

EFFECTS OF BANK CREDIT ON THE PRODUCTIVE CAPACITY OF MANUFACTURING FIRMS IN SOUTH- EAST NIGERIA

EKECHUKWU, CHIJIJOKE

Department of Banking and Finance,
Faculty of Management Sciences
Enugu State University of Science and Technology (ESUT), Enugu, Nigeria

MBAH, PAULINUS CHIGOZIE

Department OF Business Administration,
Faculty of Management Sciences,
Enugu State University of Science and Technology (ESUT), Enugu, Nigeria

AMAH, JEREMIAH TOCHUKWU

Enugu State University of Science and Technology (ESUT),
ESUT Business School, Enugu, Nigeria

Abstract

This paper evaluates the effect of bank credit on project implementation in South- East Nigeria. The specific objectives include: to access the effects bank credit on the productive capacity of the firms in South-East Nigeria; to access the effect of bank credit on the potential growth of the firms in South- East Nigeria. The paper adopted survey method of data gathering wherein questionnaire became the primary instrument of data collection, and complemented by archival records. The population of study, which is 1928, was consists of the employees of 15 manufacturing firms that are categorised into three, namely: Cottage industries, Farmers, Pure water industries (PWI). With the aid of Freund and Williams's formula for determining sample size, a sample of 332 respondents was drawn at 5 percent error margin. A survey design was adopted for the study. Total of 332 copies of questionnaire were distributed while 275 were returned. Two hypotheses were tested using Chi-Square (χ^2), and Pearson correlation (r), while the Statistical Package for Social Science (SPSS) was used as analysis tool. The results of the analysis indicate that effect of inflation on bank credit significantly affects the productivity capacity of project implementation of the firms in South-East Nigeria, hence $\chi^2 (95, n=275) = 0.888, P < 0.5$; bank Credit significantly affects the potential growth of industrial firms in South- East Nigeria, hence $\chi^2 (95, n=275) = 36.042, P < 0.5$. The study concludes that bank credits have negative effects on project implementation in South- East Nigeria through high rate of interest on loans, and inflation in the economy. The paper recommends among others the encouragement of financial institutions (banks & non-banks) through the provision of tax incentives for banks that lend to SMEs, provision of need amenities that enhance manufacturing output, and effective reduction of collateral requirements, inflation, and interest rates.

Keywords: bank Credit, interest rate, productivity, inflation, growth

1. Introduction

The role of bank credit has contributed very tremendously for the growth of the economy. This gave rise to many academic in a developed and developing economics of the world. Banking system plays an essential role in the financial sector, and accounts for 95 percent of activities in the sector, and has demonstrated a positive relationship with the economic growth [1]. The financial sector of any economy and country has a plethora of different economic services that are intended to satisfy the developmental needs of sovereign entities. Findings in the literature tend to suggest that the bank sector play crucial role in the actualisation of this goal through sustained supply and increase in credits to the productive sector of the economy.

As used in this paper, Credit to productive sector of the economy refers to loans and advances, purchases of non-equity securities, trade credits and other accounts receivable, which establish a claim for repayment that are made available to the industrial sector of the economy. In this regard, credit can be viewed from, two angles; namely: trade or commercial credit and banking system credit. Scholars observed that the provision of credit with sufficient consideration for growth enhances project implementation to a great extent [2]. Project Implementation simply refers to the act of carrying out the activities described in in any work plan.

The implementation of any project is a very complex mission and as requires the coordination of a wide range of activities, the supervision by a team, budgetary management, and essential horizontal and vertical communication within and outside the organisation, among other issues. Independent of whether it is a social project to raise public awareness and promote any policy, or it is a production, construction, and/or service delivery project, it is process driven and requires logistics and fund [3]. Most individual, groups, and even government are cash-trapped that they cannot implement such projects. Thus, bank credits or loans become inevitable or necessary to engage in such developmental projects. The quantity of bank credit tends to impact on the productive output of any firm depending on their productive capacity [4, 5]. Thus, banking credit generates productive growth as an intermediary between human resources, raw material and technological innovations. Simply put, banks help to make credit available by mobilizing surplus fund from depositor and offer such fund as credit to investors who want to create additional wealth by increasing production [6].

Thus, a strong and inclusive financial system with available investable funds plays vital roles in financing manufacturing projects and activities. This orchestrated the interest to investigate the relationship between the two among manufacturing firms located in South-East Nigeria. The region, which is the homeland of the Igbos, a major ethnic nationality in Nigeria, was devastated by its separatist campaign that led to three years Nigerian civil war, 1967 – 1970. As a consequence of the failed campaign, the region has been marginalised by federal government investment, credit and loan programmes, while banks and manufacturing firms are springing up daily in the region. Yet, manufacturing activities and production for export and even for local consumption is still very limited while many firms or industries are winding-up. Hence, an understanding of how credit policy affects the manufacturing sector in the region becomes imperative.

This study is aware of dominant findings in the literature, which show that many factors affect the productive capacity of manufacturing activities in Nigeria generally and South-East region in particular. Such factors include policy reversals, lack of fund, scarcity of raw materials, over - and multiple - taxations, unguided trade policies, poor institutional infrastructure, and reliance on oil for fiscal sustenance, financial risks, poor energy supply, and insecurity amongst others. However, this paper focuses primarily on the effects of bank Credits on the productive capacity of manufacturing firms in South-East Nigeria with a view to assess the effect of bank Credits on the potential growth of the manufacturing firms in the region.

1.1 Research Questions

This paper, therefore, seeks answers to the following questions:

- (i) Has bank Credits any effect on the productive capacity of manufacturing firms in South- East Nigeria?
- (ii) Has bank Credits any effect on the potential growth of the manufacturing firms in South- East Nigeria?

1.2 Research Hypotheses

This research is premised on the following hypotheses:

- (i) Bank Credits have significant positive effect on the productive capacity of manufacturing firms in South- East Nigeria.
- (ii) Bank Credit has positive significant effect on the potential growth of manufacturing firms in South- East Nigeria.

2. LITERATURE REVIEW

The review of related literature is organised under three sub-headings, namely: conceptual framework, theoretical framework, and empirical review to enable the paper obtain a fair view of gaps in previous research on the topic.

2.1. Conceptual Framework

2.1.1. Bank Credit

According to Njanike, bank Credit is a loan, which entails the redistribution of the financial assets between the lender and the borrower [7]. The borrower who got an amount of money from the bank pays back later but with additional amount to that, which was borrowed. The additional amount is generally called interest on the debt or loan. For others, bank credit refer to the act of borrowing specified amount of money from financial institutions such as banks, government, and individuals that are legally authorised to do so [8]. This definition was extended to include any form of borrowing of or obtaining resources, whether money or material, at any period of time with an obligation to repay in accordance with the terms and conditions of the credit [9]. The borrower can be an individual, group, institution or government, provided such borrower is a personality in law.

There are six primary factors that determine bank credits or borrower's ability to receive bank credit. These are the character or track record of the applicant for loan or credit; borrower's capability or capacity measured by special skills, experience, and exposure in the project that the credit will be used to sponsor; borrower's initial capital or investment before applying for the credit; expected interest on the credit; available collateral or security guarantee on the loan; and citizenship [10].

Nevertheless, it has been established in the literature that bank credit serve two important functions, namely: it enables economic growth through its funding of projects and production processes; and serves as instrument for revenue or income generation through interests on loan. Its impact has being complicit in the literature. In the private sector, it has strong positive effect as it stimulates growth while in the public sector; it has empirically demonstrated weak impact on growth because it is always wasted in politically motivated projects and prone to embezzlement [11 - 14].

2.1.2 Manufacturing Firms

The term manufacturing firms refer to all industries that are involved in the processing of raw materials to create new commodities or add value to existing goods [15 - 17]. The new goods are either finished products for consumption or intermediate goods that will be used for further production process, which will lead to the production of consumable commodities. Consequently, manufacturing firms are major employment creation institutions and contribute immensely to economic growth on different fronts [18]. Manufacturing firms are diverse and include engineering firms, construction firms, electronics firms, chemical firms, textile firms, food and beverage firms, metal-working firms, plastic firms, transport and telecommunication firms, and agricultural firms etc.

Following global economic recession and the nature of Nigerian industrial policies, many manufacturing firms are witnessing declining productivity rate, inadequate electricity supply, inadequate financial support, and high cost of raw materials due to high exchange rate, among other things. These have resulted in the reduction in manufacturing capacity utilization and output [19].

2.2 Theoretical Framework

Monetarist Theory

The monetarist schools of economic thought examined and explained how monetary policy affects economic activities. Fundamentally, the monetarist theory postulates that change in the money supply leads directly to a change in the real magnitude of money; and that (bank) credits provide such supply of funds for economic activities that are mostly productive in nature [20]. The theory, therefore, postulate a positive relationship between financial intermediation or money supply and economic growth [21 - 23].

Propelled by this assertion, this study examines the extent to which financial intermediation or bank credit to manufacturing firms in the South-East Nigeria has influenced their productive capacity to implement projects and promote production growth.

2.3 Empirical Review

Bank Credits, Productive Capacity, and Manufacturing Growth

An empirical evaluation of the nature of long-run relationship existing between bank credits to the private sector of Nigeria's economy and the nation's economic growth as well as the directions of prevailing causality between them between 1981 and 2011 reveals significant

long-run relationship between the study variables but without significant causality in any direction [24]. Similarly, an examination of the effect of commercial bank credit on the output of manufacturing firms in Nigeria from 1980 to 2015 reveals that inflation rate and interest rate have negative effect on the output of manufacturing firms while loans/credits have positive effect on the output of manufacturing firms in Nigeria. Consequently, policies that reduce both inflation and interest rates; and the provision of loans/credits to manufacturing firms were recommended [25].

Obilor's empirical investigation of commercial banks' credit to agricultural firms in Nigeria [26] and Tomola, Adebisi and Olawale's investigation of the effect of bank lending and economic growth on the manufacturing output in Nigeria covering a period of 36 years [27] reveal the same positive effect. Equally, through quartile panel analysis on a large sample of 2075 firms operating in 17 European countries covering 2005 – 2011 that explored the effects of bank credit on firm growth before and after the recent financial crisis outbreak, it was observed that credit strongly determined firm growth before the crisis. After the crisis, the credit manifested a strong impact on small firms only [28].

However, research findings reveal that inability to satisfy the pre-conditions for receiving bank credits such as collateral, issue of small equity base etc.; high interest rates and short repayment periods for the bank credits; high rate of defaults in repayment of credits; and tight Cash flow among others are major factors limiting or hindering manufacturers access to bank credits [29]. Therefore, this paper seeks to test the applicability of these findings in the literature in South-East Nigeria.

3. METHODS

3.1 Research Design

This paper adopted survey method of data gathering because the population of the study is spread across the five states of the South-East Nigeria. The specific manufacturing firms for study in these states are Cottage Industries (CI), Farmers, and Pure Water Industries (PWI). Structured and closed-ended questionnaire was adopted as the primary instrument of data collection while archival or secondary sources complemented it.

3.2 Validity and Reliability of instrument

The validity of the instrument was tested by experts in the Faculties of Social Sciences and Arts, University of Nigeria who were asked to assess the relevance of the content of the tool

and to ensure its potency. On the other hand, the reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.92 which was also good.

3.3 Population of the Study

The population of study consists of the employees of 15 prominent manufacturing firms randomly selected from the capital territory of the five states of South-East Nigeria, which belong to three categories of Cottage Industries, Farmers, and Pure water Industries (PWI).

3.4 Sample of the Study

With the aid of Freund and William’s formula for the determination of adequate sample size, 332 staff was sampled. However, only a total of 275 staff out of the 332 sampled accurately filled and returned the questionnaire. This represents 83% response rate.

3.5 Method of Data Analysis

The data generated with the aid of questionnaire were analysed using Pearson product of moment correlation for hypothesis one, and Chi-square (X^2) for hypothesis two with aid of Special package of statistical Software (SPSS).

4. DATA PRESENTATION AND RESULTS

4.1. Data Presentation

Table 1: Response on whether bank credit affects the productivity capacity of project implementations of the firms in South- East Nigeria

Responses	Cottage Industry	Farmers	PWI	Total	Percent
Strongly Agree	32	57	11	100	36
Agree	18	100	14	133	48
Neutral	4	-	1	5	2
Disagree	13	8	2	22	8
Strongly Disagree	5	7	3	15	6
Total	72	172	31	275	100

Source: Field Survey 2017.

In table 1 above, 100 respondents out of 275 representing (36%) strongly agree, 133 respondents (48 %) agree, that bank credit affects the productivity capacity of the firms in South- East Nigeria, 5 respondents (2 %) were neutral, 22 respondents (8%) disagree, while 15 respondents (6%) strongly disagree that banks credit affects the productivity capacity of project implementations of the firms in South-East Nigeria.

Table 2: Response on whether effect of bank credit on the potential growth of project implementations of the firms in South- East Nigeria

Responses	Cottage Industry	Farmers	PWI	Total	Percent
Strongly Agree	39	90	14	143	53
Agree	25	47	11	83	30
Neutral	2	5	2	9	4
Disagree	2	17	3	23	7
Strongly Disagree	4	13	1	17	6
Total	72	172	31	275	100

Source: Field Survey 2017.

In table 2 above, 143 respondents out of 275 representing (53%) strongly agree, 83 respondents (30%) agree, that bank credit effects the potential growth of project implementations of the firms in South- East Nigeria, 9 respondents (4%) were neutral, 23 respondents (7%) disagree, while 17 respondents (6%) strongly disagree that bank credit effects on the potential growth of project implementations of the firms in South- East Nigeria

4.2 Test of Hypotheses

In testing hypothesis 1, which states that “Bank Credits have significant positive effect on the productive capacity of manufacturing firms in South- East Nigeria”, Pearson correlation coefficient was used. The result is presented hereunder as follows:

Table 3: Test of Hypothesis one

	Mean	Std. Deviation	N
Credit bank significantly effects the productivity capacity of the firms in South East.	1.98818	1.26276	275
	2.3818	1.29979	275

Source: Field Survey 2017.

Table 3.1: Hypothesis One: Bank Credit significantly affects the productivity capacity of project implementation of the firms in South- East Nigeria

	Bank credit	Productivity capacity of the firms
Bank Credit significantly affects the productivity capacity of the firms in South-East, Nigeria	Pearson correlation sig. (2-tailed) N	1 .889** .000 275
	Pearson Correlation sig (2-tailed)N	.889** .000 275

** Correlation is significant at the 0.05 level (2-tailed)

Decision Rule: If the calculated correlation coefficient (r) is greater than the critical correlation coefficient (i.e. $r_{cal} > r_{critical}$), there is a significant correlation hence the null hypothesis is rejected and the alternative hypothesis accepted accordingly.

Decision

From the result displayed in the correlation table above the Pearson product moment correlation coefficient is 0.889. This result is greater than the critical correlation coefficient of 0.88 (i.e. $r_{cal} = 0.889 > r_{critical} = 0.088$). Hence, this result indicates that Bank Credit significantly affects the productivity capacity of the firms in South- East Nigeria.

In testing hypothesis 2, which states that “Bank Credit has positive significant effect on the potential growth of manufacturing firms in South- East Nigeria”, Chi-square (X^2) with aid of Special package of statistical Software (SPSS) was used. The result is presented hereunder as follows:

Table 4: Hypothesis Two: Bank Credit significantly effects on the potential growth of project implementation of the firms in South- East Nigeria

	Responses		Cottage Industry	Farmer	PWI	Total
	Bank Credit significantly effects on the potential growth of the firms in South- East Nigeria	Strongly Agree	Count	68	17	48
		Expected	59.50	20.4	53.10	133.0
Agree		Count	45	23	35	83
		Expected	37.20	17.2	28.70	83.0
Neutral		Count	2	1	6	9
		Expected	4.00	1.2	3.80	9.0
Disagree		Count	23	8	8	31
		Expected	23.90	8.3	6.80	31.0
Strongly Disagree		Count	12	2	5	19
		Expected	8.50	4.1	6.40	19.0
		Count				
Total				123	51	51
			123.00	51.00	51.00	275.0

Source: Field Survey 2017

Table 4.1 Chi-Square Tests

	Value	Df	Asymp Sig. (2-sided)
Pearson Chi-Square	36.042 ^a	8	.000
Likelihood Ratio	34.036	8	.000
Linear-by-Linear Association	.287	1	.592
N of Valid Cases	275		

5. Result

Table 4.2 above shows that the chi-square test statistics computed from the frequency distribution reveals chi-square computed value $X^2_c = 36.042$ is greater than chi-square table value $X^2_t = 15.51$ with 8 degrees of freedom at 0.05 level of significance.

Decision Rule: If the calculated chi-square is greater than the critical chi-square (i.e. $X^2_{cal} > X^2_{critical}$) – reject the null hypothesis and accept the alternative hypothesis accordingly.

Decision

Since the chi-square computed $X^2_{cal} = 36.042$ is greater than critical $X^2_{critical} = 15.51$ the null hypothesis should be rejected. Therefore, we conclude that Bank Credit has significant positive effect on the potential growth of project implementation of the firms in South- East Nigeria

6. Discussion of Findings

The result of analysis reveals that Bank Credits have positive significant effects on the productivity capacity of manufacturing firms in South- East Nigeria, hence $x^2 (95, n=275) = 0.888, P < 0.5$. This finding supports earlier observations by scholars in other environments as present in the literature [30]. It concurs with dominant opinion in the literature which holds that risk and financial stability matter for firm growth.

Similarly, the result of the analysis further shows that bank Credits have positive significant effects on the potential growth of the firms in South- East Nigeria, thus $x^2 (95, n=275) = 36.042, P < 0.5$. This observation is in consonant with the dominant findings by scholars in other regions of Nigeria and the world in general, which holds that loans/credits have positive impact on the growth of the output of manufacturing firms [31].

7. Conclusion

In conclusion, bank credits have positively affected the productive capacity and the output of manufacturing firms in the South-East Nigeria. Therefore, government formulation and implementation of economic and banking policies should aim at promoting credit facilities through effective reduction of inflation and interest rates, and collateral requirements on one hand; and increasing the provision of tax incentives for banks that lend to SMEs to encourage others to do same, and other necessary amenities that enhance manufacturing activities such

as regular energy supply and security as well as broad money supply that will sustain the credit facilities of commercial banks.

8. Recommendations for Further Research

Due to the thematic scope of this paper, it could not explore the major reasons for the prevailing decline in manufacturing activities in the South-east Nigeria, problems hindering banking credit schemes in the region, and other intervening variables that neutralise the positive impact of bank credits on the growth of manufacturing firms in the region. Further research is recommended in these areas.

References

- [1]. Hashim, Y. A. (2012). Impact of Financial Intermediation on the Growth of Real Sector of the Nigerian Economy. Being a Thesis submitted to the Post Graduate School, Ahmadu Bello University, Zaria, in partial fulfilment of the requirements for the award of the degree of Master of Science(M.Sc.) in Business Administration.
- [2] Omitogun, O. and Ayinla, T. A. (2007). Fiscal Policy and Nigerian Economic Growth. *Journal of Research in National Development*, 5(2): 45-54
- [3]. Sagosanya, A. O. (2011). Firms Growth Dynamics in Nigeria's Manufacturing Industry: A panel Analysis. *Journal of Applied Econometric Review*, 1(1): 2-15
- [4] Schumpeter, J. A. (1934). *The Theory of Economic Development*. Cambridge, Mass: Havard University Press.
- [5]. Were, M., Nzomoi, J. and Rutto and N. (2012). Assessing the Impact of Private Sector Credit on Economic Performance: Evidence from Sectoral Panel Data for Kenya. *International Journal of Economics and Finance* 4 (3) : 182 – 190
- [6]. Nwanyanwu, O.J. (2012). An Analysis of Banks' Credit on the Nigerian Economic Growth (1992-2008). *Jos journal of Economics*, 4(1): 43- 58.
- [7]. Njanike, K. (2009). The Impact of Effective Credit Risk Management on Bank Survival. *Annals of the University of Petroşani, Economics*, 9(2), pp.173-184
- [8]. Pearce, D.W. (1992). *Dictionary of modern economics.(1 Edition)*. London: Macmillan Press
- [9]. Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge: Harvard University Press.

- [10]. Pandey, I. M. (2006). *Financial management: Credit policy*. (9Edition). New Delhi: Vikas
- [11]. Ogunbi, J. O., and Ogunseye, T. O. (2004). *Theory and practice of business finance in Nigeria*. (1Edition). Lagos: Abiodun-Kinson (Nig) Enterprises
- [12]. Levine, R. (2005). Bank-based or market-based financial systems: Which is better? *Journal of Financial Intermediation* 11 (1), 398–428
- [13]. Demirguc-Kunt, A. and Levine, R. (2008). *Finance, financial sector policies and long run growth*. The World Bank Development Research Group, Policy Research Working Paper 4469 Department of Economics Lough Borough University.
- [14]. Crowley, J. (2008). Credit growth in the Middle East, North Africa and central Asia region. IMF Working Paper, No. 08/184. <http://dx.doi.org/10.5089/9781451870428.001>
- [15]. Onuorah, A. C. (2011). *Fundamentals of finance*. (1 Edition). Asaba: C.M Global Co. Ltd
- [16]. Adebayo, R. I. (2011). Zakat and Poverty Alleviation: A lesson for the Fiscal Policy Makers in Nigeria. *Journal of Islamic Economics, Banking and Finance*, 7(4): 26-41
- [17]. Dickson, D. A. (2010). The recent trends and patterns in Nigeria's industrial development. Nairobi: Council for the Development of Social Science Research in Africa
- [18]. Mbelede, C. (2012). Cost Engineering in the manufacturing sector of the economy of Nigeria. Paper presented at the 3rd Annual Technical Conference of Institute of Appraisers and Cost Engineering, Abuja, Nigeria.
- [19]. Charles, A. N. B. (2012). Investigating the Performance of Monetary Policy on manufacturing Sector in Nigeria. *Arabian Journal of Business and Management Review*, 2(1): 12-25
- [20]. Tomola, M. O., Adebisi, T. E. and Olawale, F.K. (2012). Bank lending, economic growth and the performance of the manufacturing sector in Nigeria. *European Scientific Journal*, 8(3):19-34
- [21]. Onyeiwu, C. (2012). Monetary Policy and Economic Growth of Nigeria. *Journal of Economics and Sustainable Development*, 3 (7). 62-71
- [22]. Schumpeter, J. A. (1934). *The Theory of Economic Development*. Cambridge, Mass: Harvard University Press

- [23]. Bencivenga, V. R. and Smith B. D. (1991). Financial Intermediation and Endogenous growth. *Review of Economics Studies*, 58: 195-209
- [24]. Adebisi, M. A. (2011). Inflation Targeting: Can we establish a stable and predictable relationship between Inflation and Monetary Policy Instrument in Nigeria and Ghana? CBN Working Paper Series
- [25]. Prince, C. N., Ikechukwu, S. N. and Godfrey O. O. (2014). Bank Credits to the Private Sector: Potency and Relevance in Nigeria's Economic Growth Process. *Journal of Accounting and Finance Research*, 3(2): 23-35
- [26]. Obilor, S.I. (2013). The Impact of Commercial Banks' Credit to Agriculture on Agricultural Development in Nigeria: An Econometric Analysis. *International Journal of Business, Humanities and Technology*, 3 (1):85 -95
- [27]. Tomola, M. O., Adebisi, T. E and Olawale, F. K. (2010). Bank Lending, Economic Growth and the Performance of the Manufacturing Sector in Nigeria. *European Scientific Journal*, 8(3):19-34
- [28]. Sophia, D., Ioannis, G. and Helen, L. (2013). The credit crunch and firm growth in the euro area: 2005-2011, 5- 52
- [29]. John, A. and Sylvester, V. (2011) The Challenges faced by Small & Medium Enterprises (SMEs) in Obtaining Credit in Ghana, 1-52
- [30]. Sophia, Ioannis and Helen (2013) op. cit
- [31]. Ebele, E. J. and Iorember, P. T. (2016). Commercial Bank Credit and Manufacturing Sector Output in Nigeria. *Journal of Economics and Sustainable Development*, 7(16): 196- 196.