Research on Humanities and Social Sciences
ISSN (Paper)2224-5766 ISSN (Online)2225-0484 (Online)
Vol.4, No.27, 2014

Banking Sector Reform Policy and Growth of Manufacturing Sector
(An Econometric Analysis of Nigerian Economy)

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Abstract
The paper empirically examined the impact of financial sector reforms on Banks financial services to the manufacturing sector of Nigeria. It also explains the perceived relationship between reform in the banking sector, and the volume of loans and advances extended to the sector. This is to ascertain the relative impact in the increased output of this sector using various econometric estimations, like the ordinary least square (OLS) technique; Augmented Dickey Fuller (ADF) unit root test; Johansen co-integration test, and Error Correction Mechanism (ECM). The result showed that although the reform of the banking sector have had positive impact on the manufacturing sector in terms of credits, yet such credit did not have significant increase in the economic activities of the country. The paper however recommended that, Government policies is to be focused more on income, saving, interest rate variables; and that, the imperatives of broad money supply be increased through the appropriate monetary policy instruments, to enhance personal income.
Keywords: Financial Sector, Economic Growth, Loans Mobilization, Reforms.

Introduction
A financial system is a conglomerate of various institutions, markets, financial instruments, and operators that interact within an economy to provide financial services that include: resource mobilization and allocation, financial intermediation, and facilitation of foreign exchange transactions.

The Economic crisis in Nigeria at the end of the oil boom in 1982, manifested into macroeconomic problems, such as recession, high unemployment, rising fiscal deficit, external debts, balance of payment deficit, financial repression etc.

Prior to the reforms, the Nigerian banking sector was weak and fragmented, often financing short-term arbitrage projects rather than productive private investments. Supervision remained weak and there was evidence that many banks had bad balance sheets, and conducted only limited lending to the private sector, while engaging predominantly in more lucrative short-term arbitrage foreign exchange “round tripping” activities. Consolidation and improved supervision of the sector were needed to strengthen the financial sector (Okonjo-Iweala and Osafo-Kwaako, 2007).

The banking system is known to be the backbone of financial intermediation, through the mobilization and channeling of financial resources to areas that could give the highest social return (Bello 2005). Banks perform this pivotal role in the economy by facilitating financial settlement in the economic payment system, influence money market rates and provide means for international balance of payments. The success and efficiency of this financial intermediation depends on sound financial system, and this in turn affects the level of investment in the economy.

Background to the Study

The Nigerian structural reform programme was originally scheduled to last for two years (1986-1988) but this continued until 1994, when it was then abandoned. Thereafter, different strategies were embarked upon, for instance, the General Sani Abacha era adopted the policy of guided deregulation. The basic objective of the Structural Adjustment Programme (SAP) then was to restructure and diversify the productive base of the economy to achieve efficiency in all sectors of the economy. The programme was anchored on various policy reforms that covered a good sphere of the economy. For example, there were reform in the areas of exchange rate, foreign trade policy, banking and financial sector, which resulted in the commercialization, privatization of government–owned companies and parastatals, and outright liberalization.

This paper takes a critical look at the significance of the banking sector reform on the manufacturing sector of the Nigerian economy, in respect of the volume of loans and advances received. The study also examines whether such loans have had significant impact on the output of the manufacturing sector, and whether the total output of the manufacturing sector have increased the gross domestic product of the country.

Literature Review
There has been a theoretical argument in support of a possible link between financial sector development and economic growth. That a well-developed financial system performs several critical functions to enhance the efficiency of intermediation by reducing information transaction and monitoring cost. A developed financial

system enhance investment by identifying and funding good business opportunities, mobilizes savings enables trading, hedging and diversification of risks and facilitates exchange of goods and services. Prior to the mid 1980's, the Nigerian financial System had developed under an umbrella of monetary and regulatory policies aimed at supporting the state orchestrated development strategy.

In Nigeria, since 1987 when the banking reform policy had been in operation, several empirical attempts have been made to assess the reforms of commercial banks lending habits to the manufacturing sectors of the economy. These include Soyibo and Adekanye (1992), Sobodu and Akiode (1994), Ikhide and Alamode (1992) and Ikhide (1997). Other Scholars like (Soyibo 1996, Emenuga 1998, Aryeetey and Senbet 1999 and Aryeetey (2000) have also studied the financial sector of Nigeria in comparison with other financial reforms that have been operational in other sub-Saharan African countries such as Zambia, Malawi, Tanzania, Sierra Leone and Ghana.

There is no doubt that prior existence of an unstable macro economic environment and weakness in the institutional structure of banking could have existed, prior to the operations of these channels during reforms, but the manner of implementation of the reforms may facilitate the occurrence of any of the aforementioned events, leading to banking crisis.

In Nigeria, we can conveniently recognize four phases of banking sector reforms since the commencement of the Structural Adjustment Programme (SAP). The first is the financial sector reforms of 1986 to 1993 which led to the deregulation of the banking industry that hitherto was dominated by indigenous banks that had over 60% federal and state government stakes, in addition to credit, interest rate and foreign exchange policy reforms. The second phase began in the late 1993-1998, with the re-introduction of regulations. During this period the banking sector suffered deep financial crisis and distresses that necessitated another round of reforms, designed to manage the distresses. The third phase began with the advent of the third republic civilian administration in 1999, which saw the return of liberalization of the financial sector, accompanied with the adoption of distress resolution programmes. This era also saw the introduction of the Universal Banking system which empowered the banks to operate in all aspect of retail banking and non-bank financial markets.

The fourth and the present phase began in 2004 to date and it is informed by the Nigerian monetary authorities who asserted that the financial system was characterized by structural and operational weaknesses and that their catalytic role in promoting private sector led growth could be further enhanced through a more pragmatic reform with a series of macroeconomic policy responses such as recapitalization, mergers and acquisition, capital control, deflationary policy and consolidation of banks (2004).

The central theme of this paper therefore is to examine the intermediating role and effectiveness of commercial bank's resource mobilization and lending same to the manufacturing sector of the economy.

Contrary to the McKinnon – Shaw (1973) hypothesis, increased interest rates may not necessarily lead to improved private savings. In very poor countries for instance, the level of income could be so low that households spend a very high proportion of their earning on basic needs. In such a case, even with high real interest rates, very little (if any) proportion of their income could be saved (Emenuga 1998). This implies that McKinnon – Shaw (1973) proposition could therefore be relevant only among rich nations. Also as noted by Aryeetey (2000) and Emenuga (1998), in an under banked economy, where the financial markets are rudimentary with large size of financial intermediation taking place in the informal sector, savings may not be sensitive to real interest rates.

Theoretical Framework

The theoretical foundation of this study hinges on the Harrod Domar's model of savings and growth; and also Schumpteter's (1912) theory on innovation and Bank credits. This is to accommodate the significance of the banking reform policy in form of loans and advances to the manufacturing sub-sector. Variables to be used include additional outputs to the manufacturing sector, while other macroeconomic aggregates to be considered in line with this study are lending and Inflation rates, money supply, and capacity utilization. Manufacturing subsector component includes; oil refining, cement and other manufacturing.

The variables used are:

GDP	-	Gross Domestic Product
TLAM	-	Total Loans and Advances to Manufacturing Sector
MGDP	-	Output of the manufacturing sector
TLAMD	-	Slope Dummy of the Manufacturing Sector
M_2	-	Broad money supply in the economy
LR	-	Commercial banks lending rate
LRD	-	Slope Dummy for Lending Interest Rate
INF	-	Rate of inflation.

CUM - Capacity utilization of manufacturing sector
DUM - Dummy which is expected to be I for the reform periods and 0 for the other times.

The functional form of the model for this study is as follows:

TLAM = f (Lr, M_2, Inf, Cu, Dum) …… ……1

LogLam =$\beta_0 + \beta_1$ LogLr + β_2 LogM_2 + $\beta_3$inf + β_4 LogCu + β5Dum + U_t ……..2

The performance of a manufacturing sub-sector hinges on high interest rate, it is alleged that interest rate spread, is partly responsible for high cost of production in the manufacturing sub-sector (Adebiyi 2001). Economic theory states that when there is an increase in money stock, and people have assess to money balances, they use such balances to buy financial assets, speculating that prices of such assets may rise; such that a rise in the price of bonds be equivalent to a fall in the rate of interest leading to a rise in investments.

An increase in the manufacturing production could lead to improvement of the GDP and could also assess the performance of the economic reform programme in the country. Commercial banks lending rates (Lr) determines the demand for loans and advances of these sectors. There exist higher demand for loans and advances at lower lending rates and lesser demand at higher lending rates. (i.e. cost of capital effect)

Inflation (Inf) in the model signifies that more loans and advances from banks are expected to purchase a given quantity of manufacturing goods. Manufacturing companies are more disposed to borrowing more funds when producing at full capacity, which might be due to higher demand for their goods and vice versal

MGDP = f (Lr, M_2, Inf, Cu, TLAM, Dum) …… 3

LogMGDP = $\beta_0 + \beta_1$ LogLr + β_2 LogM_2+$\beta_3$inf + β_4 LogCu+$\beta_5$logTLAM+β_6Dum+U_t …4

The equation above is set out to test the magnitude of the contribution and to measure the relationship that exist between the output of the manufacturing sector (MGDP) and the independent variables, to see if these explanatory variables contribute significantly to the economy.

Statistical Tests

The researcher used different statistical tests to arrive at his conclusions. He used Unit Root Test to confirm the stationarity or otherwise of the variables. He again used the Co-integration Test together with the Error Correction Mechanism (ECM). He introduced manufacturing sector impact assessment model as adopted by Orubu (1996), to determine the volume of productive output of the sector to the gross domestic product (GDP), using slope dummy analysis. The researcher also introduced the impulse response and variance decomposition functions, to assess the dynamics of variable in the sector to particular shocks, during the period of the reforms; this was to assess what constitute significant source of variation in the manufacturing sector.

Structure of the Nigerian Financial System

The Nigerian financial system can be categorized into two: the formal and informal. The informal sector comprises of the local money lenders, the thrift and savings associations which are poorly developed, limited in reach and not integrated into the formal financial system, but plays a major role in the system. The formal financial system on the other hand, can be further categorized into capital and money market institutions, and this comprise of the banks and non-bank financial institutions. The Nigerian financial system comprises of the regulatory/ supervisory authorities and also banks and non-bank financial institutions. By the end of 2006, the system comprised of the Central Bank of Nigeria (CBN), the Nigerian Deposit Insurance Corporation (NDIC), the Securities and Exchange Commission (SEC), the National Insurance Commission (NAICOM), the National Pension Commission (NPC), 25 deposit money banks, 750 community banks (now micro finance banks), 112 finance companies, 322 Bureaux-de-change, 1 stock exchange, 1 commodity exchange, 91 primary mortgage institutions, 5 development finance institutions, 103 insurance companies, 7 microfinance banks, and 581 registered insurance brokers (CBN, 2006).

The Central Bank of Nigeria (CBN) is the apex regulatory authority in the financial system. Among its primary functions is that, the bank promotes monetary stability and a sound financial system it also acts as banker and financial adviser to the Federal Government, as well as lender of last resort to the banks. CBN also encourages the growth and development of financial institutions.

Since government commenced the active deregulation of the economy in 1986, the banking sector has continued to witness rapid growth, especially in terms of the number of institutions. The Nigerian Capital Market is a channel for mobilizing long-term funds. The main institutions in the market include the Securities and Exchange Commission (SEC), which is at the apex and serves as the regulatory authority of the market, the Lagos Stock Exchange (LSE), the issuing houses and the stock broking firms.

The Unit Trust Scheme is a mechanism for mobilizing the financial resources of small and big savers and managing such funds to achieve maximum returns with minimum risks, through efficient portfolio diversification, that has been functioning since 1999.

Table 1: Distribution of Commercial Banks Total Loans to the manufacturing sector (in %)

Year	Total L/A	Manufacturing (₦/m)	
	₦	₦	%
1970	351.5	76.4	21.73
1971	502	119.7	23.84
1972	619.5	144.0	23.24
1973	753.5	6.3	0.83
1974	938.1	258.5	27.55
1975	437.5	410.7	93.87
1976	2123.9	609.0	28.67
1977	4313.5	837.8	19.42
1978	4114.9	1138.0	27.65
1979	4630.4	1357.3	29.31
1980	6349.1	1956.8	30.82
1981	8582.9	2659.8	30.98
1982	10275.3	3037.6	29.56
1983	11092.9	3053.1	27.52
1984	11503.6	3083.5	26.80
1985	12170.2	3232.2	26.55
1986	15701.6	4475.2	28.50
1987	17531.9	4961.2	28.29
1988	10561.2	6078.0	57.55
1989	22008	6671.7	30.31
1990	26000.1	2883.7	11.09
1991	31306.2	10911.3	34.85
1992	42736.8	15403.9	36.04
1993	65665.3	23110.6	35.19
1994	66127.6	39390.8	59.56
1995	114883.9	58090.7	50.56
1996	169437.1	72238.1	42.63
1997	385550.5	82823.1	21.48
1998	272895.5	96732.7	35.44
1999	1265484.4	435581.8	34.42
2000	1795768.3	528747.6	29.44
2001	2796112.2	717786.5	25.67
2002	3606229.1	888062.5	24.62
2003	4339443	997672.6	22.99
2004	5686669.4	1308832.0	23.01
2005	7391290.3	1392839.2	18.84
2006	9542573	390850.7	4.09
2007	3819032.3	360666.8	9.44
2008	6826963.4	726021.8	10.63

Source: Compiled and calculated from Deposits Money Banks Returns CBN

From the above table, the total commercial banks credit to the real sector of the Nigerian economy in 1970 was N351.5m and out of this amount, only N76.4m was channeled to the manufacturing sector, which is 21% of the total sum. In 1975 however a significant amount of N410.7m was channeled to the sector out of a total of N437 which is about 94 percent increase over the previous year's credit of 1970. In 1980, a total credit of N6349.1m was invested into the real sector; while out of this amount N1956.8m was channeled to the manufacturing sector, this was 30.8 percent of the previous year of 1975. In 1985, the total loan and advances to the real sector amounted to N12170.2m while N3232.2m, which is 26 percent of the total was channeled to the manufacturing sector. This was a significant increase of 65 percent over the previous year's credit. 1990 witnessed a tremendous increase of N26000.1m to the real sector, and of this amount, N2883.7m which is 11.1 percent was loaned to the manufacturing sector, which is approximately 112 percent over the previous year's credit of 1985. The increase might not be unconnected with the introduction of structural adjustment programme (SAP) in 1986.

In the year 2000, a total amount of N1795768.3m was loaned to the real sector, while out of this

N528,747.6 or 29% of the total was loaned out to the manufacturing sector. In 2005 a total of N7,3912,90.3 was channeled to the real sector while N1,392,839.2m which is 18 percent was credited to the sector, which is about 38 percent over what obtained in the year 2000. In 2008 there was a dramatic decrease in the total credit allocated to the manufacturing sector. Out of a total of N6,8269,63.4m to the real sector only N7,260,21.8m which is 10.6 percent of the total, or 52 percent of what obtained in 2005 was credited to the manufacturing sector. This decrease might not be unconnected with the introduction of reforms of recapitalization and consolidation of banks in 2004, that decreased the number of banks from 89 to only 25.

Analysis of Statistical Results

The focus of this section is to present the analysis of the data previously collected with the equations estimated and interpreted. The coefficient of determination (R^2) will be used to investigate the extent of influence of the explanatory power on the regression of the dependent variables. This sector also analyses the Ordinary Least Square (OLS) results; followed by testing for the stationarity of the variables, using the Augmented Dickey Fuller (ADF) Unit Root Test, before Johansen's Co-integration Test and the Error Correction Mechanism (ECM). The section also reports the use of impulse response function analysis that discovers the responses of the dependent variables in the Vector Auto Regression (VAR) system to shocks in the error term. Also included is the variance decomposition analysis that shows the proportion of variance in the forecast error for the dependent variables, attributed to variation in each of the independent or exogenous variables.

In order to properly assess the impact of financial sector reforms on the development of the manufacturing sector of the economy. The following models were estimated and analyzed.

Table 2: Summary of ADF Unit Root Test results of manufacturing sector

VARIABLES	LEVEL DATA	FIRST DIFFERENCE	1% CRITICAL VALUES	5% CRITICAL VALUES	10% CRITICAL VALUES	*STATUS*
CU	-2.669284	-3.918892**	-4.2324	-3.5386	-3.2009	1(1)
ECM	-1.551581	-7.900034*	-4.2324	-3.5386	-3.2009	1(1)
EXR	-1.702971	-3.463735***	-4.2324	-3.5386	-3.2009	1(1)
INF	-3.020517	-5.870198*	-4.2324	-3.5386	-3.2009	1(1)
LR	-1.923273	-6.988561*	-4.2324	-3.5386	-3.2009	1(1)
M2	-0.168818	-4.561936*	-4.2324	-3.5386	-3.2009	1(1)
TLAM	-2.005171	-3.741493**	-4.2324	-3.5386	-3.2009	1(1)

* ------- Indicates statistical significance at the 1% level
** ------- Indicates statistical significance at the 5% level
*** ------- Indicates statistical significance at the 10% level

Source: Authors compilation, 2010.

The summary of the Augmented Dickey Fuller (ADF) unit root test is presented in the Table 2 above. The result showed that none of the variables is stationary at levels. However after taking the first difference they became stationary.

Also, the result showed that, while the INF, LR, M_2, were stationary at the 1% level of significance, the CU, and TLAM were stationary at the 5% level. Thus the stage was set for the test of the long run relationship using the Johansen co-integration test.

Table 3: Summary of Johansen Co-Integration Test Result

Null Hypothesis	Alternative Hypothesis	Eigen Value	Likelihood Ratio	5% Critical Value	1% Critical Value
R=0	R=1	0.995164	426.9090	156.00	168.36
R=1	R=2	0.885413	229.6395	124.24	133.57
R=2	R=3	0.797552	149.4819	94.15	103.18
R=3	R=4	0.652815	90.38288	68.52	76.07
R=4	R=5	0.536714	51.24066	47.21	54.46
R=5	R=6	0.241369	22.77248	29.68	35.65
R=6	R=7	0.239583	12.55163	15.41	20.04
R=7	R=8	0.063256	2.417758	3.76	6.56

L.R Test indicates 5 co-integrating equations at 5% significant level.

Source: Authors compilation, 2010.

Table 3 above shows the summary of the Johansen co-integration test result. The result indicates that the Likelihood Ratio (LR) test, rejects the null hypothesis of R=0, R=1, R=2, R=3 and R=4 of no long run

relationship, and thus accepts the alternative hypothesis of R=1, R=2, R=3, R=4 and R=5 with long run relationship. The LR test could however not reject the null hypothesis of R=5, R=6 and R=7 with no long run relationship, thus it was generally concluded that a long run relationship exists among the INF, LR, and TLAM.

Table 4: Summary of OLS Result for the Total Loans and Advances to manufacturing sector

Independent Variables	Equation LTLAM	Equation LRGDP
C	-720107.1 (-2.762840) (0.0096)	7.588666 (5.730529) (0.0000)
LLR	-184890.7 (-1.758796) (0.5885)	-0.328172 (-0.935106) (0.3577)
LM2	166689.0 (9.681028) (0.0000)	
INF	-2366.6 (-1.713317) (0.0966)	0.006226 (1.278692) (0.2115)
LTLAM		3.27607 (1.63243) (0.1138)
DUM	-146426.4 (-1.430701) (0.1625)	0.099295 (0.258779) (0.7977)
ECM (-1)	-70882.9 (1.898383) (0.0670)	-0.21605 (-1.86051) (0.073)
R^2	0.860058	0.9416
$\bar{R}^2$	0.832972	0.923
F Statistics	31.75332	50.1547
DW	0.728425	1.313

NB: Figures in parentheses represents various 't' values and 'probabilities'
Source: Authors compilation, 2010.

TLAM = f(LR, M_2, INF, CU, DUM)

The above model suggests a positive linear relationship between M_2, and TLAM, and a negative linear relationship among the LR, INF, CU, DUM and TLAM. Thus an increase in the M_2 by a unit increased the TLAM by 166689.0 units, while an increase in the LR, INF and DUM by a unit decreased the TLAM by 184890.7, 2366.6 and 146426.4 units respectively.

The R^2 in the equation suggests that 86 percent of the total variation in the TLAM was explained by the LR, M_2, INF, CU and DUM taken together. This was good enough, since the unexplained variation was just 14% (1-0.86). The 'f' test with value of (31.79332) and probability of (0.0000) suggested that the LR, M_2, INF, CU and DUM were significant factors to be taken into consideration when explaining changes in the TLAM.

The **'t'** test in equation 1 suggested that the M_2 and CU with values of (9.681028) and (3.117797) with probabilities of (0.0000 and 0.0039) respectively were statistically significant in explaining changes in the TLAM at the 5% level of significance. The LR, INF, and DUM were however not statistically significant. The DW test with a value of (0.728425)<2 suggested the presence of positive first order serial correlation in the model.

Table 5: Summary of (OLS) manufacturing output result.

INDEPENDENT VARIABLES	DEPENDENT VARIABLES
C	-0.517764 (-1.257496) (0.2177)
LLR	-0.207502 (-1.256661) (0.2180)
LM_2	1.053586 (21.14266) (0.0000)
LINF	-0.002585 (-0.05501) (0.95657)
LCU	-0.166114 (-3.800018) (0.0006)
LTLAM	-8.13E-07 (-3.249978) (0.0027)
DUM	-0.161062 (-1.005139) (0.3224)
R^2	0.893921
$\bar{R}^2$	0.879927
F Statistics	872.1198
Prob. F Stat.	0.0000
DW	1.919117

NB: Figures in parentheses represents various 't' values and probabilities
Source: Authors compilation, 2010.

The analysis from the above model suggested a positive linear relationship between M_2 and the MGDP, while a negative linear relationship exist among the LR, INF, CU, TLAM, DUM and the MGDP. When M_2 increased by a unit, the MGDP increased by 1.053586 units; while an increase in the LR, INF, CU, TLAM and DUM by a unit reduced the MGDP by 0.207502, 0.002585, 0.166114, 8.12E-07 and 0.161062 units respectively. The R^2 suggested that 89% of the total variation in the MGDP was explained by the LR, M_2, INF, CU, TLAM and DUM taken together. This was good enough, since the unexplained variation was just 11% (1-0.89). The $\bar{R}^2$ suggested that 88% of the total variation in the MGDP was explained by LR, M_2, INF, CU, TLAM and DUM taken together.

The 'f' test with a value of (872.1198) and probability of (0.0000) suggested that, the LR, M_2, INF, CU, TLAM and DUM were important factors to be considered when explaining variation in the MGDP. The 't' test suggested that the M_2, CU, and TLAM with values of (21.14265, -3.800018 and -3.249978) and probability of (0.0000, 0.0006 and 0.0027) were all statistically significant in explaining changes in the MGDP, but LR, INF and DUM were however not statistically significant. The DW test with a value of (1.919117) did not show strong support for the presence of first order serial correlation in the model.

TABLE 6: Summary of Slope Dummy Regression Result for Mfg Output

INDEPENDENT VARIABLES	DEPENDENT VARIABLES
	LMGDP
C	9.904887 (8.571385) (0.0000)
LR	-0.215020 (-1.847186) (0.0730)
LRD	0.275941 (3.824194) (0.0005)
R^2	0.623910
$\bar{R}^2$	0.603016
F Statistics	29.86085
Prob. F Stat.	0.0000
DW	1.574408

Source: Authors compilation, 2010.

MGDP = f (LR, LRD)

The above slope dummy analysis of manufacturing output suggests a positive linear relationship between LRD and the MGDP, and a negative linear relationship between LR and MGDP. Thus an increase in the LRD by a unit increased the MGDP by 0.275941, while an increase in the LR decreased the MGDP by 0.215020 units.

The R^2 suggested that 62% of the changes in the MGDP was explained by the LRD and LR taken together, while the $\bar{R}^2$ suggested that 60% of the total changes was explained by the LRD and LR taken together. The 'F' test with a value of (29.96085) and probability of (0.0000) suggested that LRD and LR were important factors to be considered when explaining changes in the MGDP.

The t-test suggested that LRD with a values of (3.824194) and probability of (0.00005) were statistically significant in explaining the changes in the MGDP. The DW test with a value of (1.574408) did not show enough support for the existence of first order positive serial correlation in the model

Table 7: Slope Dummy results on Loans and Advances to the Manufacturing Sector

Independent Variables	Dependent Variables
	Equation 14 TLAM
C	417576.8 (1.977575) (0.0557)
LRD	36408.09 (2.761323) (0.0090)
LR	-39651.08 (-1.864155) (0.0705)
R^2	0.608530
$\bar{R}^2$	0.592701
F Statistic	8.031501
Prob(F Stat)	0.001306
DW	2.173880

Source: Authors compilation, 2010.

The result of the model for the manufacturing sector shows that LRD has a positive linear relationship with the TLAM, while the LR had a negative linear relationship with the TLAM. Thus, an increase in LRD by a unit increased the TLAM by 36408.09 units, while an increase in LR by a unit decreased the TLAM by 39651.08 units.

The R^2 suggested that 61 percent of the total variation in the TLAM was explained by the LRD and LR taken together. This was good enough since the unexplained variation was just 39 percent (1-0.61). The $\bar{R}^2$ indicated that 59 percent of the total changes in the TLAM were explained by LR and LRD taken together.

The 'f' test with a value of (8.031501) and probability of (0.001306) was an indication that LRD and LR were significant factors to be taken into account when explaining changes in the TLAM. The 't' test suggested that LRD with a value of (2.761323) and probability of (0.0090) was statistically significant in explaining changes in the TLAM. The LR was however not statistically significant. The DW test with a value of (2.173880) did not show strong evidence of first order serial correlation in the model.

At this juncture, it is imperative to include Impulse Response Function that could capture the responses of the dependent variables in the VAR system to the shocks in the error terms. We have also attempted variance decomposition analysis to show the proportion of the variance in the forecast errors for the dependent variables to variations of each of the exogenous or independent variables. The following Impulse Response Function, analyses the shocks in the manufacturing sector between 1970 to 2008.

Table 8: Impulse Response Function of Manufacturing Sector

Response of TLAM:

Period	TLAM	LR	M2	INF	CUM	DUM
1	109669.4	0.000000	0.000000	0.000000	0.000000	0.000000
2	130343.3	-1965.365	-30492.95	-10676.44	14943.86	16864.12
3	6516.514	25628.13	30145.66	-29416.98	47729.47	22848.40
4	-193663.3	69864.14	38516.20	-72161.47	63141.87	8824.435
5	-287511.1	10780.82	140882.4	-81579.23	15453.96	-26638.36

The above Impulse Response Analysis traces out the response of the dependent variables in the Vector Auto Regression (VAR) system to the shocks in the error term. For the purpose of this paper, it was used to trace the response of, or the extent of shock that the individual independent variable has on the dependent variables. It also allowed us to study the dynamic behaviors of each variable in the system by determining whether an exogenous shock caused short run or long run changes in the variables of interest, and also other variables in the model. This was used to identify the direction of the dynamic behaviour of the variables. The response was explained to a one standard deviation shock.

Table 8 above shows the reaction of TLAM to a shock to itself, LR, M2, INF, CUM and DUM. TLAM responses positively but at a decreasing rate to itself in the short run but negatively in the long run. It responded negatively to M2 and LR in the short run but positively in the long run. It also responded to INF negatively through out the period at an increasing rate from -10676.44 to -81579.23 showing the negative impact of inflation on loans and advances to the sector, while it responded positively through out the period of CUM. The result further showed that the impact of the reform was positive in the short run but in the long run it became negative from the response of TLAM to DUM in the table.

Table 9: Variance Decomposition Result of Manufacturing Sector

Variance Decomposition of TLAM:

Period	S.E.	TLAM	LR	M2	INF	CUM	DUM
1	109669.4	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	174848.9	94.91240	0.012635	3.041397	0.372844	0.730466	0.930254
3	189329.5	81.06756	1.843078	5.129157	2.732115	6.978309	2.249778
4	298308.0	74.80213	6.227448	3.733189	6.952223	7.291254	0.993754
5	446338.5	74.90655	2.840048	11.63044	6.446101	3.376774	0.800089

The variance decomposition of TLAM forecast error was analysed using these ordering TLAM, LR, M_2, INF, CUM and DUM after 5 periods, LR explained 2.8%, M_2 explained 11.6%, INF explained 6.4%, CUM explained 3.4%, DUM explained 0.8% while TLAM explained 74% of forecast error's variance of TLAM. DUM does not seem to be influential since it accounted for less than one percent of the forecast error's variance. Thus, with the exception of itself, the driving force behind TLAM followed the descending order of M_2, INF, CUM, LR and DUM respectively.

Policy Implication

The result presented by the tests did not show any strong support for the financial sector reform in influencing economic growth, for instance the loans and advances to the manufacturing, did not effectively influence the level of economic activities in the sector. The result also revealed the low level of money supply being greatly influenced by the level of savings and therefore affected the loans and advances available to commercial banks to be extended to the manufacturing sector.

The level of Capacity Utilization (CU) played a significant role in influencing the level of

manufacturing output, but it had a negative sign; this was due to the low level of capacity utilization of Nigeria's manufacturing sector, and could be the reason why the country relies greatly on foreign goods, thus promoting smuggling activities.

The result further showed that lending rate (Lr), broad money supply (M_2) and the exchange rates were important factors to be considered when decisions on total loans and advances to the productive and activity sectors of the Nigerian economy were being made. Also, changes in the money supply had some positive impact on the shares of the Manufacturing sector. Money supply which is crucial to the Federal Government monetary targeting programme, produced some results, but the commercial banks lending policy was ineffective in Nigeria.

The significance of a dummy variable indicated a policy shift, and that the variables to which they were attached were significant in explaining the dependent variables during the period that they assumed the value of 1; but the dummy variable was not significant, which implied that the financial sector reform programme did not produce the desired result. The major lacking factor in the reform programme includes the deregulation of the interest rates. Generally, this study has shown that there had been no remarkable difference between the pre-reform and reform periods in the productive output of manufacturing sector of the Nigerian economy

Furthermore, it was discovered that, interest rate had significant impact on the total loans and advances to the sector have had significant impact on its output during the period of the reform. The outcome of the slope dummy results, on the manufacturing sector, appeared unsurprising to the citizens of Nigeria due to less attention being paid to the sector, because of the abundance of oil in the country.

The insignificant error correction term in the model was an indication that the speed of adjustment of the independent variables was not satisfactory; even though there exist long run relationship among variables, and this affected total loans and advances to the sector. In all the results of Impulse response function and the variance decomposition carried out for the various variables, DUM was not influential since it accounted for less than one percent of the forecast error's variance.

In addition, the results further showed that M_2 accounted for the greatest variation in the entire variables analyzed in this study and the endogenous variables responded greatly to M_2 and INF. It points to the fact that financial policy options of Government for the development of the manufacturing sector should be focused more on money supply and inflation together with other policy options to achieve the desired growth and development of Nigeria.

Summary and Conclusion

The main objective of this paper has been the assessment of Banking sector reform on the manufacturing sector development in Nigeria. The year 1970-1985 representing the pre-reform period, while 1986-2008 represents the post-reform period.

The best indicators to encompass qualities of a well-developed financial sector were selected to measure the impact of the reform on the economy. The indicators used were for manufacturing output (MGDP); total loans and advances to the manufacturing sector (TLAM). Broad money supply (Ms), Commercial Banks lending rates (LR), slope dummy assessment for the lending rates (LR.D) Inflation (INF), impulse response analysis and also variance decomposition models were used. The data for the analyses were essentially sourced from central banks statistical bulletins and National Bureau of Statistics of various issues.

The study revealed that liberalization of interest rates in Nigeria gave rise to increased nominal interest rates, and ceiling on interest rates with emerging macroeconomic instability that motivated banks to lend their scarce resources for short term on speculative activities rather than for real investments. Also while the quantity of financial resources mobilized by banks increased in normal term during the reform period, in real term there was no improvement in the quantity of financial services provided.

During the implementation of the reforms, greater attention was placed on interest rates rather than income and savings mobilization. The result of impulse response and variance decomposition models revealed that manufacturing sector have potentials for growth, if sufficient funds are channeled to the sector. Also the slope dummy analysis revealed the existence of positive relationship between lending rates and the dummies to produce desired results in the manufacturing sector of the country.

Recommendation

The author recommends that the reform programme be enlarged to accommodate formal and informal financial sectors of the economy. That adequate attention should be focused on income, savings and interest rate variables; and that money supply to be increased with appropriate monetary policy to impact on savings mobilization by banks.

Finally, government policy provision should be directed to banks lending rates, money supply level and appropriate exchange rates, since the macro-economic variables discovered in this study have positive influence on economic activities of the real sector of the Nigerian economy.

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