FINANCIAL DEVELOPMENT AND MANUFACTURING PERFORMANCE: THE NIGERIAN CASE

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Abstract:

The study focused on financial sector development and manufacturing performance in Nigeria over the period of 1981 to 2015. In the study, three indicators such as manufacturing capacity utilization, manufacturing output and manufacturing value added were employed to proxy manufacturing performance while money supply as a percentage of GDP, domestic credit to the private sector and liquidity ratio were employed to proxy financial development. The study observed that credit to the private sector and money supply positively but insignificantly enhanced capacity utilization and output, but negatively impacted value added of the manufacturing sector in the short run. There is slight improvement in the long where both money supply and credit to private sector exert positive impact manufactured output. Hence, it becomes crucial for commercial banks to make available certain percentage of their profits for industrial expansion in order to create linkages between both sectors.

Key words: *Financial Development, Manufacturing, Liquidity Ratio, Nigeria*

1.   Introduction

The erratic performance of the manufacturing sector in Nigeria has contributed negatively to the growth of output and consequently fueled unemployment rate as well as crime rate. It has also brought about increased in demand for imported goods thereby making the domestic economy become highly susceptible to foreign price changes. Basically, the poor performance of the manufacturing sector has been attributed to the inability of the financial sector to adequately support the manufacturing sector (Levine, 1997; Hassan *et al,* 2011). Also, the monetary policy of the central bank

and trade policy of government have not been friendly to the manufacturing sector. Justifiably, the financial sector is supposed to be a major driving force propelling output as well as engineer growth of the manufacturing industry. This can be done by making funds available to manufacturers at an affordable rate of interest in order to lower operating cost and boost productivity. However, developing countries, especially Nigeria, has not been able to achieve this and the manufacturing sector remains almost non-existent as it contributes very little to the economy in terms of output and employment (Shahbaz, 2009).

Apparently, it is agreed that a well-developed financial sector can help to mobilise domestic savings and investment thereby increasing output growth (Besci and Wang, 1997). It can also help to attract sufficient funds from surplus sectors to the deficit sectors thereby freeing up funds for manufacturing activities at a very reasonable cost (Gokmenoglu *et al,* 2015). It is further argued that a well-structured financial sector development in any economy has the ability to provide financial services that could boost the level of innovation in the manufacturing sector thereby paving way for both investors to take advantage of the new opportunities created (Calderon and Liu, 2003). For instance, Rajan and Zingale (1996) explored a relative beneficiary theory of financial development and affirmed that financial sector development help enterprises to avoid moral hazard and adverse selection problem and to enhance export growth promoted by external firms. In the same vein, Calderon and Liu (2003) and Kiran *et al* (2009) opined that a well-functioning financial sector, especially money and capital market, spurs technological innovation by identifying and funding those entrepreneurs with the best chances of successfully implementing innovative products and production processes. Several other studies like Besci and Wang (1997), Shahbaz (2009), Jenkıns and Katırcıoglu (2010) suggest that a well-functioning financial sector can positively impact export, in addition to its influence on real output growth as well as savings and investment.

The manufacturing sector, if well developed, is a major driver of growth in any economy. However, in Nigeria, it is quite unfortunate that the sector has been performing below expectation, leading to decline in industrial productivity, which has caused the sector to contribute less than 5% to the Gross Domestic Product (Udoh and Ogbuagu, 2012). Additionally, ill-treated and malfunctioning of the sector, as a result of poor financing, epileptic power supply, dilapidated and obsolete infrastructure, perennial security challenges, smuggling and massive importation of finished goods, has been the major challenges that have retarded the sector`s performance and if not urgently addressed pose serious threat to the country's vision 20:2020 dream. Furthermore, it is disgusting that in Nigeria, industries are closing down while some others are being converted to places of worship like churches and mosques. Ajayi (2011) reported that between year 2000 and 2010, over eight hundred manufacturing firms in Nigeria have been either shut down or have temporarily halted production. Also, capacity utilization in the manufacturing sector continued to hover between 30% and 45% on the average with 100% overhead cost (Udoh and Ogbuagu, 2012). The stunted growth of the sector is expected to continue due to high lending rate, low

capital project financing and difficulties in assessing raw materials (Adebiyi, 2001; Adebiyi and Babatope, 2004; Rasheed, 2010; Okafor, 2012).

Sequel to the weak structuring of the financial sector in Nigeria coupled with the noticeable challenges militating against the growth of the manufacturing sector and the fact that the financial sector has a prominent role to play in manufacturing activities as suggested by Rajan and Zingale (1996), Shahbaz (2009) and Gokmenoglu *et al* (2015), the study aims to determine the effect of financial deepening on the manufacturing output in Nigeria and also find out if long run relationship exist between the financial sector and the manufacturing sector. Apart from the introduction section, the study is divided into four other sections. Section two focused on theoretical and empirical review, research methodology is presented in section three, section four presents the empirical result and section five presents the conclusion and policy recommendations.

2. Literature Review

2.1 Theoretical Background

It is based on the study of Gerschenkron (1962), which states that the roles financial system plays in the economic progress of a country basically depend on the structure of the economy. The study clarifies that countries at the entrance of industrialization tends to undergo stages from the bottom to the top. Based on historical perspective of the financial structure, especially, at the point of European countries industrialization, countries like Great Britain have limited role for financial institutions but place much reliance on internal finance of the entrepreneurs. The moderately backward economy such as that of Germany relied heavily on the financial structure for economic progress due to the limited financial resources available to most business. However, financial structure is insignificant but attributed greater role to public sector for economic progress of the most backward economies. Basically, the general distrust of the public is that no bank could have hoped to attract even small capital funds as were available, and no bank could have successfully engaged in long-term credit policies in an economy where fraudulent bankruptcy had been almost elevated to the rank of general business practice. Gerschenkron's analysis tends to have effect on manufacturing sector performance in Nigeria, since most financial institutions finds it difficult to give loans to manufacturing sector to boost their productivity because of the fraudulent attitude of most prominent business entrepreneurs in the country. Although, this might not be applicable to the generality, but few whose minds are perverse towards growth and development.

2.2 Empirical Review

In empirical economic literature, there are numerous empirical studies on financial sector development and economic growth. In these section, we divide these

studies into two strands, that is, those focusing on other countries and regions and that beaming searchlight on the Nigerian economy.

In terms of other global studies, Rajan and Zingales (1996) studied the relationship between industrial performance and financial development across countries. The study opined that industries that rely heavily on external funding grow comparatively faster in countries with well-developed intermediaries and stock market. Khan *et al* (2005) investigated the link between financial development and economic growth in Pakistan over the period of 1971-2004 by employing the autoregressive distributed lag approach. It was observed that financial intensity exerts a positive impact on economic growth in the long run but the relation was insignificant in the short run. De Grogorio and Guidotti (1995) as well as Berthelemy and Varoudakis (1998) employed panel analysis with random effects for the period of 1950 to 1985 and between 1960 and 1990 respectively in Latin American countries and found that there is a strong negative correlation between financial development and economic growth. Apergis *et al* (2007) identified the link between financial depth and economic growth using panel data analysis for 15 member countries of OECD and 50 non-OECD countries. The study found that a positive relationship exists between financial depth and economic growth.

Furthermore, in separate studies by Odhiambo (2008) and Odhiambo (2009), it was observed that financial development and economic growth may be country specific and time bound and is even dependent on the measure of financial development employed. Jenkins and Katircioghi (2008) identified the long run relationship between financial development, international trade and economic growth for Cyprus. It was confirmed that in the long run, international trade and financial development positively and significantly enhanced Cyprus economic growth. Lartey (2010) surveyed the effect of financial development on economic growth for a panel of 74 countries and observed that financial development has positive effect on economic growth. Similarly, Zhang *et al* (2012) extended the study to the Chinese economy and observed that most indicators of financial development have positive relationship with economic growth in China. Gokmenoglu *et al* (2015) examined the relationship between international trade, financial development and economic growth in Pakistan and confirmed that there is a long run relationship. Meaning that the financial sector has the ability to protrude and enhance growth which can have a trigger effect on manufacturing sector performance.

In terms of the Nigerian experience, Kawode (2015) looked into the impact of capital market on industrial growth in Nigeria and confirmed that government securities and all share indexes significantly enhanced industrial growth in the country. This implies that away from financial support, government securities, new shares issues and all share index have the capacity to enhance industrial growth in Nigeria. Agu and Chukwu (2008) examined the direction of causality between bank based financial deepening variables and economic growth in Nigeria. The study observed that financial deepening variables and economic growth were positively cointegrated, and that a there exists a stable and sustainable long run equilibrium relationship between

financial deepening and economic growth. Obamuyi (2012) analyzed the relationship between bank lending, economic growth and manufacturing sector in Nigeria. Employing the vector error correction model, the study confirmed that manufacturing capacity utilization and bank lending have positive impact on manufacturing output in Nigeria.

In another study conducted by Sola *et al* (2013), it was confirmed that investment, capacity utilization and import were the major determinants of manufacturing performance for sustainable growth. The study also observed that manufacturing sector performance was enhanced when firms exert more effort on export oriented drive. Udoh and Ogbuagu (2012) employed an autoregressive distributed lag approach to analyse financial development and industrial production in Nigeria between 1970 and 2009. However, financial sector development was observed to have negative effect on industrial production. Although, when linked with growth, Aiyedogbon and Anyanwu (2016) found that the contribution of banks positively enhanced industrial development and economic growth in Nigeria.

In light of the studies that have been reviewed in this section, it is clear that there have been no consensus on the possible effect of financial sector development on the manufacturing sector. While some have claimed that the financial sector has positive impact on the manufacturing sector via economic growth channel (see studies like, De Grogorio and Guidotti, 1995; Berthelemy and Varoudakis, 1998; Udoh and Ogbuagu, 2012), others have observed that the financial sector has a negative impact on manufacturing performance (see Zhang *et al,* 2012; Aiyedogbon and Anyanwu, 2016; Gokmenoglu *et al,* 2015). This present study tries to resolve this conflict and extend the frontiers of knowledge. Also, there is dearth of studies on the link between financial sector development and manufacturing sector performance as most of the previous studies have only focused on the relationship between financial development and economic growth, while only trying to infer the implication on the manufacturing sector. This present study attempts to expand the discussion and bridge this noticeable gap in literature by focusing on the relationship between financial sector performance and the manufacturing sector in Nigeria.

2.3. Stylised Facts on Financial Development and Manufacturing Performance in Nigeria

In figure 1, the trend of money supply as a percentage of GDP in Nigeria is presented, while credit to private sector as a percentage of GDP is presented in figure 2. Both figures 1 and 2 show clearly that the financial sector development indicators (FSD) employed in the study tend to show upward trend. In figure 1, it is observed that money supply was about 15% in 1981. It rose slightly in the subsequent years before slumping to its lowest point of almost 8% in 1996. However, between the late 1990s and 2015, money supply has continued to maintain an upward trend and even reaching an all-time height of 35% in 2009. Similarly, in figure 2, credit to private sector has often maintained an upward trend, notwithstanding, a lower trend than that of

money supply. In the early 1981, it was almost 10% of the GDP, got to its lowest point of 5% in 1996. Since then however, it has continued to maintain an upward trend, which has seen it hit the mark of 20% in 2015. Figures 1 and 2 shows that both money supply and credit to private sector exhibit similar trend pattern. They both reached their lowest and highest marks in 1996 and 2009 respectively.
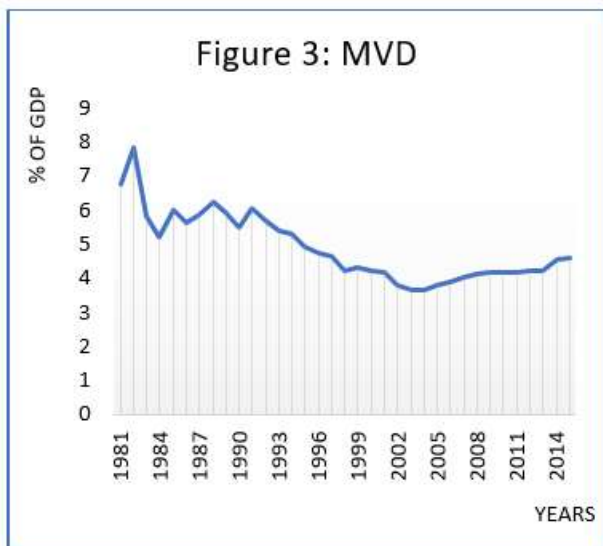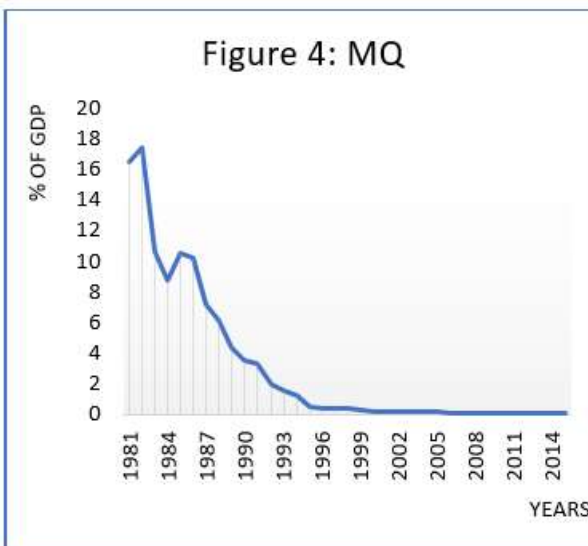
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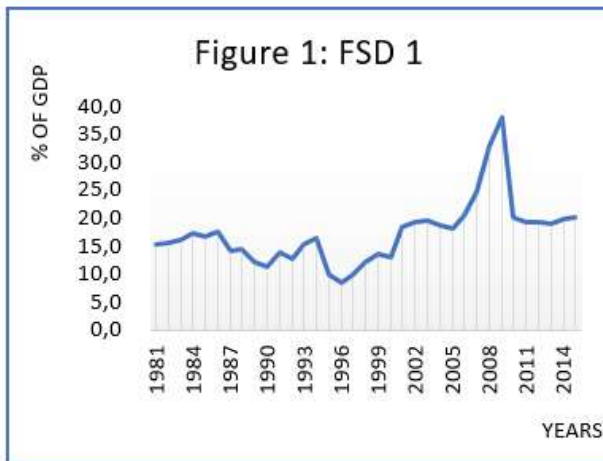
Figure 1: Money Supply in Nigeria
Authors' Computation from CBN Bulletins (2016)
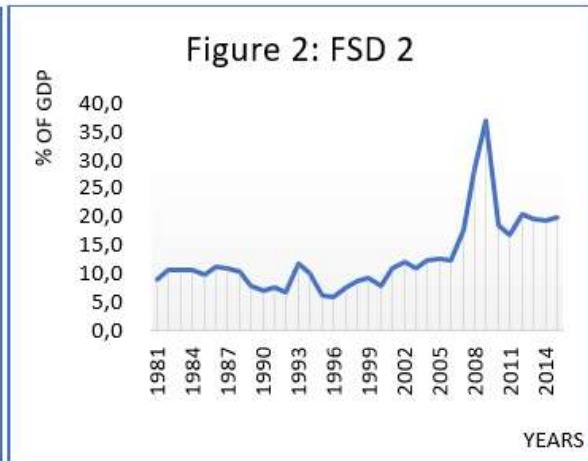
Figure 2: Credit to Private Sector in Nigeria
Authors' Computation from CBN Bulletins (2016)

Figure 3: Manufacturing Value Added in Nigeria
Authors' Computation from CBN Bulletins (2016)

Figure 4: Manufacturing Output in Nigeria
Authors' Computation from CBN Bulletins (2016)

In figures 3 and 4, two indicators of manufacturing performance are presented. The manufacturing value added (MVD) as a percentage of GDP is presented in figure 3, while manufacturing output (MQ) as a percentage GDP is presented in figure 4. In figure 3, MVD which started at about 7% of GDP in 1981 has continued to fall drastically to about 5% of GDP in 2015. The manufacturing output presented in figure 3 was even worse as its trend which stood at about 16% in 1981 has plummeted to less

than 1% of GDP in 2015. The reason for this is not far-fetched as Nigeria is heavily dependent on manufactured imports from countries like the United States and China, while local manufacturing firms continue to fold up. Again, a striking feature to note in figures 3 and 4 is that both indicators exhibit downward trends unlike the financial sector indicators. The economic intuition behind this is that the financial sector has not been able to drive growth of the manufacturing sector in Nigeria. In spite of the efforts to revive the financial sector by the Central Bank of Nigeria through the various banking reforms dating back to the early 2000s, the sector's influence on the development of the manufacturing sector is still very meagre

3. Research Methodology

Empirically, there is a strong link between financial sector development and manufacturing performance. The link between finance and manufacturing has been empirically modelled in Levine (1997) in a study to model the relationship between financial development and economic growth in Arab countries. Similarly, Zhang *et al* (2012) also employed a similar model in tracing the link between financial development and growth in the Chinese economy. To this end, this present study follows Levine (1997) and Zhang *et al* (2012) in specifying a functional relationship for financial sector development and manufacturing performance in Nigeria as follows:

$$MVD = f(M2, CPS, LR, INT) \tag{1}$$
$$MCU = f(M2, CPS, LR, INT) \tag{2}$$
$$MQ = f(M2, CPS, LR, INT) \tag{3}$$

Where MVD, MCU and MQ represent manufacturing value added as a ratio of GDP, manufacturing capacity utilisation as a ratio of GDP and manufacturing output as a ratio of GDP respectively and are proxies for manufacturing performance in Nigeria. Also, M2, CPS and LR are used to proxy financial sector development. M2 and CPS are financial deepening indicators with the former representing money supply as a percentage of GDP and the latter is credit to the private sector as a percentage of GDP while LR is the liquidity ratio in the banking sector in Nigeria. Furthermore, INT represents interest rate and it is employed in the model as a controlled variable.

For the purpose of regression analysis, the three equations specified are explicitly written as:

$$MVD = \beta_0 + \beta_1 M2 + \beta_2 CPS + \beta_3 LR + \beta_4 INT + \varepsilon \tag{4}$$
$$MCU = \beta_0 + \beta_1 M2 + \beta_2 CPS + \beta_3 LR + \beta_4 INT + \varepsilon \tag{5}$$
$$MQ = \beta_0 + \beta_1 M2 + \beta_2 CPS + \beta_3 LR + \beta_4 INT + \varepsilon \tag{6}$$

In equations 4, 5 and 6, $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ are the slope parameters of the model while ε is the white noise error term. It is expected that $\beta_1, \beta_2, \beta_3$ will be positive as they are expected to affect the manufacturing sector positively. However, β_4 is expected to have a negative sign since higher rate of interest is expected to negatively impact the manufacturing sector. In this study, the models are estimated using the dynamic error correction (ECM(-1)) model to determine the short run impact of financial development on manufactured output. Also, the autoregressive (AR) model is estimated to

determine the long run effect of financial development on manufacturing performance in Nigeria. The AR model is suitable in this study to enable us to capture the impact of the previous manufactured output on its current performance level. Data for the study are mainly secondary and they are sourced from the Central Bank of Nigeria Statistical Bulletin (2016). Such data include money supply as a percentage of GDP, credit to the private sector as a percentage of GDP, Liquidity ratio, interest rate, manufacturing sector contribution to GDP, manufacturing value added and manufacturing capacity utilisation. The data coverage for the study is from 1981 to 2015.

4. Data Analysis

In this section, the result of the analysis for the study on financial sector development and manufacturing performance in Nigeria from 1981 to 2015 is presented. The section begins with unit root test to find out if the variables employed in the study are stationary. Then, followed by the Johansen cointegration test for multivariate equations as employed in the study. The section is rounded off with the dynamic error correction results which is a short run analysis as well as the long run estimates.

Table 1: Stationarity Test

Variables	Levels			First Difference		
	ADF Stat.	1%	5%	ADF Stat.	1%	5%
FSD1	-2.08	-3.64	-2.95	-5.47	-3.65	-2.95
FSD2	-1.90	-3.64	-2.95	-5.83	-3.65	-2.96
INT	-2.08	-3.64	-2.95	-6.01	-3.65	-2.96
LR	-2.37	-3.64	-2.95	-5.04	-3.65	-2.96
MCU	-2.94	-3.64	-2.95	-5.27	-3.65	-2.96
MQ	-3.64	-3.64	-2.95	-3.75	-3.65	-2.95
MVD	-2.11	-3.64	-2.95	-3.73	-3.66	-2.96

*Note: * significant at 1%, ** significant at 5%, *** significant at 10%, Mackinnon critical values and are shown in parenthesis. The lagged numbers shown in brackets are selected using the minimum Schwarz and Akaike Information criteria.*

The Augment Dickey Fuller test result showed that money supply as a percentage of GDP, credit to private sector as a percentage of GDP, interest rate, liquidity ratio, manufacturing capacity utilization, manufacturing output and manufacturing value added are not stationary at level for 1% and 5% significant, which means there is a unit root. On the other hand, it is identified that money supply as a percentage of GDP, credit to private sector as a percentage of GDP, interest rate, liquidity ratio, manufacturing capacity utilization, manufacturing output and manufacturing value added are all stationary at first difference for both 1% and 5% significant. This indicates that those incorporated series in the model have no unit root.

It implies that the series are mean reverting and convergence towards their long-run equilibrium.

Table 2a: Unrestricted Co-integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Max-Eigen Statistic	0.05 Critical Value
None *	0.88	190.46	125.62***	70.51	46.23***
At most 1 *	0.82	119.95	95.75***	56.83	40.08***
At most 2	0.52	63.12	69.82	24.55	33.88
At most 3	0.45	38.57	47.86	19.99	27.58
At most 4	0.28	18.57	29.80	11.06	21.13
At most 5	0.18	7.51	15.49	6.59	14.27
At most 6	0.03	0.93	3.84	0.93	3.84

*Note *** significant at 1%. Trace test indicates 2 cointegrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values*

The output of Table 2 shows that the null hypothesis of no co-integrating vector is rejected at none co-integration vector at 1% significance level as both trace statistic and maximum eigen value statistic indicated that there are two cointegrating equations at 1% level of significance. It thus implies that there is long-run equilibrium relationship among variables that considered in the study i.e. money supply as a percentage of GDP, liquidity ratio, credit to private sector, interest rate, manufacturing capacity utilization, manufacturing output and manufacturing value added.

The result of the dynamic error correction model is presented in table 3 and it revealed that coefficient of the ECM(-1) conforms to apriori expectation as it is negative and significant across the three models. Its value of -0.04 in model 1, -0.84 in model 2 and -0.22 in model 3 indicate that the divergence of the models from their long run path is only temporary and that the short run variables will return to their long run path. Also, the coefficients imply that the speed of adjustment of models 2 and 3 are faster than that of model 1. The speed of adjustment towards equilibrium state for model 1 is 3.9%, 9.3% for model 2 and 22.3% for model 3.

Table 3: Result of the Short Run Model

Variables	MCU	MQ	MVD
C	-0.0057***	0.0413**	-0.0067 ***
D(MCU(-1))	0.0103***	-	-
D(MQ(-1))	-	0.1928***	-
D(MVD(-1))	-	-	-0.7573**
D(FSD1)	0.1406	0.0874*	-0.0058
D(FSD1(-1))	0.3042	-0.1332	0.0011
D(FSD1(-2))	0.1462	0.1978	-0.3175
D(FSD2)	0.2201	0.0836*	0.0386*
D(FSD2(-1))	-0.2456	0.0241**	-0.0841*

D(FSD2(-2))	0.0324**	0.2072	0.2597
D(INT)	-0.1181	-0.0693*	-0.0448**
D(INT(-1))	0.0983*	-0.0156**	-0.0549**
D(INT(-2))	-0.0479**	0.0075***	-0.0334**
D(LR)	0.0343**	0.0656*	-0.1033**
D(LR(-1))	-0.2335	0.2251	0.2141
D(LR(-2))	0.1499	0.0635*	-0.0325**
ECM(-1)	-0.0395**	-0.0931**	-0.2238***
R-squared	0.65	0.84	0.86
Adjusted R-squared	0.63	0.75	0.78
F-statistic	56.51***	46.14***	34.93***
Durbin-Watson stat.	2.09	1.89	2.02

*Note ***, **, *, significant at 1%, 5%, 10%*
Source: Author's Computation (2017)

In table 3, it is observed that the current value of money supply as a ratio of GDP (FSD 1) positively but insignificantly enhanced the capacity utilisation and output of the industrial sector at 5% level of significance. However, it has negative but significant impact on manufacturing value-added at 5 % level. The intuition behind this is that higher volumes of money in the economy could stimulate industrial capacity utilisation and output, but has not been able to significantly enhance the sector's performance. This became clearer with manufacturing value added and a negative but significant relationship is observed. The effect of money supply on the net output of the manufacturing sector (MVD) calls for concern as it shows that monetary expansion is significant in reducing the net output of the sector, meaning that financial development has not positively spilled over to the manufacturing sector. Similarly, the current value of the credit to private sector (i.e. FSD 2) indicates that the financial sector also positively but insignificantly impacted both capacity utilisation and output of the manufacturing sector. Moreover, credit to private sector negatively but significantly impacted the net output of the sector (MVD). This result is in line with that of FSD 1. The economic intuition behind this is that while the amount of credit made available to the private sector has been fairly rising in Nigeria as seen in the trend analysis, the manufacturing sector has not been able to access these funds. The result also suggests that credit to private sector has the potential to positively impact both capacity utilisation and output, but it is insignificant in doing so. This means that there is no relationship between credit to private sector in Nigeria and manufacturing sector as it either significantly and negatively drive the net output of the sector or has no relationship with the sector at all by being insignificant in driving capacity utilisation and output. The results of both FSD 1 and FSD 2 corroborate the descriptive analysis presented in figures 1 to 4 where the upward trend observed in the financial sector was not translated to the manufacturing sector that showed a negative trend. This explains why the manufacturing sector in Nigeria is very weak.

However, the coefficient of interest rate shows that increases in domestic interest rate in Nigeria bring down manufacturing sector performance as it tends to negatively impact manufacturing capacity utilization, manufactured output and manufacturing value added in models 1, 2 and 3 respectively. Current value of liquidity ratio is however found to be significant and positive in enhancing manufacturing capacity utilization and output but negatively enhanced the manufacturing value added as shown in table 3. Moreover, the result suggests that the models employed in the study are good fit as the adjusted coefficient of determination values for the three models confirmed that the explanatory variables employed jointly accounted for about 62%, 75% and 78% of variation in manufacturing capacity utilization, manufacturing output and manufacturing value added respectively. The Durbin Watson statistic across the three models also show that the models are free from serial correlation, hence the result of the study as presented in the dynamic error correction models is not spurious. The F statistic as presented in table 3 also shows that all the explanatory variables linearly predict changes in the dependent variables as they are significant at 1% respectively.

Table 4: Result of the Long Run Model

Variables	MCU	MQ	MVD
C	0.7283	-0.9200	0.4732
LR	0.0752*	0.1754	0.0442
FSD1	0.1903	0.0004*	-0.1358
FSD2	0.0613	0.0756	0.0946
INT	-0.0118*	-0.0685	-0.0612*
MCU(-1)	0.5649***	-	-
MQ(-1)	-	1.0506**	-
MVD(-1)	-	-	0.7686**
R-squared	0.73	0.95	0.86
Adjusted R-squared	0.68	0.54	0.64
F-statistic	15.35***	105.16***	35.72***
Durbin-Watson stat.	1.98	2.08	2.11

*Note ***, **, *, significant at 1%, 5%, 10%*
Source: Author's Computation (2017)

In Table 4 model 1, the autoregressive result show that in the long run, money supply as a ratio of GDP continue to have positive but insignificant impact on manufacturing capacity utilisation (MCU), while it now has positive and significant impact on manufacturing output (MQ) in Nigeria. However, in terms of the manufactured net output, money supply has negative impact. The intuition is that monetary expansion did not have any relationship in determining the capacity utilisation of the manufacturing sector. It also means that monetary expansion also has a negative impact on the sector's net output even as it continued to show that no relationship exists in boosting the net output of the manufacturing sector because of

the statistical insignificance in the long run. However, there seems to be a little twist as increases in money supply tends to significantly and positively boost the manufacturing output in the long run. It means that monetary expansion can help to positively enhance manufacturing output in the long run if well managed. Also, the contrasted effect being noticed between manufactured output and net output means that the weight of intermediate inputs of the manufacturing sector out-weighs that of output. Hence, for the positive impact of FSD 1 to be translated towards improving the net manufacturing output, interest rates and other cheaper technical back-ups must be made available to the manufacturing sector. Moreover, in terms of the credit to private sector (FSD 2), the long run result indicates that FSD 2 positively enhanced capacity utilisation, output and net output of the manufacturing sector. Also, if we decide to test at 10% level of significance, it means that a long run relationship exists between the credit to private sector and manufacturing sector performance. The implication of this is that while the financial sector shows no interest in enhancing the manufacturing sector performance in the short run, such would change in the long run if the present trend of industrial funding can be improved upon and structural rigidities pertaining to credit allocation to the manufacturing sector is removed.

The analysis further shows that liquidity ratio positively but insignificantly enhances manufacturing capacity utilization and output, while it is significant in stimulating manufacturing net output in the long run. This means that the ratio of liquid assets to liabilities in the banking sector needs to be raised significantly in stimulating performance of the real sector. Also, the result indicates that interest rate is very important as it significantly but negatively impact all the three indicators of manufacturing sector performance in Nigeria. This means that the cost of capital must be kept reasonably low to boost activities in the real sector of the country in the long run. A cursory look at the estimated autoregressive model 1, 2 and 3 respectively suggest that it is a good fit as about 68%, 54% and 64% of the total variation in manufacturing capacity is explained by the explanatory variables while removing the effect of insignificant estimators from the model. Furthermore, the Durbin Watson statistic of 1.98 shows that there is absence of serial autocorrelation. Also, F-statistic of 15.35 indicates that the data used in the estimation is fitted well.

5. Conclusion

This empirical enquiry has focused on the relationship between financial sector development and manufacturing sector performance in Nigeria over the period of 1981 to 2015. In the study, three indicators such as manufacturing capacity utilization, manufacturing output and manufacturing value added were employed to proxy manufacturing performance while financial deepening indicators such as money supply as a percentage of GDP and domestic credit to the private sector as well as the liquidity ratio in the Nigerian banking sector were employed as explanatory variables to proxy financial sector development. In the short run results conducted, it was observed that the two indicators of financial development, that is, credit to private sector and

money supply as a percentage of GDP had positive but insignificant impact on capacity utilization and output of the manufacturing sector in the short run. Whereas, they both have negative but significant effect on manufacturing value added in the short run. It is only liquidity ratio that positively and significantly impacts manufacturing performance in the short run at 5% and 10% respectively. In the long run, money supply positively enhanced capacity utilisation and output but negatively impact manufacturing value added. Also, in the long run, credit to private sector (FSD 2) positively enhanced all the indices of manufacturing sector.

Going by the result of this study, we conclude that there is no significant relationship between financial development and manufacturing sector performance in Nigeria. Hence, this explains why Nigeria has a strong financial sector but a very weak manufacturing sector. Furthermore, it buttresses the point why industrial production is very low and why Nigeria is still a mono-product economy that depends on crude oil export to generate its foreign exchange earnings. To this end, drastic measures needs to be put in place by the monetary authorities to make it a policy for commercial banks to make available a certain percentage of their profits for industrial expansion. Such funds can be made available in the form of interest free loans or with a little interest charges and modalities should be set up between the Manufacturers Association of Nigeria (MAN) and the commercial banks on the effective usage of such funds. Also, structural rigidities pertaining to credit allocation to the real sector should be removed. This will not only stimulate production and performance of the real sector but will also help to create a linkage between the financial and the manufacturing sector.

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