

# Financial Reforms in Nigeria and Its Effect on the Performance of Quoted Manufacturing Firms

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**Abstract:** The study examined the effect of financial reforms on the performance of quoted manufacturing firms in Nigeria. The study used an expo-facto research design. The study population comprises 44 manufacturing companies quoted at [1], which include Agriculture, Conglomerates, Consumer goods, Healthcare / Pharmaceuticals, Industrial goods, and Natural Resources. Thus, using a study period of 10 years (2010 – 2019) data on financial sector reforms (financial deepening, domestic credit, liquidity, market capitalisation, exchange rate and interest rate) carried out in Nigeria, being the independent variable and on performance (capacity utilization). Panel structured secondary data were collected and analyzed using the Generalized Moment of Methods (GMM) in STATA 15. The financial reform indicators: financial deepening (FDP), domestic credit, market capitalization, liquidity and exchange rate have p-values less than 0.05 (5%) level of significance, thus implying that the financial reforms' indicators affect the performance as proxied by the capacity utilization of the manufacturing firms in Nigeria. Although, the interest rate which is one of the indicators of financial reforms returns a p-value greater than 0.05 (5%) and thus not having significant effect on the performance of the firms. The study suggested that the manufacturing firms should put measures to optimize the use of accessible funds to ensure optimal capacity utilization, as this will translate into increased productivity, profitability, and financial stability. The government should vigorously pursue monetary policies to ensure the injection of funds into the financial sector, to enhance the capacity of deposit money banks to allocate more credit to the sector at affordable rates. This will enable the optimal operation of the manufacturing sector in Nigeria.

**Key-Words:** - Financial Reforms, Capacity Utilization, Financial Deepening, Domestic Credit, liquidity, Market Capitalisation, Exchange Rate and Interest Rate.

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## 1 Introduction

Over the years, continued emphasis has been placed by the Nigerian government under different administrations on measures to stimulate the growth of the economy's manufacturing sector, considered a prerequisite and crucial to achieving an industrialized and sustainable economic growth and development. Among the numerous measures taken by the Federal government are the financial reforms and, more recently, closure of borders and import prohibition of selected, manufactured goods into the country. Among the strategic financial sector reforms effected included interest rate and exchange rate deregulation; banking sector reforms covering free entry and exit, the increase of minimum capitalization to 25 billion naira from 2 billion naira the 2004 consolidation exercise under Soludo as CBN governor, to strengthen the existing banks in terms of capital base and liquidity as against a

number of operating banks; hence the reduction of banks to 22 banks down from 25 banks post-consolidation and 89 banks pre-consolidation respectively [2]. Further reform effected was the injection of 620 billion naira to revive eight distress-prone banks in 2009 under Sanusi as CBN governor [2], an aftermath of the global financial crisis's effect 2008. Other interrelated policies affected included the institution of deregulation of the capital market and the indirect monetary policy instruments [3], [4].

The reforms primarily aimed at liberalizing the financial sector to expand and deepen the system in order to kindle an expanded, strong, and irrepressible banking industry and reliable capital market; thus enhancing their capacity to fund the real sector to support manufacturing firms' access to needed capital to finance production [5]. The resulting effect of the successful implementation of

the series of financial sector reforms is the achievement of a greatly enhanced degree of financial deepening, increased availability of domestic credits, and stronger market capitalization in Nigeria, which is anticipated would have a positive and significant effect on operations, performance and growth of the manufacturing sector in Nigeria. It is, however, saddening that in spite of the numerous financial reforms implemented and the gains already recorded from the financial reforms, which seemingly stabilized the financial system, enhanced efficient intermediation, and supported rechanneling of scarce financial resources to the highest priority economic alternatives; not much is seen to have been achieved in realizing high productivity and growth of the manufacturing sector.

Recent statistics show that the manufacturing sector in Nigeria has been characterized by a severe decline in productivity and export capacity, owing to a drop in capacity utilization and overall industry performance. This can be observed in the sequence of recent negative performance -1.46 in 2015, -4.32 in 2016, -0.21 in 2017, and a rebound of 2.09 positive growth in 2018, preceded by positive growths 21.80% in 2013 and 14.72% in 2014. These negative performances have been attributed to series of shocks in the harsh Nigerian business environment, economic policy inconsistencies, incessant exchange rate fluctuation, and the recent recession in 2016, among other factors. Also, statistics of contributions of the manufacturing sector to the Gross Domestic Product (GDP) also show a year-in-year-out of less than 10% input from 2000 to 2019.

The recent closure of borders and import prohibition focused on discouraging the continuous importation of consumable goods, reducing the import dependency nature of the Nigerian economy, and is expected to stimulate domestic production of the manufacturing sector of the economy. While the financial reforms being earlier measures introduced by both previous and present administrations were expected to support access to financial services and products through the flow of funds, which drives consumption and investments needed to stimulate other sectors of the economy. These measures were expected to increase employment, local production, and export capacity, and industry productivity level, thus improving the manufacturing sector's overall performance and the economy [6]; however, much is still left to be desired. Hence, this study empirically evaluates the effect of financial reforms on the performance of quoted manufacturing firms in Nigeria.

## 1.1 Objective of the Study

The broad objective of this study is to empirically evaluate the effect of financial reforms on the performance of quoted manufacturing firms in Nigeria from 2010 to 2020 (10 years), being the period under review. The specific objectives are to:

- i. evaluate the effect of financial deepening on the capacity utilization of quoted manufacturing firms in Nigeria
- ii. determine the effect of domestic credit on the capacity utilization of quoted manufacturing firms in Nigeria
- iii. evaluate the effect of liquidity on the capacity utilisation of quoted manufacturing firms in Nigeria.
- iv. determine the effect of market capitalization on the capacity utilisation of quoted manufacturing firms in Nigeria
- v. determine the effect of exchange rate on the capacity utilisation of quoted manufacturing firms in Nigeria.
- vi. evaluate the effect of interest rate on the capacity utilisation of quoted manufacturing firms in Nigeria.

## 1.2 Statement of Hypotheses

H<sub>01</sub>: Financial deepening has no significant effect on the capacity utilization of quoted manufacturing firms in Nigeria

H<sub>02</sub>: Domestic credit has no significant effect on the capacity utilization of quoted manufacturing firms in Nigeria.

H<sub>03</sub>: Are they any significant effect of liquidity on the capacity utilization of quoted manufacturing firms in Nigeria?

H<sub>04</sub>: Does market capitalization have any significant effect on capacity utilization of quoted manufacturing firms in Nigeria?

H<sub>05</sub>: What is the extend of the effect of exchange rate on the capacity utilization of quoted manufacturing firms in Nigeria?

H<sub>06</sub>: To what extent does interest rate affect capacity utilization of quoted manufacturing firms in Nigeria?

## 2 Literature Review

### 2.1 Financial Reforms and Performance of Manufacturing Firms

In Nigeria, [3], [5], [7]–[14] investigated the effect of financial sector reforms (exchange rate, interest rate, and financial inclusion) on the growth of small businesses in Nigeria. To achieve this, research

questions and hypotheses were posited in line with the study's specific objectives. The study employed secondary data on interest rates, exchange rates, financial inclusion, business growth, Sectoral Productivity, and Sectoral Capacity Utilisation from 1986 – 2017, being the period under review. The expo-facto research design was adopted because the events of the study had already taken place, and it is also secondary in nature. Secondary data collected were analyzed using time series analysis, while posited hypotheses were tested using the Ordinary Least Squares (OLS) multiple linear regression technique. The findings revealed that financial reforms have no significant effect on the business growth of small businesses in Nigeria, owing to high interest rates, fluctuating and high exchange rates and inaccessibility to affordable credit negatively affecting the productivity, capacity utilization, and expansion/growth of small businesses.

In Nigeria, [9], [15] conducted an empirical assessment of the effects of financial sector reforms on industrialization in Nigeria using annual time series data over 1981 - 2015. Using an autoregressive distributed lag (ARDL) model, the findings show that financial reforms positively impact industrialization.

Also, [7], [4], [10], [13], [16], [17] investigated the causal effects, shock effect, and long-run impact of the financial sector on manufacturing sector performance. This adopted market capitalization, broad money stock (financial deepening), domestic credit to the private sector, prime interest rate, and deposit liability as proxies for the financial sector, while output in the manufacturing sector and manufacturing employment are used as proxies for manufacturing performance. The study adopted the Granger Non-Causality, Vector Error Correction Model, and Dynamic Ordinary Least Square method, respectively, in testing the posited hypothesis. The results showed unidirectional causality, confirming the hypothesis of the 'supply-leading view' and 'demand-following view' except for market capitalization and output in the manufacturing sector, where independence was observed. The variance decomposition showed that the forecast error shock of credit to the private sector and prime interest rate show more variations in manufacturing sector performance than other financial indicators. The long-run result using output in the manufacturing sector as a dependent variable showed a significant positive relationship with other financial sector indicators, except for broad money stock and deposit liability.

[7], using Vector Autoregressive Model (VAR) through descriptive statistics, investigated the effect of the financial reforms on manufacturing sector productivity growth in Nigeria. The statistical and econometric results show that the financial sector's pre-reform performance was lower than in the post-reform era. Remarkably, the manufacturing sector productivity growth indicator was small in the post-reform era. The correlation coefficient of the financial indicators was equally low, suggesting that manufacturing sector development after Nigeria's various financial reforms has not been positively impactful (an indication of low capacity utilization). The study concludes that the manufacturing sector's minimal contribution does not fully support Nigeria's Gross Domestic Product (GDP) growth.

### 2.3 Theoretical Foundation

In the endogenous growth model, the link between the financial and real sectors has been established [see [18]–[29)]; Acemoglu and [18]–[29]. Furthermore, academics have looked into the relative relevance of bank-based and market-based financial systems in the manufacturing sector [30]–[32].

The endogenous growth model can be used to describe how the real sector can be advanced to support long-term growth. Investment and intermediary financial services such as risk diversification, savings mobilization, and liquidity production are all based on the growth model. The endogenous growth model, according to [18], suggests that there is an implied positive relationship between financial intermediation and economic growth through these services. The influence of model reforms might arise as a result of government action, which can damage or strengthen financial institutions [30]–[18]. As a result, the theoretical framework for this study is based on the standard growth model (AK endogenous growth model).

## 3 Research Methodology

### 3.1 Research Design

For the purpose of this thesis, the quantitative research method, which involves the measurement of variables and determining the correlations between variables [33] in order to establish patterns, relationships, or causal associations [34] would be adopted; this would support the neutrality and objectivity in acquiring statistical data for the study [35].

### 3.2 Population of the Study

The population of the study comprises 44 manufacturing companies quoted at [1], which include Agriculture, Conglomerates, Consumer goods, Healthcare / Pharmaceuticals, Industrial goods, and Natural Resources. Members of the entire population with accessible data for the financial period under review were studied. Therefore, the population of this study comprises ten years (2010 – 2019) data on financial sector reforms (financial deepening, domestic credit, liquidity, exchange rate, interest rate, and market capitalization) carried out in Nigeria, being the independent variable and also ten years (2010 – 2019) data on performance (capacity utilization) of quoted manufacturing firms in Nigeria, being the dependent variable. Thus, the population comprised ten years of data of financial sector reforms and data from financial statements of 44 manufacturing firms in Nigeria.

### 3.3 Method of Data Analysis and Model Specification

For this study, the panel cross-sectional and time-series secondary data collected were analyzed using the Generalized Moment of Methods (GMM), which is used to estimate the dynamic panel data. The study’s model specification is adopted from the study of [3], who recently investigated the effect of financial reforms on the productivity of small businesses in Nigeria. Therefore, the panel regression (Generalized Least Square) model that used to test the posited hypotheses is stated as:

Dependent Variable

$Y = \text{Manufacturing Sector Performance (MSP)}$

$$MSP = f(CUT)$$

Independent Variable

$X = \text{Financial Reforms (FSR)}$

$$FR = f(FDP, DCR, LQD, MCP, EXR, INT)$$

The functional form of the econometric model is therefore given as:

$$Y = f(X_1 X_2 X_3 X_4 X_5 X_6)$$

The explicit forms of the models for the six hypotheses are stated thus:

$$CUT_{it} = \alpha_0 + \alpha_1 FDP_{it} + \alpha_2 DCR_{it} + \alpha_3 LQD_{it} +$$

$$\alpha_4 MCP_{it} + \alpha_5 EXR_{it} + \alpha_6 INT_{it} + \alpha_7 LAB_{it} + \alpha_6 CAP_{it} + \mu_t \dots (1)$$

Where:

$CUT_t = \text{Capacity Utilisation at time } t$ ;  $FDPT = \text{Financial Deepening at time } t$ ;  $DCR_t = \text{Domestic Credit at time } t$ ;  $LQD_t = \text{Liquidity at time } t$ ;  $MCP = \text{Market Capitalization at time } t$ ;  $EXR_t = \text{Exchange Rate at time } t$ , and  $INR_t = \text{Interest Rate at time } t$ ;  $\alpha 0 = \text{Model Constant}$ ;  $\lambda 1-6 = \text{Coefficients of Explanatory Variables}$ ;  $U = \text{Error Term}$ .

## 4 Results and Discussion of Findings

### 4.1 Determination of GMM Model

Before delving proper into the analysis of the impact of effect of financial reforms on performance of quoted manufacturing firms in Nigeria, the researcher has to decide on the most appropriate GMM technique for the estimation. Hence, as has earlier been highlighted, this dissertation will be following [31], [36], [37] rule of Thumb for deciding between difference and system GMM. First the autoregressive model is estimated by Pooled OLS for the coefficient of lagged dependent variable ( $\phi$ ) which is considered an upper-bound estimate, while the estimated corresponding fixed effects estimate is considered a lower-bound estimate. The results of the estimation are reported in appendices III and IV and Tables 4 while table 3 reports a summary of estimated coefficient of the lagged dependent variable.

Table 1. Summary: Difference or System GMM

ESTIMATORS	Coefficients
Pooled OLS	0.978
Fixed Effects	0.83
One-Step Diff. GMM	1.416
Two-Step Diff. GMM	1.36
One-Step Syst. GMM	0.947
Two-Step Syst. GMM	0.948

Source: Author's estimation (2020)

Secondly, the difference GMM is estimated for both One-Step Difference and Two-Step Difference GMM, and the results are reported in Table 2. Likewise, system GMM is estimated for both One-Step System and Two-Step System GMM, and the results are reported in table 2. Based on the underlying assumptions, the estimated coefficient of the lagged dependent variable seems to favour the

use of one-Step System GMM. Both one-step Difference and Two-step difference GMM failed to satisfy the criteria as stated in Chapter three. The coefficient of the estimated lagged dependent variable in both models are more than the coefficient estimated with fixed effect. In other words, the obtained results are above the fixed effects estimate, this suggests that both One-Step Difference and Two-Step Difference GMM estimate are upward biased because of weak instrumentation and therefore a system GMM should be preferred instead.

From table 1, which summarized the estimated results, there is an indication that both One-Step System and Two-Step System GMM are appropriate for the estimation. In other words, the interpretations of the results and hypothesis will depend on both one-step system and two-step system GMM. To validate the efficiency of the internal instruments that are included in the SGMM technique, and to ensure that such instruments are not over-identified, the test for autocorrelation (AR (1) and AR (2)) and Sargan test for are performed for respectively the absence of autocorrelation and validity of instruments. The instrument ratio for the different estimations is expected to be greater than 1, in order to satisfy the condition that the instruments are not proliferated [37]. This research satisfies the condition in all cases.

#### 4.2 Test of Hypotheses

Table 2 shows result of one-step and two-step Generalized Moment of Methods (GMM) which is used to estimate the dynamic panel data. The table showed the result of Arellano & Bond estimates for the dynamic panel data. The concept of a dynamic panel data analysis is to capture the dynamic effect/adjustment speed in the stated model. It is to estimate the rate at which capacity utilization for the manufacturing firms for the previous year is able to adjust to the equilibrium in the current year. If the coefficient of the lag (is greater than 1, it means that it adjusts quickly; if (is equal to 1, it means that adjustment is simultaneous and if (is less than one, it implies that there are no simultaneous adjustments.

Table 2. Effect of Financial Reforms on the performance of quoted manufacturing firms System GMM

VARIABLES	Onestep Sys	Twostep Sys
L.CUT	0.947*** (0.0201)	0.948*** (0.0205)
FDP	0.112*	0.105*

	(0.0809)	(0.0817)
DCR	-0.00039* (0.000167)	-0.0002775* (0.000160)
LQD	0.00530 (0.00644)	0.0100 (0.0106)
EXR	-0.000189** (0.00140)	-0.000143** (0.00127)
INT	0.409** (0.785)	0.381*** (0.773)
MCP	0.0207* (0.0274)	0.0200** (0.0253)
LAB	-0.0178* (0.209)	-0.0149 (0.199)
CAP	0.0552* (0.173)	0.0499** (0.169)
Constant	-4.183 (4.667)	-3.855 (4.504)
Observations	391	391
Number of code	44	44
Year Dummies	Yes	Yes
AR(1)	0.256	0.268
AR(2)	0.527	0.507
Sagan Test	0.025	0.025
Hansen Test	0.561	0.561
Observations	118	118
Instruments (i)	24	22
Number of Companies (n)	44	44
Instrumental Ratio (n/i)	1.8333	2.00

*Robust standard errors in parentheses*  
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The results of table 2 above revealed previous year's capacity utilization for the manufacturing firms impacts positively to its current year. It shows that there is a significant relationship between the capacity utilization and its lagged value with a coefficient of 0.947 for one step system GMM and 0.948 for two-step system GMM. This means that the capacity utilization for the manufacturing firms for previous year does not adjust at the same time and equally in the current year. It takes (1 a slow speed of about 5.3% (1- 0.947) or 5.2 (1-0.948) for capacity utilization to adjust depending on whether it is one-step system GMM or two-step system GMM.

## 5 Conclusion and Recommendation

### 5.1 Conclusion

Premised on findings for hypothesis one, which established that financial deepening has a positive and significant correlation with capacity utilization. Therefore, concludes that, financial deepening has a significant effect on capacity utilisation of quoted manufacturing firms in Nigeria. Thus, the study

agrees with the study of Folarin (2019) that financial reforms have a positive and significant impact on industrialisation, which is premised on enhanced capacity utilisation. The finding agrees with the study of [38] that, financial deepening has a positive significant effect on the performance of manufacturing sector out.

Considering the findings for hypothesis two, which established that domestic Credit (DCR) as a component of financial reforms has a positive and significant effect on capacity utilization. This study therefore concludes that, domestic credit has a significant effect on capacity utilisation of quoted manufacturing firms in Nigeria during the period under review. The findings corroborate the studies of [39], [10], [12], [40] that, there is positive significant relationship between bank credits, domestic money supply and growth (capacity utilisation and productivity) of the industrial sector; [39] that bank credit has a significant positive effect on the performance of manufacturing sector in Nigeria and so on.

Considering the findings for hypothesis three, which established the existence of a mixed result between financial sector liquidity and capacity utilisation of quoted manufacturing firms in Nigeria, evidenced by both positive coefficient value. This study however made its conclusion based on the p-value that; financial sector liquidity has a significant effect on capacity utilisation of quoted manufacturing firms in Nigeria. The findings of hypothesis three aligns with the study of [8], [21], [16], [41], which adopted the panel multiple regressions and established that, liquidity has a substantial effect on the performance of manufacturing companies in Nigeria.

From the results for hypothesis four, which firmly established that Market capitalization with a coefficient value which is positive and significantly correlates to capacity utilization of quoted manufacturing firms. This, study based on the results of the p-value concludes that, market capitalization has a significant effect on capacity utilisation of quoted manufacturing firms in Nigeria. However, the finding of hypothesis affirms the result of [10]–[14], [42].

Premised on the findings for hypothesis five which established that Exchange rates have a positive and significant relationship to capacity utilisation of quoted manufacturing firms in Nigeria. However, considering that the results, this study concludes that, exchange rates have a significant effect on capacity utilisation of quoted manufacturing firms in Nigeria. The findings supports the works of [6], [9], [42] that exchange rate volatility has negative effect

on aggregate manufacturing output in Nigeria, among others.

Finally, premised on the findings for hypothesis six which established that, interest rate is positive and not significant to capacity utilization of quoted manufacturing firms in Nigeria. This study concludes that, interest rates have no significant effect on capacity utilisation of quoted manufacturing firms in Nigeria.

This findings contradicts the findings of [5]–[7], [9], [40], [42] that interest rate has negative impact on manufacturing value added and manufacturing capacity utilisation in Nigeria; and support the findings of [8] which established that, interest rate reduction does not concurrently stimulate capacity utilisation in manufacturing firms in the United States. The finding further contradicts the results of [43] that, interest rate has an insignificant impact on growth; nevertheless, the growth can be enhanced by lower the interest rate in order to stimulate increased investments.

## 5.2 Recommendation

Owing to the strategic importance of the manufacturing sector in achieving economic growth and development, the government should make concerted efforts to sustain increased money supply into the economy to further deepen the financial sector, this will enhance the sectors' capacity to stimulate performance of the manufacturing sector in Nigeria.

The government should vigorously pursue monetary policies to ensure injection of funds into the financial sector, to enhance the capacity of deposit money banks to allocate more credit to the real sector at affordable rates. This will enable the optimal operation of the manufacturing sector in Nigeria.

The government, through the apex bank (CBN) should encourage banks to advance more credits to the productive sectors of the economy, which in turn will improve their liquidity positions through profits, dividends and other bankable incomes.

The government through the regulatory agency (Securities and Exchange Commission) need to restore confidence to the market by putting in place mechanisms to guarantee fair trading, transparent transactions and dealings in the stock exchange. This will in turn encourage optimal capacity utilisation and increased productivity of the manufacturing sector in Nigeria.

The federal government through the monetary authorities should ensure that in the discharge of exchange rate management, primary focus should be on ensuring exchange rate stability through the use

of appropriate monetary policy tools as well as support export diversification programmes in order to enhance foreign exchange inflow.

The government through appropriate monetary policies should lower interest rates in order to stimulate increased investments, capacity utilisation and productivity of the manufacturing sector.

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Nimfa Zwalbong carried did the conceptualization and preparation of manuscript

Hauwa L. Abubakar supervised and reviewed the article.

Umar Abbas Ibrahim was responsible for the Statistics.

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