (Dependent variable: NBE)

Variables	Coefficients	t-statistics	p-value
NBE(-1)	0.975***	36.90	0.000
AIDI	0.047***	4.53	0.000
Inf	-0.014	-0.60	0.549
Stup	0.186*	1.87	0.061
FDI	0.030	0.76	0.447
GR	-0.047***	-2.81	0.005
Time	-0.005	-0.57	0.566
BC	-0.004	-0.36	0.718
FB	0.041**	2.51	0.012
EL	0.016***	3.60	0.000
Constant	-4.641***	-3.09	0.000
Sargan test (*p* value)			0.102
AR(1) (*p* value)			0.045
AR(2) (*p* value)			0.119
Wald test(χ^2)			8808.48***
Wald test/P-value			0.000
No. of group			16
No. of Obs			173

Notes: *, **, *** denote significance at 10%, 5% and 1% respectively
Source: Compiled by authors

As shown in Table 5, the coefficient of the presence of foreign bank (FB) and banking sector openness (EL) remain positive and significant which are consistent with the earlier results reported under PCSE. In addition, the coefficient of GDP per capita is significant confirming the submission of Munemo (2018) and Ajide (2020). The coefficient of lag of explained variable is significant and positive showing the dynamic nature of our model. This means

that previous new business entry (NBE) exerts positive and significant impact on the current NBE at 1 percent significance level. This indicates the importance of initial impact of firm entry in the present condition in the selected countries. This justifies that the adopted estimator fits the nature of the data. Overall, using the GMM further supports the estimation from Panel corrected standard error estimator.

Testing for causality

In Table B (*see appendix*), the results of causality among the variables are reported using causality approach of Toda-Yamamoto after ascertaining the optimal lag Akaike Information Criterion (AIC). The AIC is presented in Table C (*see appendix*). This study conducted Wald test via the standard chi-square distribution technique. According to Table 6, while there was no causality between foreign banks' presence and new business entry, there is a 2-way causality between banking sector openness and new business entry. Banking sector openness may lead the government to implement business and economic reforms that make the business environment conducive. This further increases the inflows of foreign and indigenous entrepreneurs (Lensink & de Haan, 2004). These reforms enhance efficiency in the banking sector (Tadesse, 2002).

The results also show that there is a 1-way causality moving from foreign bank presence to the time required to startup commercial activities and the procedure to commence a business venture. This means that foreign banks effectively influence the government policies on business registrations. This supports the assertion that if an economy has obstacles in formalizing operations, it will have negative impacts on entrepreneurial activities and of cause, it is less attractive to multinational corporations. However, less requirements for formality may induce inflow of birth to new businesses (Branstetter et al., 2014).

5. Conclusion

This paper investigates the nexus among the foreign banks' presence, banking sector openness and new firm creation in selected African countries. The variation in regional banking sector policies across the globe offers a unique setting for ascertaining the causal directions among the variables in Africa. The few extant studies that provide empirical evidence on the nexus between foreign banks' presence, banking sector openness and new business creation are less informative on these factors which affect African entrepreneurial development. To address this gap, data of sixteen African countries were analyzed between 2006 and 2017 using Panel corrected, estimate standard error (PCSE) and a two-way system GMM approach. The results show that foreign banks' presence and banking sector openness have positive and significant impacts on new firm creation. Further, the causality between the variables via Toda and Yamamoto causality approach were examined. The results confirm a bidirectional causality between banking sector openness and new business creation meaning that there is a two-way flow between the variables. Banking sector openness drives

entrepreneurial development and entrepreneurial activities also drive openness of the banking sector.

This study lends support for the *global advantage hypothesis* which states that foreign banking firms have access to advanced technologies to track and monitor the transaction of domestic new firms in the host economies leading to efficiency in the host country's banking sector by granting loanable funds to a good number of domestic entrepreneurs. This study offers policy directions to regulators, bank managers and African policy makers in general. The findings suggest that the foreign banks' presence is a blessing in Africa. The banking sector liberalization policy may help in relieving financial constraints facing most entrepreneurs in Africa. It helps in reducing inefficiency in financial resource allocation and it helps to motivate youth to have formal entrepreneurial mindset thereby solving unemployment problems. There is no study without limitations; the current study is not an exception. The current study did not consider the situation of informal entrepreneurial development. The current study did not examine whether the results hold in the period of financial crisis and future studies may consider these issues.

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Appendix

Table A: List of countries used

Algeria, Botswana, Mali, Mauritius, Morocco, Nigeria, Rwanda, Senegal, South Africa, Togo, Tunisia, Uganda, Zambia, Zimbabwe, Tanzania, and Namibia

Table B: Toda–Yamamoto causality between new firm entry, foreign bank presence and banking sector openness

Independent variables	Dependent variables									
	NBE	**AIDI**	**INF**	**STUP**	**TIME**	**BC**	**EL**	**FB**	**FDI**	**GR**
NBE		0.546 (0.760)	0.404 (0.816)	0.252 (0.881)	1.945 (0.378)	0.228 (0.892)	21.818*** (0.000)	1.163 (0.558)	3.190 (0.202)	4.335 (0.114)
AIDI	2.533 (0.281)		1.692 (0.429)	1.926 (0.381)	0.315 (0.853)	2.324 (0.312)	0.351 (0.838)	1.508 (0.470)	1.036 (0.595)	7.403*** (0.024)
INF	0.847 (0.654)	0.171 (0.917)		6.689** (0.035)	4.881* (0.087)	0.236 (0.888)	7.337** (0.025)	2.213 (0.330)	2.169 (0.338)	4.283 (0.117)
STUP	1.406 (0.494)	0.416 (0.812)	5.169* (0.075)		1.178 (0.554)	0.347 (0.840)	3.038 (0.218)	5.274* (0.071)	2.328 (0.312)	1.758 (0.415)
TIME	1.599 (0.449)	5.260* (0.072)	0.438 (0.803)	0.773 (0.679)		1.324 (0.515)	5.492** (0.064)	1.877 (0.391)	6.785** (0.033)	0.508 (0.775)
BC	0.285 (0.867)	0.560 (0.755)	3.807 (0.149)	3.361 (0.186)	1.737 (0.419)		2.158 (0.339)	0.230 (0.891)	8.736** (0.012)	1.357 (0.507)
EL	11.753*** (0.003)	1.452 (0.483)	3.566 (0.168)	7.032** (0.029)	3.443 (0.178)	0.954 (0.620)		3.019 (0.220)	4.201 (0.122)	1.387 (0.499)
FB	0.591 (0.7439)	2.041 (0.360)	2.830 (0.242)	21.713*** (0.000)	23.334*** (0.000)	0.286 (0.866)	2.645 (0.266)		31.130*** (0.000)	0.150 (0.927)
FDI	0.636 (0.727)	0.173 (0.916)	0.604 (0.739)	3.029 (0.219)	6.582 (0.037)	1.838 (0.398)	1.743 (0.418)	3.384 (0.184)		0.490 (0.782)
GR	30.965*** (0.000)	0.975 (0.613)	1.207 (0.546)	2.229 (0.237)	5.534** (0.062)	0.411 (0.814)	0.511 (0.774)	2.770 (0.250)	4.881* (0.087)	
Wald Test	46.254*** (0.000)	12.889 (0.798)	22.974 (0.191)	45.494*** (0.000)	58.403*** (0.000)	13.801 (0.741)	65.917*** (0.000)	32.224** (0.020)	59.108*** (0.000)	25.590 (0.109)

Notes: *, **, *** denote significance at 10%, 5% and 1% respectively

Source: Compiled by authors

Table C: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-4118.511	NA	3.93e+16	66.58888	66.81632	66.68127
1	-2619.493	2732.081	6261851.	44.02408	46.52594*	45.04040*
2	-2496.428	204.4475	4440320.*	43.65206*	48.42834	45.59230
3	-2413.650	124.1665	6320581.	43.92984	50.98054	46.79400
4	-2298.565	154.0646*	5756927.	43.68654	53.01166	47.47462

Notes: * indicates lag order selected by the criterion, LR: sequential modified LR test statistic (each test at 5% level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion and HQ: Hannan-Quinn information criterion

Source: Compiled by authors