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RESULTS & DISCUSSION

FINDINGS

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COMBINED EFFECTS OF THE FORMAL FINANCE AND FIRM CHARACTERISTICS ON SMES GROWTH IN SOKOTO STATE, NIGERIA

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ABSTRACT

This study investigates the effect of formal finance (micro-credit) and firm characteristics (firm age and sector affiliation) on the growth of Small and Medium Enterprises in Sokoto State. The survey is cross-sectional where availability and purposive sampling methods were used. A sample of two hundred and forty SMEs who have received micro-credit and operates for at least ten (10) years was employed. However, data on credit received from the banks over the period and the trend of change in turnover of the SMEs. It is discovered that micro-credit and firm characteristics such as firm age have a significant statistical relationship with the growth of the enterprises. It's against this background that this study recommends that government at all levels should venture into the provision of adequate infrastructures for SMEs operation. However, government should also provide adequate financial support, as earlier planned by the federal government in Nigeria, to microfinance banks to have the financial power to support SMEs operations.

KEYWORDS

Enterprise age, Micro-credit, Microfinance, Sector affiliation, SME growth.

1. INTRODUCTION

It has been noted that, a giant stride to support SMEs through the creation of an enabling environment and institutional structures for SMEs growth in Nigeria could be traced from the launching of the new Microfinance Policy, Regulatory and Supervisory Framework (MPRSF) in December, 2005. According to Abiola (2011), the policy is meant to address the problem of lack of access to credit by small business operators and interestingly the microfinance arrangement has made it possible for the Micro, Small and Medium Enterprises (MSMEs) secure credit from Microfinance Banks (MFBs) and other Microfinance Institutions (MFIs) on easier terms. Under meticulous supervision of the Central Bank of Nigeria, the Microfinance Institutions provide a wide range of financial and non-financial services to small and medium entrepreneurs, loans, savings mobilization, micro-insurance, money transfer and financial education. However, considering the importance of the scheme and specifically the role of SMEs in economic development, attempts have been made by scholars at various times to assess the impact of micro-credit for the growth of SMEs in Nigeria. In fact, mixed results have been found. Some studies conducted in Nigeria by scholars such as Babagana (2010), Idowu (2010), Suberu, Aremu and Popoola (2011), Oni, Imam and Ormin (2012) and Moruf (2013) discovered that access to credit affects SMEs growth while other researchers such as; Olutunla and Obamuyi (2008), Babajide (2012), and Olusola (2012) revealed that access to credit has no influence on the growth of SMEs. Results from the studies conducted in many countries including Nigeria have also shown that factors other than finance; such as firm characteristics, have strong influence on the growth of small business enterprises. However, it is against this backdrop that this study seeks to assess the combined effects of access to finance and firms' characteristics on the growth of firms in Sokoto State. To achieve this, the paper is structured to present a literature review after

2. LITERATURE REVIEW

Firm growth has been described as the rate of expansion as measured by sales volume experienced by a firm during its initial years. In other words, the growth of firm has also been defined as an increase in a firm's size. Firm size can be described as the capacity or the structure of the enterprise. The indices to measure the size of the firm are numerous and a qualitative or quantitative improvement in such structure is usually considered as a firm growth. Tihula (2004) states that firm growth can be measured, for example, by sales volume, increase in the number of employees, increase in number of customers, subcontractors, products or innovations, and increase in market share. It has also been argued that the concept of enterprise growth connotes the developmental process of an enterprise with a sustained balanced and stable growth of total performance level (including output, sales volume, profit and asset growth) or keep recording enhancement of total performance and the stage spanning of developmental quality and level.

In the words of Nitcher and Goldmark (2005), the concept has been described as an increase in the number of employees overtime. They argued that the majority of studies on small enterprise growth employ this metric. Some scholars use alternative metrics such as revenue or asset growth. The majority of researchers studying small business growth in developing countries relies on employment growth because it is often extremely difficult to obtain reliable financial data from small firms. Nitcher and Gold mark (2005) stressed that even when Micro and Small Enterprise owners do not keep written records they can usually recall their number of employees. However, Vega (2010) posited that the growth of MSEs can be measured in different ways, such as growth in sales, increase in the number of workers or increment in profits. McPherson (1996) opined that growth in terms of sales or profits might be preferable to a labour-based measure from an accuracy standpoint", given that measurement is not an obstacle when data is available.

Storey (1995) adumbrated number of factors influencing the growth of small enterprises as the entrepreneur/resources, firm itself and the strategy used by the entrepreneur. Sebstad, et al. (1995) in Abdul (n.d.) argues that there is a different range of indicators of growth of SMEs but, for the purpose of his study, Abdul (n.d.) propose to use the income of the MSEs, accumulation of business assets, revenue and employment as an indicator of growth for the enterprises. However, Delmar et al. (2003) argues convincingly that since there appears to be no one best measure of firm growth, as well as no one best composite measure of firm growth, it would be advantageous to explore the use of many different growth measures in a study of firm growth. The use of multiple measures of firm growth would likely provide a more complete picture of any empirical relationships as well as provide a way to test the robustness of any theoretical model to misspecifications in the dependent variable. The use of multiple measures also offers the opportunity to use a measure optimized to the study's specific purposes while allowing comparisons with the results of previous studies using other growth measures. In fact, it adopts in view of this study the method of measuring combined effects of composite variables to identify the relevance of each in enhancing the growth of an enterprise and also ascertain the degree of influence of each on the established growth. The factors selected in this study were earlier reported to have a positive relationship with SMEs growth in different

researches. Example, even though other measures have been described but specifically finance and firm characteristics were also listed among the influential factors that caused firm growth.

Even though, loan have been said to have greater influence of firm growth, records show that other factors are also critical in the determination of firm growth. This has been confirmed by Rabbani and Sulaiman (n.d.) who pointed out that SME loan is not the only factor bsehind the growth of business. Heshmati (2001) in Naqeeb (2012) further argues that firm size and age are the determinants of growth and even the firm characteristics such as ownership and capital structure, R&D, human capital and export activities can play important role in firm growth. Aw (2002) posits that firm age and productivity (TFP) have a positive relationship because older firms have experience in production and have already been exposed to competition from other firms. However, some researchers stated that firm growth (i.e. An increase in employment) can be negative for older firms compared to younger firms because old firms may fail to invest in existing technologies or emerging technologies and this might reduce the productivity of old firms; put in another way if young firms are better in technology and resources, then age and productivity may have a negative relationship (Nichter and Goldmark, 2005).

In a research conducted (in Nigeria) to assess the contributions of Microfinance Institutions (MFIs) to the sustainable growth of SMEs, Oni, Imam and Ormin (2012) reports that data were collected from 360 randomly selected SMEs using the questionnaire instrument. The analysis revealed that MFIs does and could contribute to the sustainable growth of SMEs in the country. However, Babagana (2010) conducted a study to examine the impact of the role played by microfinance banks (MFBs) in promoting the growth of SMEs in Nigeria using Garu Micro Finance bank in Bauchi, Bauchi State. Out of the total number of employees in the bank, 15 members of staff whom constitute the middle management and staff were used as respondents. A questionnaire was developed and distributed to them which they all filled and returned. The study revealed that MFBs have contributed to the promotion of small and medium enterprise growth in Nigeria.

A survey conducted by Idowu (2010) also addressed the issue of goal achievement using microfinance loans. None of the respondents however claimed that MFIs loans did not contribute at all to their sales and marketing activities. The results clearly show that access to MFIs loans have contributed to SMEs performance no matter how little. However, Suberu, Aremu and Popoola (2011) found that a significant number of small scale businesses benefited from MFIs loans even though very few of them were suitable and secured the required amount applied for. Interestingly, the majority of small scale enterprises acknowledged positive contribution of microfinance institution's loan toward promoting their market excellence and overall economic company competitive advantage. Whereas in a recent study to evaluate the effectiveness of credit administration of the Nigerian Microfinance Banks on the operations of selected SMEs in Osun State, Nigeria by Moruf (2013) the overall result of data analysis and hypothesis testing showed a statistical significant relationship between MFBs credit and SME performance at 5% significance level.

On the contrary, some studies conducted have discovered poor or no relationship between microfinance bank credit and SMEs growth. Babajide (2012) employed a panel data and multiple regression analysis to analyze the data from a survey of 502 randomly selected enterprises financed by microfinance banks in Nigeria. The study found strong evidence that access to microfinance does not enhance growth of micro and small enterprises in Nigeria. However, other firm level characteristics such as business size and business location, are found to have a positive effect on enterprise growth. These findings confirmed the views expressed by Olutunla and Obamuyi (2008) that the growth of SMEs is not just dependent on accessing bank loan but accessing the right size of loan at the right time. The insignificant position of the overall f-statistic led the decision to accept the null hypothesis for the three samples, which implies that microfinance does not enhance the expansion capacity of small business in Nigeria. In that study, variables such as technology, training received by the entrepreneur, business location, business age and business registration in that order are the variables that impact significantly on small business growth, none of the micro finance variables were found to have significant impact on small business growth for small firm sample. The result also revealed that variables such as owners" education, loan interest, duration of asset loan, business location, technology related training received and size of asset loan, all impact significantly on micro firm growth but the magnitude of the beta coefficient of micro finance variables are so small. However, in a study conducted to analyze the performance of Microfinance Banks of Women entrepreneurs in Oyo State, Nigeria, Olusola (2012) observes that the performance of women entrepreneurs who participated in micro-credit progrmanme did not significantly improved due to high interest rates and short repayment periods.

3. RESEARCH METHODOLOGY

This research is a cross-sectional and time series research. It captures ten year records of SMEs in terms of some specific variables that enable the researcher to study some trends and measure growth of the firms from distribution, agriculture, manufacturing, service and processing industries. However, in this study the annual turnover of SMEs under study constitutes the measure of business growth (proxy of the dependent variable) where access to micro-credit (cash and value of assets received from MFBs), age of the enterprise and sector affiliation of the SMEs are the independent variables. The population of this study is the total number of SMEs served by microfinance banks in Sokoto State. In fact, due to the difficulty in covering the entire population, considering their large number and also time constraint, fair representation of the population becomes imperative. In view of this, a total number of two hundred and forty (240) SMEs have been drowned for this study through stratified and availability sampling methods.

To ascertain the number of SMEs served by the five (5) registered microfinance banks, the research relies heavily on the records available in the banks and the distribution of seven thousand two hundred and seventy SMEs across the banks. The instrument used for the collection of data for this study is basically a questionnaire for the SMEs operators and Focus Group Discussion. Questions in this questionnaire are presented in both open-ended and close-ended formats. A pilot study was also conducted to test-run the practicability of the study and to detect flaws in the data collection process. This was primarily aimed to determine reliability of the instrument. Copies of the questionnaire were given to senior colleagues, Microfinance Bank mangers and postgraduate students. The views of the bank managers because they closely relate to SMEs operators and they know better ways of measuring their performance and constraints. Forty (40) copies of the questionnaire were used for the pre-testing.

Analysis of data for this study was carried out using inferential statistical technique which embodies the use of multiple regression with the aid of Stata 12.0 as an analytical tool. However, it has earlier been mentioned that this study comprises both dependent variable and independent variables whose nature of relationships is established by the research. Hence, the design of the research examines the relationship on a regression.

Y=a+60+6X1+6X2+6X3+eit

(eq. 1)

Where, Y= is the dependent variable (SMEs growth)

a = Intercept

Format of:

 β = Slope

X1-X3=Independent variables

X1= Access to micro-credit measured by amount of money and value of materials received by SMEs operators/owners from microfinance bank.

X2= A firm characteristic- Enterprise age measured by numbers of years an SME existed.

X3= A firm characteristic- sector affiliation measured by the sector in which business belongs.

Y= as a statistic of Business growth measured by change in annual turnover

SME Growth as a function of micro-credit, Enterprise age, and Sector affiliation of the business are represented thus:

(ea.2)

SME growth = f (micro-credit, enterprise age, sector affiliation)

SME growth is translated by a significant increase in turnover resulting from access to micro-credit, age of the enterprise and the sector affiliation of SMEs. SME Growth= f (Mcred+Entage+Secaffl)

The equation shows the relationship between a dependent variable firm growth (Proxies by change in turnover) and independent variables i.e. Micro-credit and firm characteristic such as; enterprise age and sector affiliation.

Hypothesis: Positive relationship does not exist among Micro-credit, Firm characteristics and SMEs growth in terms of turnover.

This hypothesis has been tested with the following regression equation.

Logtoverit = a + 60 + 61Mcredit + 62 Entageit + 63 Secafflit + eit

Where toverit; Turnover

a = Intercept

 θ = Slope of the intercept

Mcred = Micro-credit

Entage*it* = Enterprise age Secafll*it* = Sector affiliation

e it = Error level

The Hypothesis was tested on the models above using multiple regression analysis. The choice of regression to test hypothesis was based on the need to analyze the relationships between dependent variable and independent variables and thereby establish the extent to which independent variables influence the dependent variable. However, in this study, a Pooled OLS is used as a rough and ready means of analyzing the data. It is said to be a simple and quick benchmark to which more sophisticated regressions can be compared. Since our data is in Panel form, we consider more general models than the simple pooled OLS model. The models chose for further regression tests are fixed effects and random effects techniques.

To follow the normal procedure, we run some decisions tests after each regression test in order to choose the best result among the alternative test going by a given criterion of selection. These include Hausman test for fixed effect and Breushch-Pagan Langrangian Multiplier test for random effects.

The equation for the fixed effects model is as follows;

Yit = B1Xit + ai + Uit (eq. 5)

Where

- $\alpha i \ (I = 1....n)$ is the unknown intercept for each entity (n entity-specific intercept)
- Yit is the dependent variable, where i = entity and t = time
- Xit represent one independent variable
- B1 is the coefficient of the independent variable
- Uit is the error term

However, the equation for the random effects model is as follows;

Yit= BXit + a + Uit + \mathcal{E} it (eq. 6)

Where

- a the intercept
- Yit is the dependent variable, where i = entity and t = time
- Xit represent one independent variable
- B is the coefficient of the independent variable
- ${\cal E}_{\it it}$ is the error term

To follow the normal procedure, we run some decisions tests after each regression test in order to choose the best result among the alternative test going by a given criterion of selection. These include Hausman test for fixed effects versus random effects and Breushch-Pagan Langrangian Multiplier test for random effects versus Ordinary Least Square (OLS).

To decide between fixed effects and random effects, you can run a Hausman test where the null hypothesis is that preferred model is fixed effects. It basically tests whether the unique errors (Ui) are correlated with the regressors, the null hypothesis is they are not. If the result of the Hausman test shows Prob>chi2 is < 0.05 use fixed effects.

However, in a decision to choose between random effects and a simple Ordinary Least Square (OLS), the Breusch-Pagan Lagrange Multiplier test is carried out. The null hypothesis is that variances across entities is zero, this is no significant difference across units (i.e. No panel effect). If Prob > chi2 is less than 0.05, and then the random effects model is preferred since there is evidence of differences across entities.

4. DATA PRESENTATION AND ANALYSIS

TABLE 4.1: REGRESSION RESULTS ON THE SMES GROWTH IN TERMS OF TURNOVER

	OLS			FE			RE		
Tover	Coef.	Std. Err.	P > t	Coef.	Std. Err.	P > t	Coef.	Std. Err.	P > t
mcred	.8635994	.067319	0.000	1711257	.057827	0.004	.1784583	.0616595	0.004
Entage	8036781	.2595008	0.002	1.25778	.2159742	0.000	.3138598	.2301031	0.173
secaffl	0872468	.3077614	0.777	2376193	.1842139	0.199	0601923	.2160503	0.781
-Cons	5.419431	1.258755	0.000	13.34018	.7929696	0.000	11.15315	.9328051	0.000
R ²	0.4906			0.3078			0.2963		
Rho				.9746058			.92046454		
F Statistic				0.0000					
Wald chi2							11.80		
Hausman				-3357.99					
Breusch-Pagan							0.0000		

Source: Stata 12.0 outputs

Note: ***, **, * denote 1%, 5% and 10% significance levels respectively

Table 4.1 above, presents results from pooled OLS, fixed effect and random effect. The OLS regression result shows the relationships among microcredit, firm characteristics and SMEs turnover. In that relationship, microcredit has β = .8635994 which shows that every one naira increase in credit accessed by the SMEs, 80 kobo. The Standard error .067319 and p-value = 0.000 have also been recorded. Since the 0.000 being the p-value is less than 0.05 preset alpha, it indicates that microfinance has positive significant relationship with turnover at 1% significance level. About enterprise age and turnover of SMEs, coefficient of β = .8036781 , standard error .2595008 and 0.002 being the p-value the result explained that relationship exists between enterprise age and turnover of SMEs at 5% level of significance. Still in the first column of the same table, however, the OLS regression results show the relationship between sector affiliation of the enterprises and turnover with β = -.0872468, standard error .3077614 and p-value = 0.777. This shows that positive statistical relationship does not exist between these variables. In the OLS result the R square = 0.4906.

On the same table (table 4.1) in the second column, regression results from the fixed effect model shows the relationships among microcredit, firm characteristics and turnover of the SMEs. In that relationship, microcredit has β = -.1711257, the standard error = .057827, and p-value = 0.004. Since the 0.004 being the p-value is less than 0.05 the alpha, it indicates that microfinance has a positive significant relationship with turnover at 5% significance level. On enterprise age and turnover of SMEs, however, the fixed effect model has a coefficient of β = 1.25778, the standard error =.2159742 and 0.000 being the p-value, the result explained that the positive statistical relationship exists between enterprise age and the turnover of SMEs. However, results in the above table also show the relationship between sector affiliation of the enterprises and turnover. β = -.2376193, standard error = .1842139 and p-value = 0.199. This shows that relationship does not exist between these variables. The R square achieved was 0.3078 and the intra class correlation (rho) shows that 97.4% of the variance is due to differences across panels. The results also show F Statistic = 0.0000 which indicates that the model is okay.

Interestingly, in the third column of table 4.1 the random effect model presents entirely different results from the random effects model. Results from the table indicate that micro-credit has β = .1784583, standard error = .0616595 and p-value = 0.004. Since the p-value (0.004) is less than 0.05 alpha, it indicates that microfinance has a positive significant relationship with turnover at 5% significance level. However, enterprise age and turnover of SMEs, coefficient of β = .3138598 was recorded, standard error =.2301031 and 0.173 being the p-value. The result explained that the statistical relationship does not exist between enterprise age and the turnover of SMEs. In this model the R square = 0.2963 and the intra class correlation (rho) shows that 92% of the variance is due to differences across panels. The Wald Ch2 which show whether the model is ok is 11.80 which is greater than 0.05 alpha level.

To decide between fixed and random effects the Hausman test has been run where the null hypothesis suggests that preferred model is a random vs. alternative the fixed effects. It basically tests whether the unique errors are correlated with regresses, the null hypothesis is they are not. The result in table 4.1 above shows -3357.99 which signifies that model fitted to these data fails to meet the asymptotic assumptions of the Hausman test. However, the decision to choose between random effects and simple OLS informed the decision to run the Breusch-Pagan Lagrange multiplier (LM) test. The null hypothesis in the LM test is that variances across entities are zero. The LM test shows the Prob > chi2 = 0.0000 which indicates that the random effects model is also appropriate. Based on the fixed effects results the null hypothesis that positive relationship does not exist among Micro-credit, Firm characteristics and SMEs growth in terms of turnover is hereby rejected.

5. DISCUSSION OF RESULTS

The regression results from the fixed effect model show the relationships among micro-credit, firm characteristics and turnover of the SMEs. In that relationship, micro-credit has a positive significant relationship with turnover. When credit is accessed by SME operator the turnover of the enterprise significantly increases. This is however, resulted from the increase in the capacity of the enterprise to acquire more factors of production and increase labour and output. On the enterprise age and turnover of SMEs, however, the fixed effect model shows that a positive statistical relationship exists between enterprise age and the turnover of SMEs. It is gathered that business experience help firms to expand their market share through promotional activities over time. Aw (2002) posits that firm age and productivity (TFP) have positive relationships because older firms have experience in production and have already been exposed to competition from other firms. However, results in table 4.1 also show the relationship between sector affiliation of the enterprises and turnover. The result shows that relationship does not exist between sector affiliation and turnover. It shows that a sector which an SME belong does not determine the growth of the enterprise. A firm can grow or fail to grow in whichever sector it falls depending on their effort and situation. In the overall, the null hypothesis that positive relationship does not exist among Micro-credit, Firm characteristics and SMEs growth in terms of turnover is hereby rejected. The failure to accept the null hypothesis was due to the decision criteria where the p-value was less than the critical value even though only micro-credit and age of the enterprises are positively related to the firm growth.

6. CONCLUSIONS

Formal finance is said to have more influence on growth of SMEs than enterprise age. However the sector affiliation of the SMEs is not a determinant of firm growth. These findings are not controversial since similar results have been reported in various researches. The result is also in line with the Pecking Order theory which categorically associate external finance with firm performance. The findings of this study are in consonance with Bekele and Zeleke (2008), Shinozaki (2012), Quaye (2011), Babagana (2010), Idowu (2010), Aremu and Popoola (2011), Oni, Imam and Ormin (2012) and Moruf (2013) among others. It has been earlier reported that Kuntchev, et al. (2012) concludes that not only in the developing countries rather, Small and Medium Size Enterprises (SME) are the most common employers across the world. Furthermore, Shinozaki (2012) argues that SMEs are a driving force of economic and social stability due to their quantitative impact on the national economy and the empirical effects of creating jobs, fostering a competitive business environment, and expanding the industrial base. However, since, according to many reports, SMEs are predominantly the key players in the economic activities of developing nations and In Nigeria, Odeyemi (2003) in Lemuel (2009) confirmed that an estimate of about 70% of the industrial employment is held by SMEs and more than 50% of the Gross Domestic Product is SMEs generated, the result of this study clearly show that SMEs in the study area have a positive contribution to the economic development. This also indicates that the government can use SME financing as a means of boosting commercial activities, employment generation and overall economic development.

7. RECOMMENDATIONS

The recommendations are based on the problems affecting SMEs in the area as confirmed through Focus Group Discussion.

- i. Microfinance banks should assess the demand of SMEs applying for credit facility and grant required amount that could finance the business even if it entails giving higher than what the SME applies for.
- ii. Since the SMEs opined that interest charges do not affect growth of their businesses the bank should maintain the interest rates and tax bodies should also maintain the tax rate since the amount charge is not considered high by the tax heads. However, since SMEs associated lack of business support services with poor growth of their enterprises government should continue to partner with donor agencies to provide regular training and development and business counseling to SMEs operators through an organized scheme in order to enhance growth of the SMEs.
- iii. On the issue of poor and inadequate infrastructure being among the factors affecting the growth of SMEs government have a critical role to play. In Brazil, government support the activities of SMEs by providing industrial areas, linking areas with roads, electricity, water, energy and other facilities to make business easy. In Nigeria, government at all levels should venture into the provision of adequate infrastructures for SMEs operation. However, government should provide adequate financial support, as earlier planned by the federal government in Nigeria, to microfinance banks so as to have the financial power to support SMEs operations by giving them adequate credit facilities. A conducive business environment is also said to be a critical factor in the enhancement of growth of SMEs. In Nigeria, issue of insecurity and corruption affects the smooth running of businesses. Government should pay attention in providing secure business environment in which SMEs can strive. The law should also protect the SMEs in their course of operation and businesses should be sensitized, part of business advisory services, the way and manner they can protect their business entities from corruption through complying with legal procedure in the course of their business.
- iv. SMEs especially those that are making a reasonable income should take the human resource as a critical factor that can facilitate the achievement of the objectives of the organization and business growth. Organizations should give priority to the recruitment of qualified manpower whose services are required and that can easily move the enterprise forward. However, since SMEs confessed that competition has negative effects on the growth of SMEs in the area, the quality of their products and fair pricing are the measures to help SMEs make relevance in a competitive atmosphere. However, to contain the problem of poor sales caused by economic condition SMEs should properly manage the quality of their products, remain competitive in terms of pricing, advertise their products and establish proper channels of distributing their products. Even though the result did not associate incessant withdrawal of money for unproductive use with poor SMEs growth, still the business owner should remain cautious in withdrawal. They should keep the withdrawal within the reasonable level to avoid eating up the whole profit and later in the capital. Operators should devise a way of refunding whatever they withdraw to avoid capital squeeze.

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