Lafia Journal of Economics and Management Sciences: Volume 7, Issue 2; 2022
ISSN: 2550-732X
Published by Department of Economics, Federal University of Lafia, Nigeria

Import of Financial Literacy on Performance of Small and Medium Sized Enterprises in Nigeria

Simeon Terwuah Asom[1], Emmanuel Aondongusha Asue[2], Victor Ushahemba Ijirshar[3] & James Vaachia Ikyaator[4]
[1,2,3&4]Department of Economics, Benue State University, Makurdi, Nigeria
Corresponding Email: asueemma@gmail.com

Abstract
This study exhumes the aggregate implication of financial literacy on the performance of small and medium sized enterprises in Nigeria for the period from 1990 to 2019. The augmented Dickey-Fuller unit root test revealed a mixed order of integration and bounds test result to confirm that the variables of the model will not drift apart with the passage of time. The error correction model revealed that while the variables possessed self-mean reverting abilities in the event of any sudden shock, only financial ability and lag values of contributions of Small and Medium Scale Enterprises (SMEs) to growth had a positive impact on the productivity of small and medium sized businesses in the short term. However, both financial awareness and financial access produced negative results on growth in the short term. However, it was found that all three variables, financial awareness, financial access and financial ability, had a very significant positive impact on the productivity of small and medium sized businesses in the long term. It was therefore recommended that, funds meant for SMEs loans and grants should be increased, made known to them and the disbursed fund be adequately monitored to avoid diversion.

Keywords: Enterprises, Financial Literacy, Performance
JEL Classification Codes: P12, G53, L25

1. Introduction

The perennial problems of unemployment and poverty in Nigeria and elsewhere can be approached via the development and transfer of entrepreneurial skills as a vehicle to stimulate investment in small and medium enterprises. This has variously been recognized as a sure way of generating employment and curbing unemployment, poverty and even crime (International Labour Organization [ILO], 2013; Islam, 2020 & Tilley, 1993). Massive investment in SMEs, apart from enhancing economic growth, will also push the nation toward the much needed

diversification of the nation's economy from the monolithic oil sector which is prone to market fluctuations. Armed with this information, Nigeria's federal government has established the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) with a mandate to grow and sustain Micro, Small, Medium Enterprises in Nigeria in 2003 (Ajayi, Ojelade, Adedokun & Oladeji, 2018).

Several empirical studies by Bello, Jibir and Ahmed (2018); Muigai and Mutiso (2018); Chinweuba and Sunday (2015) have confirmed the potency of SMEs in boosting economic advancement. Price Waterhouse Coopers [PWC], (2020) reported that SMEs account for 84% of job opportunities in Nigeria and 48% of gross domestic product (GDP). Empirical research has also confirmed that most emerging economies rely on SMEs for economic progress (Dahmen & Rodriguez, 2014; Okanta, 2018 and Mutiso & Muigai, 2018). However, Akanno, Emejuru and Khalid (2017); Eniola and Entebang (2017) and Umogbai, Agwa and Asenge (2018) established that, to further consolidate the benefits of SME in Nigeria, the financial literacy of entrepreneurs is a basic necessity.

Incidentally, much empirical evidence (such as can be seen in studies by Gbemigun & Abaje, 2022; Irikefe & Opusunju, 2021; Usama & Yusoff, 2019) abound in Nigeria highlighting the role of financial literacy on SMEs' performance but in selected parts of the country. However, there is a need for a national aggregate view since policies regarding the promotion and funding of SMEs are mostly designed and implemented at the national level. Again, previous studies did not isolate certain principal indicators of financial literacy to measure them against the contribution of SMEs to Nigeria's output growth over the years; hence, the present study becomes imperative in filling this gap.

The rest of this paper is segmented into section 2, which deals with related literature on relevant concepts, theoretical frameworks and empirical links between financial literacy and SMEs performance. Section 3 focuses on the methodology employed by the study, section 4 presents the data and analyses, and section 5 draws conclusions and makes recommendations for policy options.

2. Literature Review

2.1 Conceptual Review

There are three major concepts here that need clarification; these are financial literacy, financial performance and Small and Medium Scale Enterprises (SMEs).

2.1.1 Concept of Financial Literacy

Organization for Economic Cooperation and Development [OECD] (2005) looked at financial literacy as a particular kind of financial knowledge. Hung, Parker and Yoong (2009) defined as, the capability to suitably apply that specific knowledge and financial experiences. To Redmund (2010), it is "a measure of the extent to which one understands major financial concepts with the capacity to manage personal short-term and long term finances through planning without losing track of dynamic economic situations and life events". The National Financial Educators Council [NFEC] (2020) held that, "financial literacy refers to the possession of adequate skills and knowledge concerning financial matters which enables one to take effective actions which best fulfills personal or business or family or community goals".

Measurement of Financial Literacy: Zait and Bertea (2014) enumerated five dimensions of financial literacy to include; financial knowledge, financial communication, financial ability, financial behaviour, and financial confidence. Otieno (2016) held that financial literacy can be measured in terms of access to banking services, savings and record keeping. Whereas, Eniola and Entebang (2017) focused on financial knowledge, financial awareness and financial attitude as measures of financial literacy, Akanno, *et al*. (2017) were keen on cash management, budgeting, record keeping and savings as good measures of financial literacy. There is therefore no clear consensus regarding what exactly constitutes optimal measures of financial literacy. However, the present study adopts financial knowledge to be the same as financial literacy for ease of quantification and measurement.

Although, Lusardi and Michell (2006) looked at financial knowledge as a necessary ingredient to a certain level of financial competence, this study sees it as being aware of the existence of financial resources, how to access them for business and how to apply them for higher productivity. Thus, the following three points are measures of financial knowledge or financial literacy.

Financial Awareness: This is a state of being aware of the existence of financial resources. It is measured in this study as the credit information sharing index (CISI).

Financial Access: This refers to the availability of financial services and products, especially from the banking sector. In this study, it is measured as the amount of commercial bank loans granted to SMEs per annum in Nigeria.

Financial Ability: This entails an effective use of financial resources to achieve a higher level of output. This index was constructed by dividing the output of SMEs by the amount of loans accessed from the banks. Higher ratios entail higher productivity.

2.1.2 Concept of Performance of SMEs

There are so many ways through which the performance of SMEs can be evaluated. It could be by their total output, financial health, market share or innovations. Stobierski (2020) identified "profitability, liquidity, solvency, efficiency and valuation" as key indicators of the financial health of companies. Since SMEs, like any other commercial organizations, aim at cost minimization and output maximization for higher profit, this study measures the performance of SMEs as their total annual output as contribution to Nigeria's GDP.

2.1.3 Small and Medium Enterprises (SMEs)

Oyelaran-Oyeyinka (2020) stated that, SMEs are businesses with annual turnover of less than 100 million naira and whose employees are not up to 300. SMEDAN has classified enterprises into micro, small and medium scale enterprises (MSMEs). The classification is based on the worth of their assets and number of employees but excludes land and buildings. Their unique characteristics are as follows; (i) Microenterprise has an asset base of less than 5 million naira with fewer than 10 employees. (ii) Small Enterprise has an asset base ranging from 5 to 50 million naira with its employees ranging between 10 and 49. (iii) Medium Enterprise has an employee base that lies between 50 and 199 personnel with an asset base of between 50 and 500 million naira.

2.2 Theoretical Framework

Financial literacy has an affinity with self-efficacy theory, similar to goal setting motivation theory. Whereas, the former is akin to an individual's social, emotional and cognitive abilities, the latter focuses on motivational goals such as direct attention, increased efforts, persistence, support strategies and plan of action. A combination of both theories provides fertile grounds for accepting that, a good understanding of financial products of financial institutions is necessary on the one hand, the ability to access them on the other to apply an adequate strategy for their usage. The close affinity of financial literacy to SMEs' performance is recognized globally. Both advanced and developing countries have established special agencies for enhancing financial literacy. For the United States of America, there is an Office of Financial Education (OFE); for India, there is the Financial Stability and Development Council (FSDC); and for Nigeria, we have the National Financial Literacy Framework (NFLF). In Ghana and Malaysia, multidimensional strategies have been put in place to even involve international institutions to train business managers in this regard. However, the general level of financial literacy in Nigeria still needs to

be improved (Ketley, Lightfoot, Jakubec & Little, 2012; Central Bank of Nigeria, [CBN], 2012). This is because, these ill-informed financial decisions of business managers may have damaging spill-over effects on Nigeria (OECD, 2013).

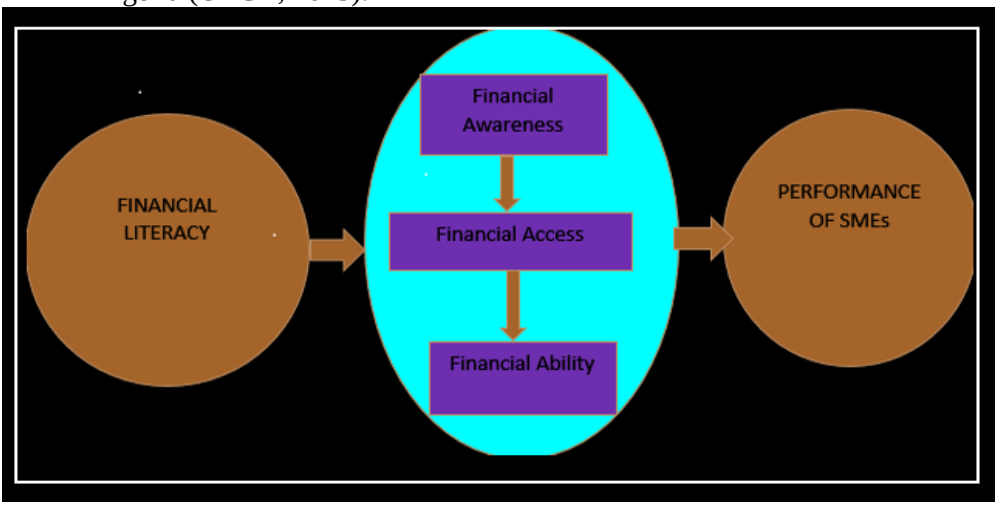

Figure 1: A Schema showing the Transmission of Financial Literacy to SME Performance
Source: Adopted from Eniola and Entebang, 2017 and Modified by Authors

Figure 1 indicates that financial literacy is acquired when there is financial awareness, which creates room for financial access so that such financial resources can be used (that is, financial ability). This eventually manifests in the improved performance of SMEs.

2.3 Empirical Review

A good deal of empirical literature has shown a clear link between financial literacy and the performance of SMEs in Nigeria and even elsewhere. For example, Gbemigun and Abaje (2022) adopted a sample survey of SMEs in Akoko South West of Ondo State and with application of analysis of variance, the estimated results showed that financial literacy had a significant influence on the survival of SMEs in the study area. Similarly, Irikefe and Opusunju (2021) examined the relationship between financial literacy and growth of 200 MSMEs in Murg shopping mall, Abuja. With the use of multiple regression and analysis of variance, the authors found that financial literacy was necessary for growth of MSMEs in the study area.

Odebiyi, Fasesin and Ayo-Oyebiyi (2020) examined the role of financial literacy on 376 registered SMEs in Lagos and found that

financial literacy had a profound positive influence on the performance of SMEs in the study area. Usama and Yusoff (2019) obtained similar results in Bauchi Metropolis. Although,

Eniola and Entebang (2017) used a structural equation modeling (SEM) approach, the role of financial literacy on SMEs in southwestern Nigeria was still found to be statistically significant. Asenge, Anyebe and Nomhwange (2018), by a survey of different studies, concluded that financial literacy was an enhancer of SME performance in Nigeria. Akanno *et al.* (2017) found the same positive results of financial literacy on SMEs in southeastern Nigeria. In another study of 154 SMEs in the Makurdi metropolis, Esiebugie, Agwa and Asenge (2018) drew conclusions similar to those of Akanno, *et al.* (2017). However, Okanta (2018) evaluated the role of financial literacy on 150 SMEs in Abia State using analysis of variance (ANOVA) and Student's t-test and found that financial literacy was low in the study area. Additionally, Bello, *et al.* (2018), using annual data from 1986 to 2016 and ordinary least squares (OLS) approach, concluded that SMEs have a significant positive effect on Nigeria's GDP.

Elsewhere, Ye and Kulathunga (2019) studied 291 SMEs in Sri Lanka; Muigai and Mutiso (2018) examined 88 SMEs in Kirinyaga County of Kenya, just as Gathungu and Sabana (2018) evaluated microenterprises in Nairobi County City, Kenya. All the studies found financial literacy to significantly aid SMEs' performance.

However, most of these studies were primary in nature just looking at a small fraction of the country. The secondary data based study by Bello, *et al.* (2018) focused on the impact of SMEs' output on GDP. Thus, there is a knowledge gap on how financial literacy has fared in aiding SMEs in Nigeria at the national aggregate level and hence this study.

3. Methodology

3.1 Research Design

This study adopts an experimental research design to examine how financial literacy can enhance the performance of SMEs in Nigeria for the period from 1990 to 2019. Due to annual time series availability, the study employed the productivity of SMEs (measured as their annual contribution to GDP) as a measure of performance. The measure of performance then depends on financial literacy, which in three basic measures is "financial literacy, financial ability, financial access and financial awareness". Thus, the relationship was examined for both the short and long-term analyses. For the full analyses, the study used autoregressive distributed lag (ARDL) and other tools and techniques, such as graphs, unit roots and bounds tests. Additionally, some post

estimation checks tests, such as, the Ramsey test, autocorrelation and heteroscedasticity, were carried out to ascertain whether the relationship was correctly specified, and whether the residuals were not closely associated and exhibited constant variance. Recursive stability tests were also conducted.

3.2 Data Collection Method

The data employed for this study are mainly secondary data. Annual time series data covering 30 years (1990-2019) were sourced to estimate the model for the research. The data variables were SMEs' Contributions to Economic Growth (SCEG) and Financial Access (FIAC) were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin 2020, Financial Awareness (FIAW) was sourced from the global economy website (www.theglobaleconomy.com) and Financial Ability (FIAB) was constructed by dividing the output of SMEs by the amount of loans granted to them to show their level of financial ability. The higher the number is, the higher the degree of financial ability.

3.3 Model Specification

Empirical studies such as those by Eniola and Entebang (2017), Asenge, *et al.,* (2018), Akanno, *et al.* (2017), Esiebugie, *et al.,* (2018), Akanno, *et al.* (2017), Okanta (2018) and Bello, Jibir and Ahmed (2018) have variously linked the performance of SMEs (PSMEs) to financial literacy (FINL). Thus, the functional form of this relationship can be expressed as:

$$PSME = f(FINL) \tag{1}$$

Where PSME = SMEs' performance and FINL = Financial Literacy of entrepreneurs

For convenience, PSME is measured as contribution of SMEs to economic growth (CSEG) in Nigeria which depends on FINL. FINL is then measured using the three indices of financial awareness (FIAW), financial access (FIAC) and financial ability (FIAB), as explained in section 2. Following the above explanations, the functional relationship in equation (1) is restated as:

$$CSEG = f(FIAW, FIAC, FIAB) \tag{2}$$

The stochastic form of the model is:

$$CSEG_t = \beta_0 + \beta_1 FIAW_t + \beta_2 FIAC_t + \beta_3 FIAB_t + \xi_t \tag{3}$$

where β_0 - β_3 are coefficients and ξ_t is the error term.

By taking the semi log of equation (3), the study obtains:

$$\ell nCSEG_t = \beta_0 + \beta_1 FIAW_t + \beta_2 FIAC_t + \beta_3 FIAB_t + \xi_t \tag{4}$$

But, the generic form of autoregressive distributed lag (ARDL) model $(p, q_1, ..., q_k)$ is given by:

$$y_t = \alpha_0 + \alpha_1 t + \sum_{i=1}^{p} \psi_i y_{t-i} + \sum_{j=1}^{k} \sum_{l_j=0}^{q_i} \beta_{j,l_j} x_{j,t-l_j} + \xi_t \quad (5)$$

where ξ_t represent innovations, α_0 is a constant, and α_1, ψ_i and β_{j,l_j} are linear coefficients with lags of y_t and lags of the k regressors $x_{j,t}$ for $j = 1, ..., k$. Thus, the general specification to equation (5) can be stated as:

$$\begin{aligned} \ell nCSEG_t = \alpha_0 + \alpha_1 t + \sum_{i=1}^{p} \beta_0 \ell nCSEG_{t-i} + \sum_{j=0}^{q} \beta_1 FIAW_{j-q} \\ + \sum_{j=0}^{q} \beta_2 FIAC_{j-q} + \sum_{j=0}^{q} \beta_3 FIAB_{j-q} + \varepsilon_t \end{aligned} \quad (6)$$

Thus, since this model is interested in obtaining the estimates of y_t on both its own lag values and the contemporaneous values of the k regressors $x_{j,t}$; the specification can be rewritten as:

$$y_t = \alpha_0 + \alpha_1 t + \sum_{i=1}^{p} \psi_i y_{t-i} + \sum_{j=1}^{k} \beta_j(1) x_{j,t} + \sum_{j=1}^{k} \beta_j(L) \Delta x_{j,t} + \varepsilon_t \quad (7)$$

where $\Delta = (1 - L)$ is the first difference notation. Given that the equation does not clearly solve for y_t, it can be interpreted as a regression of intertemporal dynamics. Thus, it can be stated as:

$$\begin{aligned} \ell nCSEG_t = \alpha_0 + \alpha_1 t + \sum_{i=1}^{p} \beta_{0,i} \ell nCSEG_{t-i} + \beta_1 FIAW_t + \beta_2 FIAC_t + \\ \beta_3 FIAB_t + \sum_{j=1}^{k} \lambda_{1,j} \Delta FIAW_{t-j} + \sum_{j=1}^{k} \lambda_{2,j} \Delta FIAC_{t-j} + \sum_{j=1}^{k} \lambda_{3,j} \Delta FIAB_{t-j} + \xi_t \end{aligned} \quad (8)$$

Accordingly, the error correction mechanism and the bounds test forms of the model can be written as:

$$\Delta y_t = \alpha_0 + \alpha_1 t - \psi(1) EC_{t-1} + \left(\psi^*(L) \Delta y_{t-1} + \sum_{j=1}^{k} \beta_j(L) \Delta x_{j,t-1} \right) \quad (9)$$

From equation (9), the error correction term, is denoted as EC_t, which is the cointegrating relationship of y_t as well as $x_{1,t}, ..., x_{k,t}$. Thus, the restricted constant with no trend model is specified as:

$$\Delta y_t = \alpha_0 + b_0 y_{t-1} + \sum_{j=1}^{k} b_j x_{j,t-1} + \sum_{i=1}^{p-1} c_{0,i} \Delta y_{t-i} + \sum_{j=1}^{k} \sum_{l_j=1}^{q_j-1} c_{j,l_j} \Delta x_{j,t-l_j} + \sum_{j=1}^{k} d_j \Delta x_{j,t} + \varepsilon_t \quad (10)$$

And $$EC_t = y_t - \sum_{j=1}^{k} \frac{b_j}{b_0} x_{j,t} - \frac{a_0}{b_0} \quad (11)$$

With $H_0 : b_0 = b_j = \alpha_0 = 0, \forall_j$

Therefore, the vector and the variables in x_t could purely be I(0) or I(1); α is a constant b, c and d are coefficients $j = 1, ..., k$; p, q are optimal lag orders and ε_t is a vector of the error terms. Thus, the error correction model can be specified as:

$$\Delta \ell nCSEG_t = \sum_{i=1}^{p} \beta_1 \Delta \ell nCSEG_{t-i} + \sum_{i=1}^{q} \beta_2 \Delta FIAW_{t-i} + \sum_{i=1}^{q} \beta_3 \Delta FIAC_{t-i} + \sum_{i=1}^{q} \beta_4 \Delta FIAB_{t-i} + \lambda EC_{t-1} + \varepsilon_t \quad (12)$$

4. Results and Discussion

4.1 Descriptive Statistics

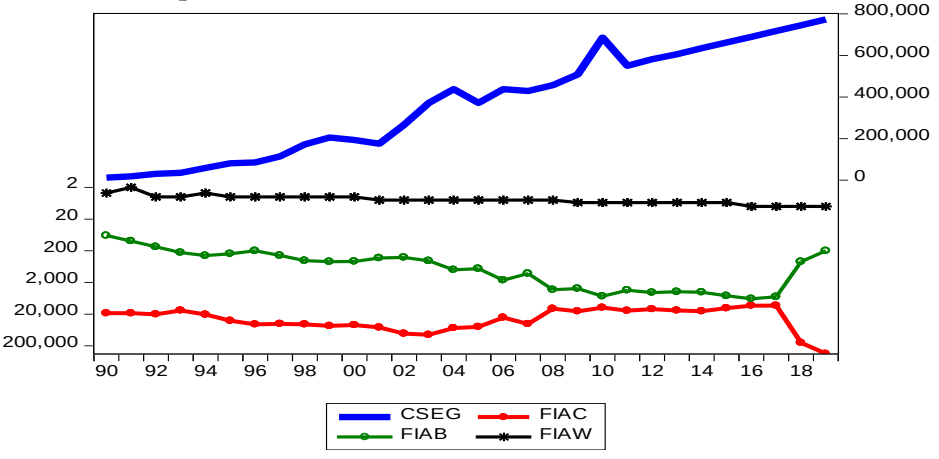

Figure 2: Trend Graph Showing the behaviour of the Variables
Source: Extract from E-views 10

A close look at Figure 2 shows that CSEG rose steadily throughout the study period. CSEG is a measure of the contribution of SMES to gross domestic product (GDP). There are, however, a few oscillations where there was a decline in 2002 before it increased to 400 billion naira in 2004, with a similar jump in 2010 when the economy started picking up from the recession of 2008. By 2019, the total

contribution of SMEs to GDP has reached approximately 800 billion naira. Financial awareness in Nigeria has, however, increased steadily from 1990 to 2019. Financial Access (FIAC) and Financial Ability (FIAB) have however moved closely FIAC, the higher the FIAB. FIAC fell in 2007 and rose in 2008 and moved steady until it increased sharply in 2017 through 2019, where FIAB responded in a similar fashion.

4.2 Unit Root Test

The stochastic process requires variables to exhibit random movement. To ensure that the variables behaved in that manner, augmented Dickey-Fuller (ADF) test statistics were applied to test each of the series. The test was conducted at a 5% level of significance such that for any test result either at levels I(0) or at first difference I(1); any probability value of less than 0.05 indicates that the variable is stationary; otherwise, it is not.

Table 1: ADF Unit Root Test Results

Variable	ADF-Stat.	Prob.Value	Stationarity	Remark
lnCSEG	-4.4902	0.0018	I(0)**	Stationary
FIAW	-1.2495	0.6388	I(0)	Not Stationary
D(FIAW)	-7.4264	0.0000	I(1)**	Stationary
lnFIAC	-0.9970	0.7408	I(0)	Not Stationary
D(lnFIAC)	-4.5089	0.0013	I(1)**	Stationary
lnFIAB	-1.7515	0.3959	I(0)	Not Stationary
D(lnFIAB)	-4.3455	0.0020	I(1)**	Stationary

Source: Extracts from the Unit Root Test Results from E-views 10

From Table 1, it is clear that the series on contribution of SMEs to economic growth (CSEG) is stationary at levels since its probability value of 0.0018 is less than the 0.05 threshold. It follows thereafter that all the other three variables became stationary only when they were differenced once. That is, they were stationary at first difference because their probability values at levels were greater than the 0.05 threshold value, while all their corresponding values at first difference were less than the 0.05 threshold value. This means that, there was a mixed other integration among the series, which is still suitable for ARDL models.

4.4 Optimal Lag Selection Criteria

Given that ARDL address lags, it is appropriate to determine the optimal lag at which the parsimonious model can be estimated**.** Thus, the Akaike information criterion was used, as presented in Figure 3. There criteria selected lag three as the optimal lag, so the model was estimated at lag 3.

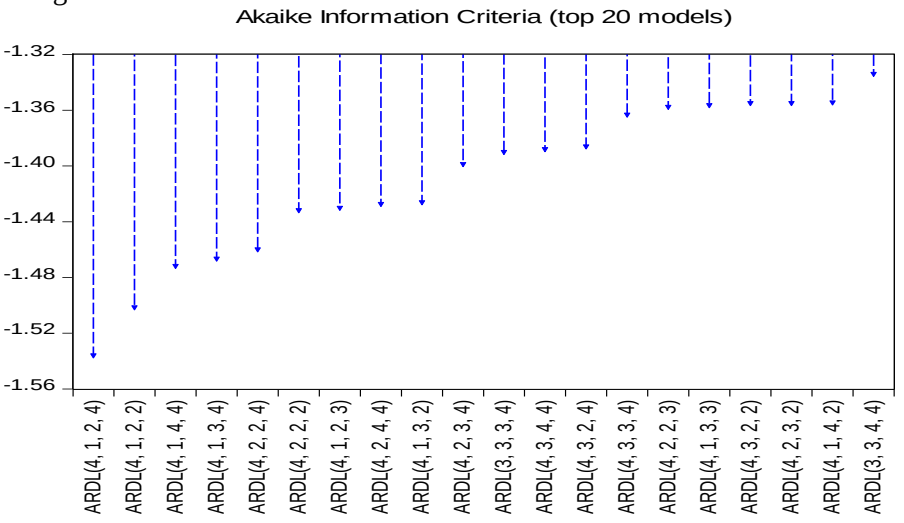

Figure 3: Graph of the Optimal Lag Selection Criteria
Source: Extract from E-views 10

4.5 Bounds Test for Long Run Relationship

To avoid a possible situation of the variables drifting apart with the passage of time, the study used the bounds test to check whether the variables had a long-run equilibrium path. That is, to check whether they were cointegrated, the result is presented in Table 2.

Table 2: ARDL Bounds Test

Test Statistic	**Value**	**Signif.**	**I(0)**	**I(1)**
			Asymptotic: n=1000	
F-statistic	8.7693	10%	2.37	3.20
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Source: Extract from E-views 10

From Table 2, the F-statistic value of 8.7693 is greater than both the lower and upper asymptotic values at the 5% levels of significance; thus, there is a long-run relationship among the variables.

4.6 ARDL Short Run and Long run

The results of the ARDL Model in Table 3 are the main results for this study.

Table 3: Sort Run Error Correction Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCSEG(-1))	0.1380	0.1192	1.1575	0.2716
D(LNCSEG(-2))	-0.6630	0.1381	-4.8002	0.0006
D(LNCSEG(-3))	-0.3682	0.1268	-2.9038	0.0143
D(FIAW)	-0.0225	0.0329	-0.6828	0.5088
D(LNFIAC)	-0.1037	0.0822	-1.2608	0.2335
D(LNFIAC(-1))	-0.6021	0.1132	-5.3189	0.0002
D(FIAB)	0.0078	0.0032	2.4388	0.0329
D(FIAB(-1))	-0.0243	0.0051	-4.7428	0.0006
D(FIAB(-2))	0.0031	0.0025	1.2380	0.2415
D(FIAB(-3))	0.0059	0.0029	2.0548	0.0644
ECM(-1)*	-0.7359	0.0952	-7.7324	0.0000

Source: Extract from E-views 10

The Error Correction Mechanism (ECM-1) of -0.7359 with a probability value of 0.000 implies that the self-mean reverting ability of the variables is approximately 74% within a year. FIAW and FIAC have a negative short-term impact on SME output, while that of FIAB is positive and significant. It is also palpable from the results that lags of SMEs' output do not significantly affect their current year output.

Table 4: ARDL Long Run Results with LNCSEG as Dependent Variable

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
FIAW	0.1854	0.0724	2.5618	0.0264
LNFIAC	0.6696	0.1297	5.1612	0.0003
FIAB	0.0328	0.0064	5.1381	0.0003
C	4.5573	1.3054	3.4911	0.0050
R-Squared = 0.8741, F-Statistic = 8.7693 & Durbin-Watson Stat 2.23				

Source: Extract from E-views 10

It is clear from the results in Table 4 that, in the long run, Financial Ability (FIAB) has a positive and statistically significant

impact on the financial performance of SMEs in Nigeria. This is because the 1 percent increase in FIAB causes 0.0328 percent increase in overall contribution of SMEs to GDP (LNCSEG). This relationship is also statistically significant because the probability value of FIAB is 0.0003, which is far less than the threshold value of 0.05. The same result reflected in the cases of financial awareness (FIAW) and financial access (FIAC), both of which have a strong positive influence on LNCSEG in Nigeria during the period under review. The results show that 1 percent rise in FIAW will lead to 0.1854 percent increase in. The probability value of the variable is 0.026 which is less than the 0.05 critical value indicating that the relationship between FIAW and LNCSEG statistically significant. In the same way, 1 percent increase in FIAB leads to 0.6696 percent increase in LNCSEG and low statistical probability value of 0.0003 indicate that the relationship is statistically significant.

Additionally, the high R-squared value of 0.8741 in the model, shows that the variations in output levels of SMEs in Nigeria are jointly explained to the tune of 87.41% by financial literacy, while the remaining 12.59% is accounted for by variables that are not captured in this model. The F-Statistic of 8.7693 is same as the one in the bounds test confirming the long run and significant relationship among the variables. This implies that financial literacy is necessary for better performance of SMEs in Nigeria. Finally, the Durbin-Watson statistic of 2.23, which is approximately 2, implies that there was no incidence of autocorrelation in the model.

4. 7 Post Estimation Tests for Goodness of Fit of the Model

It customary to carry out some post diagnostic tests to ascertain whether the variables of the model were fitted in the right way in the regression or the residuals violated any of the basic assumptions of the classical least squares. The results are presented in Table 5.

Table 5: Ramey RESET, Heteroscedasticity and Serial Correlation Tests Results

Test Type	Ramsey RESET		Heteroskedasticity		Serial Correlation LM	
	Value	Prob.	Value	Prob.	Value	Prob.
t-statistic	0.2359	0.8182	****	****	****	****
F-statistic	0.0557	0.8182	1.2588	0.3554	0.5551	0.7026
Obs*R-squared	****	****	16.0081	0.3129	6.2611	0.1805

Scaled Exp. SS	****	****	2.1899	0.9999	****	****

Source: Extracts from E-views 10

The asterisks (****) in Table 4 show that the statistic is not available for that particular test. For post estimation residual tests, the general preferred result is that the probability values of the statistics are greater than the 0.05 threshold value. For RESET, the probability values of the t-statistic (0.8182) and the F-statistic (0.8182) in Table 4 are greater than the 0.05 threshold level, implying that; the specification of the model was correct. This also explains why the relationship among the variables is in fact a linear one. For the heteroscedasticity test, the probability values of the F-statistic (0.3554), Observed R-squared (0.3129) and scaled explained SS (0.9999) are far higher than the 0.05 critical value. This implies that, the study will fail to reject the null hypothesis of homoscedasticity. This means that the residuals have exhibited constant variance and as such have no problems to warrant spurious results.

For the serial correlation test, the probability values of the F-statistic (0.7026) and Observed R-squared (0.1805) are greater than the 0.05 critical value. This implies that the study fails to reject the null hypothesis of no serial correlation. That is, the variables of the model are not serially correlated, and results emanating from such a model are not spurious. These post estimation results confirm that the model performed well and aptly fits the data.

4.7 Test of Residual Stability

The residuals of the model and the model were generally stable, as depicted in Figure 4.

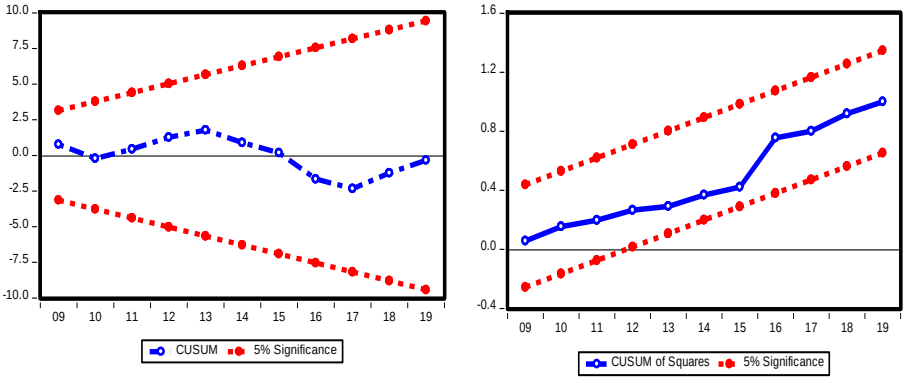

Figure 4: Cumulative Sum (CUSUM) and CUSUM of Squares (CUSUMS)
Source: Extract from E-views 10

The results in Figure 4 show that the residuals are stable and have not interfered with the results of the model, as the graph of the cumulative Sum (CUSUM) lies within the 0.05 threshold lines on either side. Equally, the cumulative sum of squares (CUSUM of squares) lies within the 0.05 threshold lines on either side implying that the residuals are very stable and have not in any way interfered with the results of the model.

5. Conclusion and Recommendations

This study found that financial literacy is a strong factor affecting the financial performance of SMEs in Nigeria. This finding is in tandem with previous studies done at the micro levels in Nigeria using primary data and sample surveys in different parts of the country. For instance, Usama and Yusoff (2019), Esiebugie, et al. (2018); Eniola and Entebang (2017) and Akanno, et al. (2017) found that financial literacy generally has a strong influence on the performance of SMEs in Nigeria.

However, the use of financial ability in this study is a modest yet novel innovation in the sense that having financial knowledge and access is different from the ability to apply the same judiciously, and this is another area of distinction by this study. This is because most of the studies focused on financial knowledge and financial access, as found in the cases of Esiebugie *et al.*, (2018) and Eniola and Entebang (2017).

Based on the findings of this study, it is hereby recommended that:

i. Since financial literacy has proven to be a very potent tool for enhancing the productivity of SMEs in Nigeria, the government, development organizations and financial institutions should increase the amount of money meant for grants and loans to SMEs. This will afford them more funds for investment, enable them to employ more labour and produce more. Thus, unemployment should be approached and the level of national output should be boosted.

ii. There is also a need for SMEDAN, the National Orientation Agency and state ministries of investments to carry out thorough sensitization of SMEs on the availability of funds meant for them to access. This is because; being aware of the availability of funds is the first step toward accessing them for investment.

iii. There is also an apparent need to educate SME operators the more by relevant monitoring agencies, be they private or public, to ensure that funds so accessed for the purposes of investment are so

applied. No room should be allowed for diversion. This will further boost the financial ability of SMEs for further productivity.

References

Ajayi, J. K, Ojelade, M. O., Adedokun, Y. & Oladeji A.S. (2018). SMEDAN and Her Contributions to Small and Medium Enterprises' (SMEs) Development in Lagos State. *International Journal of Innovative Development & Policy Studies, 6*(2), 11-19.

Akanno, S. N., Emejuru, N. J., & Khalid, A. (2017). A profitability-focused assessment of financial literacy level of Southeastern Nigeria SMEs. *International Journal of Business & Law Research,* 5(2*),* 12–20.

Asenge, E. L., Anyebe, S. O. & Nomhwange, S. T. (2018). Financial literacy and new venture performance in developing economies. *International Journal of Latest Research in Humanities and Social Science (IJLRHSS),* 1(3), 1-5.

Bello, A., Jibir, A., & Ahmed, I. (2018). Impact of small and medium scale enterprises on economic growth: Evidence from Nigeria. *Global Journal of Economics and Business, 4*(2), 236 – 244

Central Bank of Nigeria (2012). *Exposure draft of framework for financial literacy in Nigeria*. Abuja: Central Bank of Nigeria

Central Bank of Nigeria (2020). *Statistical Bulletin, 31*. Abuja: Central Bank of Nigeria

Chinweuba, E. T., & Sunday, C. O. (2015). Quantitative analysis of the impact of small and medium scale enterprises on the growth of Nigerian economy (1993-2011). *International Journal of Development and Emerging Economics, 3*(1), 26-38.

Dahmen, P., & Rodríguez, E. (2014). Financial literacy and the success of small businesses: an observation from a small business development center pearl. *Numeracy*, *7*(1), 1-12.

Eniola, A. A., & Entebang, H. (2017). SME Managers and Financial Literacy. *Global Business Review*, *18*(3), 1-18.

Esiebugie, U., Richard, A. T., & Emmanuel, A. L. (2018). Financial literacy and performance of small and medium scale enterprises in Benue State, Nigeria. *International Journal of Economics, Business and Management Research*, *2*(04), 65–79.

Gathungu, J. M., & Sabana, B. M. (2018). Entrepreneur financial literacy, financial access, transaction costs and performance of microenterprises in Nairobi City County in Kenya. *Global Journal of Management and Business Research: Administration and Management*, *18*(16), 1-12.

Gbemigun, C.O. & Agbaje W. H. (2022). Financial accounting literacy and growth of small and medium scale enterprises (SMEs) in Ondo state. *Nigeria Academy of Management Journal*, *7*(2), 105-114.

Hung, A. A., Parker, A. M., & Yoong, Y. (2009). Defining and measuring financial literacy. Accessed at: https://www.researchgate.net/publication/46464346

International Labour Organization (2013). SMEs and job creation: Is small still beautiful? Accessed at: https://www.ilo.org/global/about-the-ilo/newsroom

Irikefe P. O., & Opusunju, M. I. (2021). Effect of financial literacy on the growth of micro, small and medium enterprises (MSMEs). *International Journal of Research Publications, 90*(1), 384-392. Doi:.10.47119/IJRP1009011220212541

Islam, M. M. (2020). SME Development, Inclusive Growth, and Poverty Alleviation in Bangladesh. *The Bangladesh Development Studies*, *43*(1/2), 109-126.

Lusardi, A., & Mitchell, O. S. (2006). Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education Programs. Accessed at: http://www.mrrc.isr.umich.edu

Ketley, R., Lightfoot, N., Jakubec, M., & Little, M. (2012). Review of government interventions that promote access to credit for Micro, Small and Medium, Enterprises (SMEs) in Nigeria. Accessed at: https://www.efina.org.ng/wp-content/uploads/2018

Muigai, R. G., & Mutiso, A. N. (2018). The moderating effect of the listing sector on the relationship between capital structure and financial distress of nonfinancial companies listed in Kenya. *Research Journal of Finance and Accounting*, *9*(6), 139-146.

National Financial Educators Council (2020). *Financial illiteracy in America*. Accessed at: https://www.financialeducatorscouncil.org/financial-illiteracy-in-america

Odebiyi, I. I., Fasesin, O. O., & Ayo-Oyebiyi, G. T. (2020). Financial Literacy and Small and Medium Enterprises' Performance in Lagos State, Nigeria: An Empirical Approach. *Social Sci Journal, 7*(1) 46-54.

Okanta, S. U. (2018). *The effect of financial literacy on the efficiency of small-scale enterprises in Abia State, Nigeria*. Accessed at: https://www.researchgate.net/publication

Organization for Economic Cooperation and Development (2005). *Improving Financial Literacy: analysis of issues and policies.* OECD publications.

Organization for Economic Cooperation and Development (2013). *PISA 2012 assessment and analytical framework: Mathematics, reading, science, problem solving and financial literacy.* Paris: OECD Publishing.

Otieno, K. (2016). *Influence of Financial Literacy on Financial Performance of Small and Medium Enterprises in Ruiru Town, Kenya.* A Research Project Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Award of Degree of Master of Business Administration, Egerton University. Accessed at: http://41.89.96.81:8080/xmlui/bitstream/handle/123456789/1657/Influence%20of%20financial%20literacy%20on%20financial%20performance%20of%20small%20

Oyelaran-Oyeyinka, B. (2020). SMEs: Issues, Challenges and Prospects' Financial System Strategy 2020. International Conference. Accessed at: https://www.cbn.gov.ng/fss/wed/SME_Issues

Price Waterhouse Coopers (2020). *PWC's MSME survey 2020: Building to Last Nigeria Report*. Accessed at: https://www.pwc.com/ng/en/assets/pdf/pwc-msme-survey-2020-final.pdf

Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs*, 44 (2), 276–295.

Stobierski, T. (2020). 5 tips for managing change in the workplace. Harvard Business School Online. Accessed at: www.hbs.edu.com

Tilley, N. (1993). *The prevention of crime against small businesses: the safer cities experience*. Police research group crime prevention unit series paper no. 45 London: Home Office Police Department. Doi:10.1.1.548.7431. Accessed at: https://citeseerx.ist.psu.edu

Umogbai M. E., Agwa T. R., & Asenge, L. E. (2018). Financial literacy and performance of small and medium scale enterprises in Benue State, Nigeria. *International Journal of Economics, Business and Management Research, 2*(04), 65-80

Usama, K. M., & Yusoff, W. F. W. (2018). The relationship between entrepreneurs' financial literacy and business performance among entrepreneurs of Bauchi state Nigeria. *International Journal of Entrepreneurship and Business Innovation, 1*(1), 15-26.

Ye J., & Kulathung, K. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability, 11*(10), 1-21.

Zait, A. & Bertea, P. E (2014). Financial literacy-conceptual definition and proposed approach for measurement instrument. *The Journal of Accounting and Management, 3*(1), 37-42.