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Financial Deepening and Entrepreneurial Growth in Nigeria: A Time Series Analysis (1986 – 2018)

Eric Okwuchukwu Nwajiaku[1],
Amalachukwu Chijindu Ananwude[2,] Victoria Obi-Nwosu[3]
[1]Department of Banking and Finance, Federal Polytechnic, Oko, Anambra State, Nigeria
[2,3]Department of Banking and Finance, Nnamdi Azikiwe University, Anambra State, PMB 5025, Awka, Nigeria

Abstract

This study examined the effect of financial deepening on entrepreneurial growth in Nigeria. Following the approach of the Granger Causality test with Autoregressive Distribute Lag (ARDL) technique of model estimation using data from 1986 to 2018, there is no significant effect of financial deepening on entrepreneurial growth. Entrepreneurial growth was found to have significantly influenced financial deepening through banking and insurance sector deepening. Consequently, the Central Bank of Nigeria (CBN) should encourage commercial banks to lend more for entrepreneurial activities which will in turn improve our gross domestic product. This can be achieve if the CBN can lower its monetary policy rate to a single digit as against the current double digit (14%). It would be ideal for the government (Federal, State and Local) to establish entrepreneurial training/skill acquisition centres in all tertiary institutions in the country. This will help a large fraction of the graduates of these institutions to inculcate entrepreneurial spirit to setting up small and medium scale enterprises in every part of the country.

1. Introduction

Economic growth and development of any economy is largely influence by the level of development in the financial system. This is on the hypothesis that effective intermediation function of the financial system helps channel funds mobilized from surplus units to deficit units. The cost of fund is normally low in a deepened financial system due to the availability of varieties of financial instruments and effective intermediation functions of the financial intermediaries compared to a less deepened financial sector (Nwakobi *et al.,* 2019). Risks faced by firms and businesses in their productive processes would be lowered, improvement of portfolio diversification and the insulation of the economy from the vicissitudes of international economic changes is attainable in a deepened financial system (Nzotta & Okereke, 2009). Financial deepening is needed to provide financing for entrepreneurial growth through the small and medium enterprises as a result of crowding out by large corporations, and that with a deeper financial sector, larger corporations can raise funding more easily through bonds and equity, so that banking can lend to small and medium enterprises (Paramaditha, 2015). Though accessing funds from the banks do come with a cost, however, such costs would be minimal when government (particularly in emerging

economies) intervene through development programmes or policies geared towards improving entrepreneurial activities. In Nigeria, most entrepreneurs are incapacitated from accessing fund from the banks owing to high cost of fund in the banking system. Banks charge as high as 22 percent as interest rate in lending to entrepreneurs. This is outside the collateral requirement involved. Nwakoby & Ananwude (2016) observe that entrepreneurs in Nigeria have limited access to bank credit due to lack of collateral to match the fund needed. This frustrates innovative business ideas that would result in creation of employment, reduction in poverty, wealth creation and improvement in living standard. Although acquiring the entrepreneurial skills is a necessary condition but a sufficient condition entails that capital must be available for the conceived business idea to come to fruition (Ovat, 2013).

Entrepreneurial development programme helps in creating small and medium scale entrepreneurs whose businesses are established across the length and breadth of the country and right into the remote areas unlike large-scale enterprises which require large capital out lay and are often established in urban centres, small and medium scale enterprises require relatively small capital resources and can be set up both in the urban and rural areas (Ovat, 2013). With the assertion of Ovat (2013), deepening the financial sector through financial inclusion becomes imperative. This will help in bringing the unbanked population in the informal financial service sector to the formal financial service sector. The resultant effect will be increased capital mobilization which would be made available to entrepreneurs at a much reduced rate. Informal financial service providers operating in the Nigeria environment as elucidated by Nwakoby & Ananwude (2016) include credit co-operatives, Isu-su groups, money lenders and much room's savings/clubs. Other informal financial service operations in Nigeria that result in financial intermediation or capital accumulation as the case may be include: family funds (especially extended family as mostly applicable in the Northern part of Nigeria and some part of the South West), personal savings, savings from friends and relatives and funds from trade businesses among others (Nwakoby & Ananwude, 2016).

Based on empirical studies available online, this subject matter has not been well discussed in the context of Nigeria. Bulk of the studies focused on financial deepening and economic growth (Peter & Orji, 2018; Nwakobi *et al.*, 2019; Karimo & Ogbonna, 2017; Nwanna & Chinwudu, 2016; Okafor *et al.*, 2016; Alenoghena, 2014; Ohwofasa & Aiyedogbom, 2013). Ademola & Obamuyi (2018) centred on the manufacturing sector, while Maduka (2012) was on domestic investment. The only available study online on financial development and entrepreneurial growth in Nigeria situation as at the time of this research was that of John and Ibenta (2017). This study differs from that of John & Ibenta (2017) in two dimensions. First, we introduced stock market and insurance sector deepening as against only banking sector deepening studied by John & Ibenta (2017). Secondly, we followed a superior methodological approach through Autoregressive Distribute Lag (ARDL) in contradiction to Pearson correlation technique as applied in John & Ibenta (2017).

2. Literature review

2.1. Clarification of Major Concepts

The review of literature was concise as we laid emphases on the definition of the major concepts: financial deepening and entrepreneurial growth. Thereafter, we proceeded to theoretical exploration and review of empirical studies in the subject matter. In conceptual clarification, financial deepening in development studies according to Akhator and Marcus (2018), refers to the increased provision of financial services with a wider choice of services geared to the development of all levels of society. Kiprop (2013) sees financial deepening as the increased provision of financial services, and access to basic financial services such as credit, savings and insurance that is, the increase in the size of the financial system and in its role of financing with a wider choice of service geared toward the development of all levels of society. To deepen the financial system means to ease up the financial system, thereby, participants in the system can partake in the financial markets for making savings and investment decisions, and markets can also deploy a tangible amount of capital without corresponding movements in the prices of asset (Ademola & Obamuyi, 2018). Entrepreneurship in the view of Omoruyi, Olamide, Gomolemo and Donath (2017) is the capacity of a person or group of people to make or find an opportunity and utilize it to the advantage of the society, which, in turn, will bring victory to the trailblazers and their organization. In Africa, the main handicap to entrepreneurship is seen to be inadequate access to funding (Wujung & Fonchamnyo, 2016).

With respect to quality of entrepreneurial institutions, World Bank data-set appears that sub-Sahara Africa, Latin America and Caribbean districts performed underneath worldwide normal within the three motivating forces that drive enterprise whereas East Asia and the Pacific regions performed underneath standard within the levels of bureaucracy, and the least number of days to begin trade (Eke, Okoye & Evbuomwan, 2017).

2.2. Review of Fundamental Theories

In terms of theoretical literature, there are two major theories that relate finance to economic growth. The first is the finance led-growth theory/supply leading hypothesis pioneered by Schumpeter in 1912, while the other is the demand following hypothesis. The supply leading hypothesis which has been widely accepted by scholars (Mckinnon & Shaw, 1973; Greenwood & Jovanovic, 1990; Levine, 2002; Montiel, 1995; Basci & Wang, 1997 among others) is of the postulation that finance is necessary for an economy to achieve growth. The implication of the hypothesis is that deepening the financial system is an imperative to promoting entrepreneurial activities. The existence and development of the financial markets and services results in a higher level of savings and investments, thus, enhances the efficiency of capital accumulation and utilization (John & Ibenta, 2017). The demand following hypothesis assumes that it is the level of development in the economy that determines financial sector development. Invariably, it is the growth and development witnessed in the economy that would propel entrepreneurs to seek for finance. Put differently, financial deepening is a product of economic growth and development in an economy.

2.3. Empirical Studies

Based on internet search, empirical studies on financial deepening and entrepreneurial growth are relatively few. The bulk of the studies related financial deepening to economic growth. In Nigeria the direct study in this subject matter is that of John & Ibenta (2017) who determined the relationship between financial deepening and entrepreneurial development in Nigeria. It utilized auxiliary information collected from Central Bank of Nigeria crossing 1986 to 2016. The research utilized Pearson Correlation in building up connections between the variables. The outcome uncovered that the proportion of money supply to Gross Domestic Product (M2/GDP) contains a positive but not noteworthy relationship with entrepreneurial development; the proportion of credit to private sector to GDP (CPS/GDP) features a positive (not significant) relationship with entrepreneurial development; and the proportion of deposit money banks' branches to GDP (DMBB/GDP) featured a negative and significant relationship with entrepreneurial development.

Another similar study was by Ademola & Obamuyi (2018) but this time on manufacturing firms' performance. They used data from 1970 to 2016 sourced from the Central Bank of Nigeria and the National Bureau of Statistics. Results gotten from the study uncovered that broad money supply has direct and significant impact on index of manufacturing production in Nigeria, credit to private sector has backhanded and inconsequential effect on index of manufacturing production in Nigeria and market capitalization has an backhanded and significant impact on index of manufacturing production within the long-run and a direct and inconsequential affect within the short-run. In the same vain, the emphasis of Maduka (2012) was on the impact of financial deepening on domestic investment. He explored both the long run and short run relationships between financial deepening and domestic investment. The long run relationship among the variables was estimated using Johansen & Juselius (1990) co-integration tests, while the short run relationship was tested using the dynamic vector error correction model, adopting Hendry's general to specific approach until parsimonious model is achieved. The major finding of this study was that financial deepening does not have significant impact on domestic investment in Nigeria.

Eke *et al.* (2017) brought in a new dimension by doing a panel data analysis of thirteen selected countries in Africa. However, the focused shifted to whether human capital development is significant in the nexus between entrepreneurship and financial deepening. The authors applied institutional quality as control variable in thirteen selected African economies from 1995-2014. Evidence from the augmented Toda-Yamamoto technique showed that human capital does not have long run causal effect on entrepreneurship, and financial deepening, which suggested low quality human capital for entrepreneurial development. With regard to studies outside Nigeria environment, Kiprop (2013) embraced both graphic and exploratory plans to study the relationship between financial deepening and the growth of small and

medium enterprises in Kenya. The population for this study comprised of all the Kenya best 100 medium sized companies in the year 2012. The study tested 20 SMEs in Nairobi range. Auxiliary information was collected from the chosen SMEs financial statements. The study considered both clear and inferential measurements in dissecting the information. From the discoveries, it was clear that there was a positive relationship between gross domestic savings and level of capitalization moreover; there was a positive relationship between domestic credit to SMEs sector and level of capitalization.

In Cameroon, Wujung & Fonchamnyo (2016) analysed the effect of financial development on private entrepreneurship. The data were gotten from the World Development Indicators data base and were dissected by employing a two stage least square regression technique. The result appeared that both components of financial development (domestic credit and savings mobilization) positively and significantly influence private entrepreneurship in Cameroon. Too, family household request for merchandise and administrations had a positive impact on private business. In the context of Indonesia, Soedarmono *et al.* (2017) used a survey of 41,862 manufacturing firms from 2004 through 2013 and documented that firms in provinces with deeper financial infrastructure exhibit better performance in general. A closer investigation however highlighted that such findings are more pronounced for firms with higher financial constraints measured by a low-intensity usage of fixed capital. They also found that the positive link between financial depth and firm performance only occurs when financial depth at the province level already exceeds a certain level.

3. Methodology of research

3.1. Data and Sources

Times series data from 1986 to 2018 sourced from the Central Bank of Nigeria (CBN) and Nigeria Stock Exchange (NSE) were utilized in the study. Financial deepening is measured using three indexes: Banking Sector Deepening (BSD) expressed by private sector credit to Real Gross Domestic Product (RGDP), Stock Market Deepening (SMD) represented by stock market capitalization to RGDP and Insurance Sector Deepening (ISD) determined in term of total insurance assets to RGDP, while entrepreneurial growth is proxied by wholesale and retail trade to RGDP.

3.1. Estimation and Model Specification

Estimation of the model was in line with the Autoregressive Distribute Lag (ARDL), whereas effect of financial deepening on entrepreneurial growth ascertained using the Granger Causality approach. The functional model is stated as Equation 1, while the econometric transformation is reflected in Equation 2:

$$ENTG = f(BSD, SMD, ISD)$$ (1)

$$ENTG_t = \beta_0 + \beta_1 BSD_t + \beta_2 SMD_t + \beta_3 ISD_t + u_t$$ (2)

Where: ENTG = Entrepreneurial growth; BSD = Banking sector deepening; SMD = Stock market deepening; ISD = Insurance sector deepening; β_0 = Constant coefficient; u = random error term and t = time trend

4. Results and findings

4.1. Unit Root

The data were checked for unit root in an attempt to avoid spurious result owing to stationarity defect that most time series data have. Augmented Dickey-Fuller (ADF) Test and Phillips Perron (PP) were the unit root test employed at first difference. All the variable were not stationary at level form but became stationary at first difference as shown in Tables 1 – 2.

Table 1. ADF Unit Root Test at First Difference

Variables	Intercept	Trend and Intercept	Remark
ENTG	-4.950147 (0.00)*	-4.953473 (0.00)*	Stationary
BSD	-5.738172 (0.00)*	-5.648188 (0.00)*	Stationary
SMD	-5.626380 (0.00)*	-5.497493 (0.00)*	Stationary
ISD	-7.513958 (0.00)*	-7.534285 (0.00)*	Stationary

Source: Output data from E-views 10.0

Table 2. PP Unit Root Test Result at First Difference

Variables	Intercept	Trend and Intercept	Remark
ENTG	-4.943301 (0.00)*	-4.950951 (0.00)*	Stationary
BSD	-5.738172 (0.00)*	-5.648198 (0.00)*	Stationary
SMD	-5.626194 (0.00)*	-5.497320 (0.00)*	Stationary
ISD	-7.988177 (0.00)*	-8.390490 (0.00)*	Stationary

Source: Output data from E-views 10.0

4.2. Diagnostic Test

This study employed four tools of diagnostic tests: serial correlation, heteroskedasticity and Ramsey Reset Specification. As can be seen in Table 3, there is no problem of autocorrelation, heteroskedasticity and misspecification of model as the p-values of the f-statistics are insignificant at 5& level of significance.

Table 3. Diagnostic Test

	F-statistic	P-value
Serial Correlation LM Test	0.033680	0.9669
Heteroskedasticity Test	1.440988	0.2476
Ramsey Reset Specification	0.010313	0.9199

Source: Output data from E-views 10.0

4.3. Regression Estimation by ARDL

The ordinary relation between financial deepening and entrepreneurial growth is presented in Table 4. There is a positive but insignificant relationship between banking sector deepening, stock market deepening and entrepreneurial growth. On the contrary, insurance sector deepening was found to have a negative relationship with entrepreneurial growth. When banking sector deepening, stock market deepening and insurance sector deepening are held constant, entrepreneurial growth would be valued at 2.699214. A unit rise in banking sector deepening and stock market deepening would result in 0.12 and 0.01 factor appreciation in entrepreneurial growth respectively. On the other hand, a percentage increase in insurance sector deepening leads to 0.08 factor depreciation in entrepreneurial growth. From the adjusted R-square, 89.09% changes in entrepreneurial growth was attributed to joint influence of banking sector deepening, stock market deepening and insurance sector deepening. This is statistically significant judging by the f-statistic of 64.30 and p-value of 0.00. The Durbin Watson coefficient portrays no autocorrelation in the regression output.

Table 4. ARDL Regression of Financial Deepening and Economic Growth

Variables	Coefficient	Prob.
ENTG(-1)	0.721746	0.0001
BSD	0.124381	0.1066
SMD	0.013549	0.3197
ISD	-0.084631	0.5253
C	2.699214	0.0869
Adjusted R-squared	0.890936	
F-statistic	64.30913	
Prob(F-statistic)	0.000000	
Durbin-Watson stat	1.906344	

Source: Output data from E-views 10.0

4.4. Effect Determination

The Granger Causality test was employ to ascertain the effect of financial deepening on entrepreneurial growth and the result is presented in Table 5. At first, there is a unidirectional causal relationship between entrepreneurial growth and banking sector deepening. It runs from entrepreneurial growth to banking sector deepening at 5% level of significance. This implies that banking sector deepening

has no significant effect on entrepreneurial growth, rather it is entrepreneurial growth that significantly influences banking sector deepening. Similarly, there is also a causal relationship between entrepreneurial growth and insurance sector deepening. Causality flows from entrepreneurial growth to insurance sector deepening. This suggests that entrepreneurial growth has significant effect on insurance sector deepening. In addition, there is evidence of causal relationship between entrepreneurial growth and stock market deepening.

Table 5. Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
BSD does not Granger Cause ENTG	32	0.58677	0.4499	No Causality
ENTG does not Granger Cause BSD		10.5272	0.0030	Causality
SMD does not Granger Cause ENTG	32	1.52666	0.2266	No Causality
ENTG does not Granger Cause SMD		7.1E-05	0.9933	No Causality
ISD does not Granger Cause ENTG	32	0.01316	0.9095	No Causality
ENTG does not Granger Cause ISD		4.53346	0.0419	Causality

Source: *Output data from E-views 10.0*

5. Major Findings

The ARDL result in Table 4 provides evidence of a positive relationship between banking sector deepening, stock market deepening and entrepreneurial growth but a negative relationship between insurance sector deepening and entrepreneurial growth. The relationship between the indicators of financial deepening and entrepreneurial growth were found to be insignificant. The insignificant positive relationship between banking sector deepening and entrepreneurial growth is in line with John and Ibenta (2017). The Granger Causality test provides evidence that financial deepening has no significant effect on entrepreneurial growth in Nigeria. This may be attributed to the level of development in the financial system.

6. Conclusions and recommendations

This study examined the effect of financial deepening on entrepreneurial growth in Nigeria. Following the approach of the Granger Causality test, there is no significant effect of financial deepening on entrepreneurial growth. Entrepreneurial growth was found to have significantly influenced financial deepening through banking and insurance sector deepening. Consequently, the Central Bank of Nigeria (CBN) should encourage commercial banks to lend more for entrepreneurial activities which will in turn improve our gross domestic product. This can be achieving if the CBN can lower its monetary policy rate to a single digit as against the current double digit (14%). The essence is that by the time the bank must have added other fees such as administrative charge, insurance fee, etc., the lending rate would at least be down a little compared to the current rate of 22%. It would be ideal for government (Federal, State and Local) to establish entrepreneurial training/skill acquisition centres in all tertiary institutions in the country. This will help a large fraction of graduates of these institutions to inculcate entrepreneurial spirit to setting up small and medium scale enterprises in every part of the country.

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