BANK LENDING, ECONOMIC GROWTH AND THE PERFORMANCE OF THE MANUFACTURING SECTOR IN NIGERIA

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Abstract
The study investigates the effect of bank lending and economic growth on the manufacturing output in Nigeria. Times series data covering a period of 36 years (1973-2009) were employed and tested with the cointegration and vector error correction model (VECM) techniques. The findings of the study show that manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria. However, the relationship between manufacturing output and economic growth could not be established in the country. These results, therefore, call for concerted effort by the government, manufacturers and the lending institutions to reviewing the lending and growth policies and provide appropriate macro-economic environment, in order to encourage investment-friendly lending and borrowing by the financial institutions.

Keywords: Lending policies, manufacturing output, economic growth, financial institutions.

Introduction

There has been a growing concern on the decline of the output of the manufacturing sector in Nigeria in recent times, despite the fact that the government embarked on several strategies aimed at improving industrial production and capacity utilization of the sector. This

worry is understandable in view of the fact that it has been generally acclaimed, through the Kaldor's first law, that manufacturing sector is regarded as the engine of growth of the economy (Libanio, 2006). The unimpressive performance of the sector in Nigeria is mainly due to massive importation of finished goods and inadequate financial support for the manufacturing sector, which ultimately has contributed to the reduction in capacity utilization of the manufacturing sector in the country. Enebong(2003) argued that the level of the Nigerian manufacturing organisations' performance will continue to see a decline because as it is now, the manufacturers will have even more problems in assessing raw materials due to stiff competition from the foreign firms. Figure 1 shows that the average manufacturing capacity utilization rates which was 42.0% in 1991 was reduced to 29.3% in 1995, before picking up to 36.1% and 53.9% in 2000 and 2008 respectively.

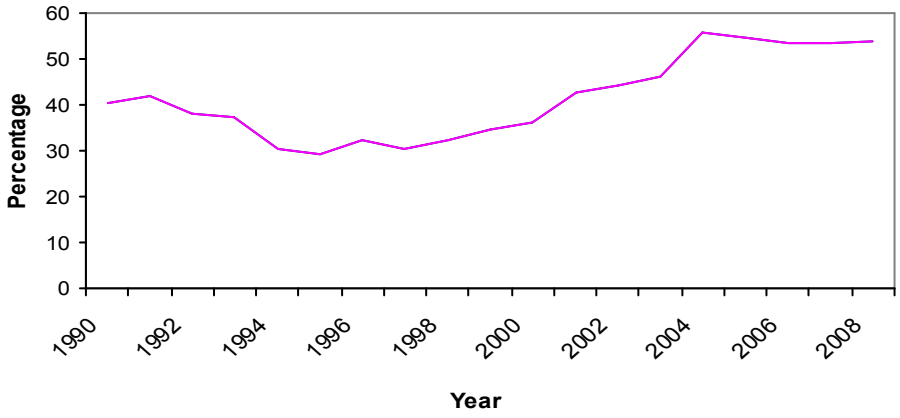


Fig. 1: Manufacturing Capacity Utilisation in Nigeria, 1990-2008

Accordingly, the manufacturing sector in Nigeria is faced with the problem of accessibility to funds. Even the financial sector reform of the Structural Adjustment Programme (SAP) in 1986, which was meant to correct the structural imbalance in the economy and liberalize the financial systems did not achieve the expected results. As Edirisuriya (2008) reported, financial sector reforms are expected to promote a more efficient allocation of resources and ensure that financial intermediation occurs as efficiently as possible. This also implies that financial sector liberalization brings competition in the financial markets, raises interest rate to encourage savings, thereby making funds available for investment, and hence lead to economic growth (Asamoah, 2008). Therefore, it is logical to assume that financial liberalization enhances funds mobilization and accessibility, which are required for firms' performance and economic growth.

The study is specifically interested in answering the following questions. Has bank lending to the manufacturing sector improved significantly since the introduction of the financial sector reforms? Is there a significant relationship between bank lending and the output of the manufacturing Sector in Nigeria? Answering these questions will provide insights on the empirical relationship between financial sector reforms and manufacturing output, and assist the government in formulating accommodating policies to enhance industrial production and economic growth. Therefore, this study investigates the impact of financial sector reforms on the output of the manufacturing sector in Nigeria and their implications for banks credit supply to the sector. The study contributes to knowledge in three ways: First, it reveals the current situation of manufacturing sector in Nigeria. Second, the link between manufacturing output and economic growth was also established. Finally, the determinants of manufacturing output were identified. Thus, the appropriate policy towards accelerating growth through manufacturing sector can be formulated and implemented.

The work is divided into five sections. Following immediately from this section, is the literature review, while section three relates to the data and methodology adopted in the study. Section four shows the empirical literature and section five contains the conclusion.

Hypotheses:

1. *Bank lending does not have any significant impact on the output of the manufacturing sector in Nigeria.*

2. *There is no significant relationship between economic growth and manufacturing output in Nigeria*

Literature Review

The manufacturing sector of any economy is seen as critical in the development process. This was aptly summed up by Libanio(2006) using the Kaldor's first law as: 'manufacturing is the engine of growth.' The Kaldor law was represented with the following regression.

$q_i = a_i + b_i m_i$

where q and m refer to growth of total output and manufacturing output respectively.

Libanio(2006), analyzing the relationship between manufacturing output growth and economic performance from Kaldorian perspective, states that there is close relationship between the growth of the manufacturing output and the growth of gross domestic product(GDP). Accordingly, the author argues that various results in the literature suggest that the manufacturing sector has an important role in the growth performance of the economy, and that it is characterized by the existence of increasing returns to scale. He states further that high growth rates are usually found in cases where the shares of manufacturing industry in GDP are increasing. Unfortunately, the relationship between the growth of the manufacturing output and economic growth in Nigeria presents a mixed reaction, as depicted in the Figure 2 below.

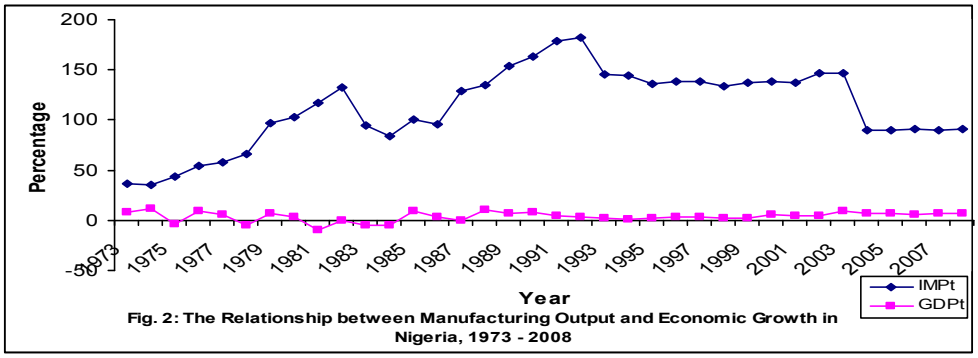


Fig. 2: The Relationship between Manufacturing Output and Economic Growth in Nigeria, 1973 - 2008

Figure 2 above shows that when the manufacturing output was increasing, the economic growth rate was either constant or reducing. This implies that the growth in the manufacturing output was not enough to generate sizeable growth in the economy. Regrettably, the performance of the manufacturing sector in Nigeria has been constrained due to inadequate funding, either due to the inefficient capital market or the culture of the Nigerian banks to finance mainly short term investment. The long term funds from the banking sector are not easily accessible as a result of the stringent and restrictive credit guidelines. As Gerschenkron(1962) suggested, in a moderately developed country like Nigeria, there is need for some special institutions to supply long-term funds for industrial capital, since the enterprises have no substantial prior ploughed-back profits, and the average

plant size is assumed to be much larger, making the banks to be the prime sources of capital and entrepreneurship for the type of industrialization, indicating a kind of supply-leading tendency. The implication of the Gerschenkron analysis is that external finance is considered critical for the manufacturing sector to contribute to economic growth. This means that the financial sector must be well developed and function efficiently to speedily and cheaply mobilize the needed funds for productive investment, while earning reasonable returns for the financial institutions.

Table 1 presents the funding pattern by the Nigerian banks for all the sectors in the country from 2003 to February, 2009.

Table 1: Sectoral Allocation of Banks' Credit between 2003 and February, 2009 (%)

Sector	2003	2004	2005	2006	2007	2008	Feb. 2009
Agriculture	5.16	4.46	2.44	1.96	3.11	1.37	1.12
Mining& Quarry	7.98	8.63	8.66	9.96	10.19	10.86	10.01
Manufacturing	24.46	21.86	17.68	17.66	10.13	11.96	12.30
Communications	24.41	25.19	18.87	19.82	24.06	16.73	11.80
Oil & Gas	19.05	18.27	21.67	23.23	26.32	25.47	26.65
Others	18.94	21.59	30.68	27.37	26.19	33.62	38.12
Total	100	100	100	100	100	100	100

Source: Oni, P.A.O (2010), 'Impact of Banking Sector's Consolidation on Sectoral

Allocation of Credit in Nigeria' *Journal of Banking*, Vol. 4, No. 1

Fig 3: Banks Credits to the Manufacturing Sector in Nigeria, 2003 - Feb. 2009

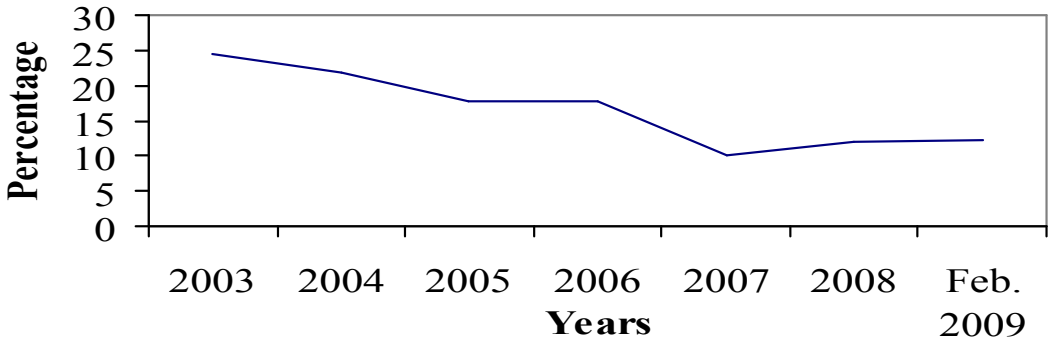


Figure 3 reveals that the sectoral allocation of banks' credit to the manufacturing sector in Nigeria has declined progressively from 24.46% in 2003 to 17.66% and 11.96% in 2006 and 2008 respectively. The analysis suggests that the low manufacturing output in Nigeria can be traced to inadequate funding of the sector in country. In line with the

argument of Ojo (1992) for the small businesses, it can also be said that the manufacturing sector, had been unable to obtain needed finance from the financial institutions, either because of (i) an "information gap", which prevents them from knowing how and where to obtain this finance on acceptable terms, or (ii) a genuine "availability of funds gap", which is due to the failure of financial institutions to appreciate the economic prospect and developmental role of these enterprises by mobilising adequate financial resources and channeling them into productive projects. Similarly, the imperfect credit market conditions and lenders inefficiency allow the powerful (politically or otherwise), dishonest or credit unworthy borrowers (corporate bodies or individuals) to have access to larger loans who tend to get away with credit money or to become willful defaulters.

The attempt to strengthen the private sector (manufacturing sector inclusive) by the government led to the implementation of financial liberalisation policy in 1986 as part of the Structural Adjustment Programme (SAP). The Structural Adjustment Programme(SAP) was an economic reform programme aimed at restructuring the economy and averting economic collapse. The key objectives of SAP are to lay the basis for sustaining non-inflationary or minimal inflationary growth and improve the efficiency of the public and private sectors. Therefore, the financial liberalization (reform) policy entails the provision of an appropriate legal and regulatory framework for effective private participation in the economy.

The country also adopted a medium-term strategy, called the National Economic Empowerment and Development Strategy (NEEDS) in 2004, as a response to the numerous challenges facing the nation. Recently, the government approved vision 20-2020 for transforming the country into a modern economy, among the 20 leading countries in the world by 2020 (The Times of Nigeria 2008). The objective of the vision 20-2020 is in line with various studies and projections by Goldman Sachs that Nigeria will be the 20th and 12th largest economy of the World by 2025 and 2050 respectively ahead of Italy, Canada, Korea, among others(Skyscraper City 2006), and Africa biggest economy by 2050(Business Economy, 2008). The vision 2020 is to be realised through the growth of the private sector. However, as Solanke (2007) argued, the state of the private sector, its characteristics, disposition and resilience would determine in substantial respects how far the lofty objectives of repositioning Nigeria's economy can be achieved. Accordingly, the Nigeria government has also adopted the public private partnership (PPP) strategy. PPP schemes are designed to lead to dramatic improvement in quality, availability and cost-effectiveness of services. These include Service Contracts; Management Contracts; Leases; Build, Operate and Transfer; and Concessions. As a compliment to the various programmes of the government to

accelerate the rate of growth of the economy, it has been suggested that the level of dependence on the oil sector should be reduced, while concentration should be on the manufacturing, energy, transport and agriculture (Hale, 2002).

Based on the foregoing, the role of the financial system in catalysing the development process in the manufacturing sector and hence contribute to economic growth of the nation cannot be over-emphasised. Shaw (1973) opined that the financial sector of an economy does matter in economic development, and that it can assist in the break away from plodding repetition of repressed economic performance to accelerate growth. The benefits accruable from a healthy and developed financial system relate to saving mobilization and efficient financial intermediation roles (Gibson and Tsakalotos, 1994). First, through the financial intermediation functions of the financial institutions, savers and borrowers are linked up and this reduces transactions and search costs. Second, they create liquidity in the economy by borrowing short-term and lending long term. Third, they reduce information costs, provide risk management services and reduce risk involved in financial transactions. Fourth, the intermediaries bring the benefit of asset diversification to the economy. Fifth, they mobilize savings from atomized individuals for investment, thereby solving the problem of individuality in financial transactions. Finally, mobilized savings are invested in most productive venture, irrespective of the source of the savings. The above benefits of financial intermediation translate into the economy-wide benefits which motivate financial reforms where the system is considered underdeveloped (Emenuga, 2006).

Although, the reviewed literature have provided the theoretical background on the development of the manufacturing sector in Nigeria, to the best of our knowledge, works that have underscored adequate empirical investigation on the effect of bank lending and economic growth on manufacturing output in Nigeria are very sparse. This study intends to fill the gap in the literature.

Data and Methodology

The study adopts time series data from 1973 to 2009. The data were obtained from the publications of the Central Bank of Nigeria Statistical Bulletin, Annual Reports and Statement of Accounts, National Bureau of Statistics and other academic Journals.

From the literature, some of the variables that have been tested to affect output of the manufacturing sectors were included in the model. Based on the theoretical reasoning, the

modified model used by Alao(2010), with substitution of some variables, was adopted for the study and specified as:

$$\text{Manufacturing Production}_t = \alpha_0 + \alpha_1\text{Bank Lending}_t + \alpha_2\text{Lagged Value of Manufacturing Production}_t + \alpha_3\text{Inflation Rate}_t + \alpha_4\text{Maximum Lending Rate}_t + \alpha_5\text{Capacity Utilization}_t + \alpha_6\text{Financial Deepening}_t + \alpha_7\text{Exchange Rate}_t + \alpha_8\text{Gross Domestic Product}_t + \alpha_9\text{Dummy of Shift in Financial Policy}_t + \varepsilon t$$

$$\alpha_{1>}\ 0 \quad \alpha_2 > 0 \quad \alpha_3 < 0 \quad \alpha_4 < 0 \quad \alpha_5 > 0 \quad \alpha_6 > 0 \quad \alpha_7 < 0 \quad \alpha_8 > 0 \quad \alpha_9 > 0$$

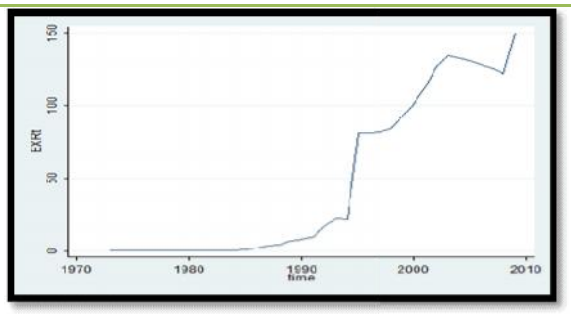
The study regressed the index of manufacturing production on bank lending to the manufacturing sector, inflation rate, maximum lending rate, the lagged value of index of manufacturing production, manufacturing capacity utilisation, financial deepening (proxy for the relative size of the financial system), exchange rate, gross domestic product, and dummy of shift in financial policy from regulation to deregulation of interest. Finally, ε is the error term, which is identically and independently normally distributed with mean zero and constant variance, and $\alpha_1, \alpha_2 \ldots \alpha_9$ are parameters to be estimated

First, the time series properties of all the variables were ascertained to avoid regression results which do not make any sense, from the regression of two or more non-stationary time series data. This means that the time series have to be detrended before any sensible regression analysis can be performed. The order of integration of each of the variables is recognized using the Augmented Dickey-Fuller(ADF) and Phillips-Perron (P-P) tests. Second, the Johanssen cointegration test is performed to determine if the group of non-stationary series is contegrated or not. If contegration is found, it implies that there exists a long run relationship among some or all of the variables in the system, which additional tests, such as the exclusion test could uncover. Thereafter, a Vector Error Correction model is specified for the analysis of the short run dynamics.

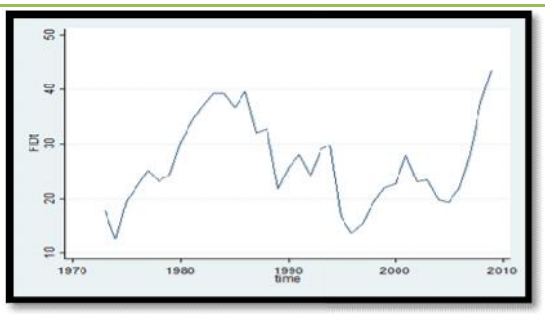
Econometric results

The analysis was performed using Stata 10. Figure 4 shows the selected charts depicting the pattern of the variables included in the equation.

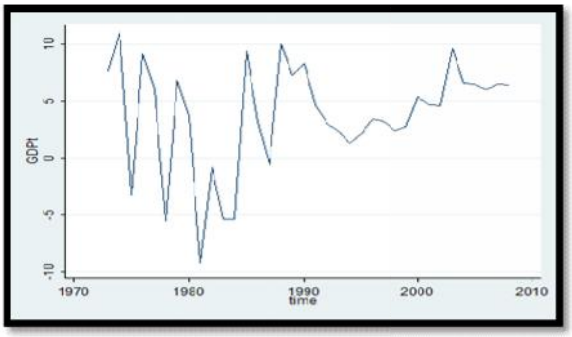
Figure 4: Selected Charts for the Model



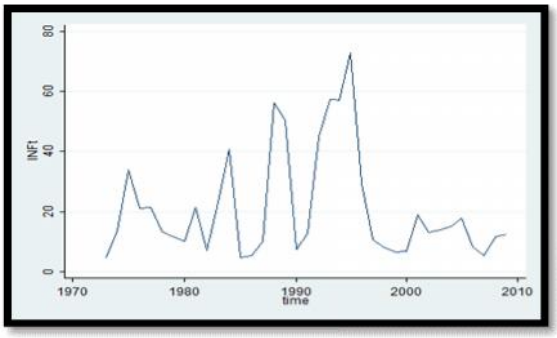
Exchange rate



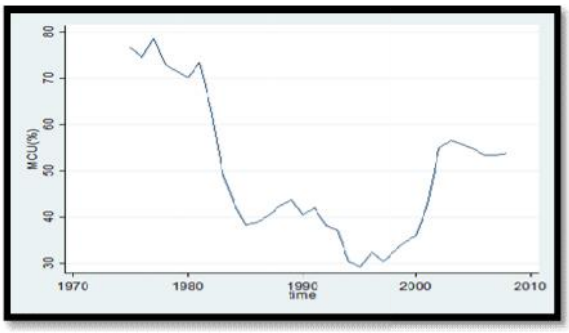
Financial Deepening



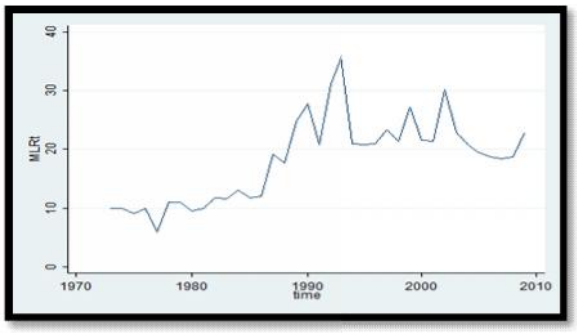
Growth rate of GDP



Inflation



Manufacturing capacity utilisation



Lending Rate

The study starts with stationarity tests on each variable, using Augmented Dickey Fuller test and Phillips-Perron (P-P) tests. The tests were performed with various combinations of lag lengths (up to 4) and inclusion and exclusion of a constant in the Autoregressive equations (AR). The stationarity tests performed on the variables show the following results (Table 2)

Table 2: Unit Root Test

	Stationary @ level	**Stationary @ First Difference**
1	Bank lending	Index of manufacturing production
2	Inflation rate	Maximum lending rate
3	Gross domestic product	Manufacturing capacity utilisation
4		Financial deepening
5		Exchange rate

The results show that bank lending to the manufacturing sector, inflation rate and the gross domestic product were stationary at level. Further analyses were carried out on the non stationary variables. The first difference was performed to determine the order of integration. As shown in Table 2 above, the variables are all stationary after the first difference. The results imply that the index of manufacturing production, maximum lending rate, manufacturing capacity utilisation, financial deepening and exchange rate are integrated of order 1, while bank lending to the manufacturing sector, inflation rate and the gross domestic product are integrated of order zero.

The major concern with the time series is that if non stationarity of data series persists then it may lead to spurious relationship. To avoid this problem, the cointegration methodology was used. The regression equation was estimated using Engle-Granger two step procedure (Engle and Granger 1987). The first step was to estimate a long run equation using ordinary least squares (OLS) with variables in their levels. The residual based cointegration test was used, where the stationarity of the residual implied a cointegrating relationship among the variables in the long run equation.

Table 3: Residual Based Cointegration Test

Source	**SS**	**Df**	**MS**
Model	34977.2021	9	3886.35579
Residual	5505.68695	24	229.403623
Total	40482.8891	33	1226.75421
F(9, 24) = 16.94			
Prob > F = 0.0000			
R-squared = 0.8640			
Adj R-squared = 0.8130			
Root MSE = 15.146			

	Coefficient	Std. Err.	t	P>|t|
Bank lending to the manufacturing Sector	1.029739	0.539079	1.91	0.068
Lagged Value of Manufacturing Production$_t$	0 .5732174	0.157308	3.64	0.001
Inflation rate	-0.30625	0.16629	-1.84	0.078
Maximum lending rate	0.929607	0.828224	1.12	0.273
Manufacturing capacity utilization	0 .1432933	0.305086	0.47	0.643
Financial Deepening	0 .0651017	0.491186	0.13	0.896
Exchange rate	-0.14791	0.082448	-1.79	0.085
Gross domestic product	0 .8970867	0.706415	1.27	0.216
Dummy of shift in financial policy from regulation to deregulation of interest	13.37501	12.91498	1.04	0.311
Constant	-1.53177	36.05145	-0.04	0.966

Source: Author' computation

Considering the fact that, as Dittmann (2000) argued, Phillips-Perron test when applied to residual based cointegration determination are more powerful than the ADF test, the study presents only the result from the P-P test. (The analysis from the ADF test was also done and it gave the same result).

Table 4: Phillips-Perron Test

Phillips-Perron test for unit root in the ressiduals				
	Test stat	Interpolated Dickey-Fuller @		
		1%	5%	10%
Z(rho)	-36.186	-12.300	-7.460	-5.380
Z(t)	-7.227	-2.644	-1.950	-1.604

Based on the results, one can argue that there exists a cointegrating relationship in the long-run. This implies that there exists a unique long run relationship between the variables of the Index of Manufacturing Production and Bank Lending to the Manufacturing Sector, inflation rate, maximum lending rate, the lagged value of index of manufacturing production, manufacturing capacity utilisation, financial deepening (proxy for the relative size of the financial system, exchange rate, gross domestic product, and dummy of shift in financial policy from regulation to deregulation of interest. In the short run, deviations from this relationship could occur due to shocks to any of the variables. Therefore, Soyibo and Olayiwola(2000) suggested that the short-run interactions and the adjustment to long-run

equilibrium are important because of the policy implications. Thus, the vector error correction model (VECM) was estimated for the short-run dynamics. The model is significant at 1% as indicated by the probability value. Table 5 shows that the R-squared is equally reasonable at 50.02%.

Table 5: Vector Error Correction Model (VECM)

Source	**SS**	**df**	**MS**
Model	5079.31229	10	507.931229
Residual	5075.76134	22	230.716424
Total	10155.0736	32	317.346051
F(10, 22) = 2.20			
Prob > F = 0.0591			
R-squared = 0.5002			
Adj R-squared = 0.2730			
Root MSE = 15.189			

	Coef.	**Std. Err.**	**t**	**P>|t|**
Bank Lending to the Manufacturing Sector	0.795928	0.417503	1.91	0.07
D_ lagged value of Index of Manufacturing Production	0.428649	0.236136	1.82	0.083
Inflation rate	-0.25926	0.181916	-1.43	0.168
D_Maximum lending rate	0.81237	0.657113	1.24	0.229
D_Manufacturing capacity utilisation	0.760939	0.688865	1.1	0.281
D_Financial deepening	-0.2565	0.80822	-0.32	0.754
D_Exchange rate	0.037952	0.338235	0.11	0.912
Gross domestic product	1.372594	0.790993	1.74	0.097
Dummy of shift in financial policy from regulation to deregulation of interest	-14.3634	7.463306	-1.92	0.067
Lag of the residual	-1.03136	0.322392	-3.2	0.004
Constant	-10.1367	12.52235	-0.81	0.427

Because E-G (Eagle – Granger) two-step approach is only appropriate for bivariate data, and since the study deals with a multivariate case, the Vector Error Correction Model (VECM) was employed. After going through a sort of stepwise procedure with many transformations of the data, and testing for the number of co-integrating vectors, using Johansen Maximum Likelihood (ML), a reduced model was considered. The study found that the equation below gave the most reasonable model.

Equation * Manufacturing Production = **Constant** lending rate capacity utilisation Financial Deepening Exchange rate

The analysis found that including dummy of shift in financial policy in the equation, either in the multivariate case or univariate case, does not result in a reasonable model. The VAR (Vector Auto-regressive) model was estimated to determine the optimal lag (the VAR table is not presented since having established that we have variables that are integrated of order 1). Once coitegration is tested and confirmed, then the optimal lag order of the variable is selected by using either Likelihood Ratio (LR) test or Final Prediction Error (FPE) or Akaike Information Criterion (AIC) or Hanna and Quinn Information Criterion (HQIC) or the Schwarz Bayesian Criterion (SBIC). The decision for this study was made based on LR (Likelihood ratio) test. From Table 6, the Likelihood Ratio (LR) test shows that the optima lag length is 2.

Table 6: Likelihood Ratio(LR) test

Lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-640.49				2.30E+11	40.3433	40.4192	40.5723
1	-509.1	262.79	25	0	3.00E+08	33.6938	34.1492	35.0679*
2	-477.86	62.48*	25	0	2.3e+08*	33.3038*	34.1388*	35.823

Key: LR means Likelihood Ratio, FPE (Final Error of Prediction), AIC (Akaike Information Criterion), HQIC (Hanna and Quinn Information Criterion) and the SBIC (Schwarz Bayesian Criterion). "*" indicates significance of the test

The results reported for the trace statistic in Table 7 show that the null-hypothesis of no-cointegrating vector linking manufacturing output and it's determinants is rejected at the 5 per cent level of significance. This is evidence that the variables are co-integrated.

Table 7: Johansen Maximum Likelihood Cointegration Test Results

Rank maximum	Parms	LL	Eigen value	Trace statistic	5% critical value
0	30	-519.65		83.5914	68.52
1	39	-504.25	0.61818	52.7818	47.21
2	46	-492.42	0.52238	29.1357*	29.68
3	51	-483.03	0.44418	10.342	15.41
4	54	-478.68	0.23793	1.647	3.76
5	55	-477.86	0.05017		

"" indicates significance of the test*

The trace test statistics reveal that there are, at most, two cointegrating relationships

among index of manufacturing production and its determinants. Since the trace statistics takes into account all of the smallest eigenvalues, it possesses more power than the maximum eigenvalue statistic. Johansen and Juselius(1990) cited in Owoye and Onafowora(2007) recommend the use of trace statistics when there is a conflict between the two statistics. Accordingly, the results indicate that there exists a unique long run relationship between the Manufacturing output and lending rate, manufacturing capacity utilisation, financial deepening (proxy for the relative size of the financial system) and exchange rate. In the short run, deviations from this relationship could occur due to shocks to any of the variables. Therefore, Soyibo and Olayiwola(2000) suggested that the short-run interactions and the adjustment to long-run equilibrium are important because of the policy implications. Thus, the vector error correction model (VECM) was estimated for the short-run dynamics. The model is significant at 5% as shown by the chi- square statistic. The R-squared is equally reasonable at 38.01%.

Table 8: The Vector Error Correction Model (VECM) for Short-Run Dynamics

Equation	**Parms**	**RMSE**	**R-sq**	**chi2**	**P>chi2**
First difference of the index of manufacturing production	7	15.8401	0.3801	15.32882	0.032
		Coefficient	**Std. Error**	**Z**	**P>|z|**
Error Correction Model$_{t-1}$ Lag value of the error correction model		0.07910	0.022502	3.52	0.00*
Index of manufacturing Production Lagged difference of the index of manufacturing production		-0.33064	0.191316	-1.73	0.084*
Maximum lending rate Lagged difference of the maximum lending rate		1.070989	0.633352	1.69	0.091*
Manufacturing capacity utilization Lagged difference of the capacity utilisation		2.224201	0.741595	3	0.003*
Financial Deepening Lagged difference of financial deepening		0.219195	0.787569	0.28	0.781
Exchange Rate Lagged difference of exchange rate		-0.1429	0.324859	-0.44	0.66
Constant		0.868277	3.28182	0.26	0.791

"" indicates significance of the test in all tables*

Table 8 above demonstrates that the error correction co-efficient is significant showing that there is a long run equilibrium relationship between manufacturing output and its determinants such as lending rate, capacity utilization, financial deepening and exchange rate. The results also shown that although, the coefficient of the error-correction model is positive and significant, shock in the system tends to diverge from the equilibrium, even though at a slow pace. Accordingly, the manufacturing production enters the model and is

significant at 10% meaning that Index of manufacturing production is auto-regressive. Finally, the manufacturing capacity utilisation is significant at 5%, while index of manufacturing production and maximum lending rate are significant at 10%.

Furthermore, the short run model was subjected to diagnostic test for auto-correlation, using the Lagrange-multiplier autocorrelation test conducted on the residuals.

lag	chi2	Df	Prob > chi2
1	36.8785	25	0.05929
2	36.6921	25	0.06173

Table 9: **Lagrange-Multiplier Test**
Lagrange Multiplier test for no autocorrelation in the error terms

From Table 9, the test on the residual to check for the problem of autocorrelation, through the Lagrange-multiplier test, indicates no evidence of the presence of autocorrelation at 5% (lag 2).

Conclusion

The study examines the effect of bank lending and economic growth on the manufacturing output in Nigeria. The manufacturing sector of any economy is seen as critical in the development process. This was aptly summed up by Libanio(2006) using the Kaldor's first law referred to the manufacturing sector as the engine of growth. The study employs the unit root, cointegration and vector error correction model (VECM) on a time-series data from 1973 to 2009. The study regressed the Index of manufacturing production on bank lending to the manufacturing sector, inflation rate, maximum lending rate, the lagged value of index of manufacturing Production, manufacturing capacity utilisation, financial deepening (proxy for the relative size of the financial system), exchange rate, gross domestic product, and dummy of shift in financial policy from regulation to deregulation of interest. Several transformations of the data were performed to arrive at an adequate model for the study.

The findings of the study show that manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria. However, the relationship between manufacturing output and economic growth could not be established. This contradicts the study by Libanio(2006), using Kaldorian first law for America, where a positive relationship between manufacturing output and economic growth was established.

Meanwhile, this result may be accepted in case of Nigeria, because the growth in manufacturing output has not been reasonable enough to generate any sizeable growth in the economy. These results imply that the government, manufacturers and the lending institutions must work together to jump- start manufacturing output in order to generate a corresponding increase in economic growth. This can be achieved through the provision of conducive macro-economic environment and appropriate investment incentives, as well as encouraging investment-friendly lending and borrowing by the financial institutions. The manufacturers could reciprocate the gesture through commitment to the use of the funds and promptly honouring loan obligations.

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