Do Financial Sector Reforms Influence Manufacturing Sector Performance in Nigeria?

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Research Article

Abstract

Purpose: *The study empirically investigates whether or not financial sector reforms influence manufacturing sector performance in Nigeria.*

Method: *A weighted index covering the gradual progression, scope, dimensions, and institutional changes involved in the reform and regulation of the financial sector is constructed for the study. Annual time series data covering the period 1986-2020 were used for the study. Cointegration and error correction modeling techniques were utilized for the empirical analysis.*

Results: *The empirical results show evidence of a short-run dynamic and a long-run equilibrium relationship between financial sector reforms and manufacturing sector performance in Nigeria. Specifically, financial sector reforms, credit to the private sector, electricity supply, and capacity utilization positively drive manufacturing sector performance in Nigeria. Further findings show that the exchange rate and interest rate variables are negatively and significantly related to manufacturing sector performance.*

Implications: *Based on the empirical evidence, the continuous reforms of the financial sector are imperative to enhance its credit intermediation role to the real sector of the economy, particularly, the manufacturing sector. The provision of accessible, reliable, and stable electricity supply, as well as sound, stable and competitive macroeconomic policy environment and appropriate institutional framework, are also imperative.*

Originality: *The study is unique in the sense that it utilized a weighted index of several key dimensions of the progression and institutional changes involved in the reform of the financial sector, thereby sufficiently capturing the whole process of financial reforms in Nigeria.*

Keywords: Financial reforms, Manufacturing sector performance, Government expenditure, infrastructure, ECM

1. Introduction

Financial reforms result from cautious policy response to improve, reorganize and restructure the financial sector to correct perceived or impending financial sector crises and systemic failures in a bid to enhance its financial intermediation role to the real sector of the economy (Ozekhome & Ukinamenmen, 2016). The role of reforms and the regulatory framework in the enhancement, stability, and viability of the financial system is imperative and widely recognized, particularly in developing economies, where the financial systems are characteristically shallow, fragmented, segmented, and underdeveloped. Through reforms and the resulting increase in financial intermediation, banks, in particular, can bridge the gap between surplus and deficit savings' units in an economy, and mobilizing and facilitating the efficient allocation of resources through capital formation (investment) for real sector growth (see Afolabi, 2004).

Financial reform reforms are expected to bring about a reorientation and repositioning of the financial subsector to attain greater effectiveness and efficiency. These, would accordingly, reposition the economy for rapid economic growth; integrate the domestic financial markets into the global financial structural design, and evolve a banking sector that is consistent with regional integration requirements and international best practices (Soludo, 2004; Abdullahi, 2009, cited in Ozekhome & Ukinamenmen, 2016). It is also intended to address issues of corporate governance, risk management, and operational inefficiencies, with the core of the reforms centered on raising capitalization. (Ajayi, 2005). The proponents of financial reforms argue that amongst others, it would result in significant economic benefits through improved operational efficiency of financial firms and effectiveness that guarantee greater effective mobilization and efficient allocation of resources among various economic units (Olajide, Asaolu, & Jegede, 2011).

Financial reforms are expected to result in financial deepening to encourage a greater degree of financial intermediation in the form of increased, better and efficient lending to the real sector of the economy. The reform of the financial sector, amongst others, is expected to prevent frequent distress, persistent illiquidity, insolvency, poor investment culture, and weak lending activity that are growth-retarding against the backdrop of the weak regulatory and institutional environment, poor corporate governance structure, and weak financial development that have combined to induce financial crises (Ozekhome & Ukinamenmen, 2016). For instance, to be fully integrated into the competitive financial architecture, a strong, viable, and competitive financial system anchored on an effective and well-regulated environment is required.

Concerning Nigeria's manufacturing sector performance, a large deterioration has been observed since the introduction of market-based rates under the Structural Adjustment Programme in 1986. The liberalization of the Nigerian foreign exchange market in 1986, as part of the implementation of SAP policies, marked the switch from the fixed exchange rate regime to the flexible regime, and since then, the Naira-Dollar exchange rate has fluctuated widely and rapidly. Since the manufacturing sector is heavily import-dependent on raw materials and technology, the combination of weak credit and poor financing, poor infrastructural base,

epileptic power supply, hostile economic environment, and high transaction and production costs have contributed to its poor performance (Ozekhome & Mohammed, 2015).

Buttressing this fact, the Manufacturing Association of Nigeria (MAN, 2010), in a survey conducted in 2010, cited poor power (electricity) supply, weak infrastructure development, lack of access to finance/ credit, policy inconsistency, multiple taxations, corruption, lack of adequate take-off incentives for new business, and pronounced poverty as the factors that explain the lackluster performance of the manufacturing sector (Ozekhome & Mohammed, 2015). From a manufacturing share in GDP of 9.8 percent in 1980, that serially declined to 9.3 percent in 1985, 8.2 percent in 1990, 7.9 percent in 1995, 6.7 percent in 1997, 5.8 percent in 2000; with a slight improvement to the tune of 6.6 percent in 2010; declining again to 6.1 percent in 2014, and improving marginally to 7.5 percent in 2020; the contribution of the manufacturing was, at best, weak and negligible.

While some studies have investigated the impact of financial reforms on economic growth in Nigeria (see Alege & Ogunrinola, 2008; Owusu & Odhiambo, 2014), there is however a paucity of empirical studies on the nexus between financial sector reforms and manufacturing sector performance, being a critical channel through which reforms in the financial sector affect real sector growth. The only related study is that of Folarin (2019). Previous studies utilized a dummy variable to proxy financial sector reforms (i.e. 1 for year of financial and 0, otherwise), thus fundamentally ignoring the gradual progression in policy and institutional changes involved in the reform process of the financial sector This study, as value addition, employs a weighted composite index involving the various progression, scopes, dimensions and institutional changes involved in the reform and regulation of the financial system, thereby adequately and sufficiently capturing entire reform of the financial architecture in Nigeria. In addition, given the fact that the Nigerian economy cannot achieve diversified and sustained economic growth without a vibrant manufacturing sector supported by an efficient financial system that is able to provide the needed financial intermediation, there is a need to investigate the nexus between the financial sector reforms and manufacturing sector performance. It is the recognition of this fact that necessitates this empirical study.

Following this introduction, the paper is organized as follows. Section 2 presents a review of financial reforms in Nigeria. Section 3 deals with the literature review, which considers the key theoretical and empirical issues. The methodology, model specification, and data are covered in Section 4 and Section 5 presents the empirical results and analysis. The conclusion and evidence-based policy recommendations are presented in section 6.

2. Financial Reforms in Nigeria

The process of domestic financial market liberalization began in Nigeria in the late 1980s with the implementation of the structural adjustment program (SAP) policies. Financial reforms, particularly banking sector reforms, have largely focused on the definition of banking business, prescription of minimum capital requirements for foreign and indigenous banks, maintenance of adequate reserve funds liquidity, and inculcation of sound supervision, regulation, and control culture into the banking system (Okpara, 2011). Other components of the reforms

include interest rate liberalization, foreign exchange market liberalization, and capital market liberalization. The reforms in the banking sector were predicated on the need to harmonize the activities of banks for national growth and development through appropriate regulation of currency, credit, foreign exchange control, and the supervision of the overall operation of the financial system in the country. Within the period 1986-1993, following the take-off of the World Bank-IMF-led structural adjustment policy program (SAP) in 1986, various reforms in the financial system that include credit, interest rate, and foreign exchange liberalization were implemented. The reforms took the form of interest rate liberalization on both loans and deposits, bank recapitalization, and institutionalization of strong corporate governance mechanisms. Market mechanisms were allowed to determine the rate of interest any bank would charge. The government also gave licenses to new entrants in the banking industry, thereby introducing competition in the banking industry such that the number of banks rose dramatically from 56 in 1986 to 120 by 1993 (Okpara, 2011). The foreign exchange market was also liberalized, thereby reducing government administration, paving way for the auctioning of the foreign exchange system.

The liberalization of the capital market commenced in 1993, with the capital market fully internationalized in 1995. Following this, it became possible for foreigners to participate in the market both as operators and investors without restrictions to the percentage of foreign holding in any company registered in Nigeria. Currency restrictions and capital controls were also removed under the market-determined exchange rate regime, while capital inflows and outflows were liberalized (Obadan & Ozekhome, 2016). The reforms, expectedly, brought some level of real sector growth through higher levels of allocative efficiency and financial intermediation, more competitive, virile, and well-deepened financial system.

3. Literature Review

3.1. Theoretical Literature

The theoretical literature on financial reforms shows that reforms promote financial intermediation (Mckinnon, 1973; Shaw 1973; Levine 2005). Accordingly, financial reforms would create efficiency and enhance financial development to support a greater level of real sector financing and credit intermediation. Financial reforms introduce innovation and changes that address weak, poor capitalization, weak corporate governance, poor risk management procedures, operational inefficiencies, and systemic limitations that restrict the capacity of the financial system, especially banks to contribute to real sector growth. The process of reforms involves the articulation of robust policies that deepens the financial system for efficient intermediation (Okpara, 2011). Furthermore, greater reforms in the financial architecture facilitate portfolio diversification for savers, reduce risk and cost of information asymmetries, and offers more optimal choices to investors in terms of capital investment returns in a cost-effective manner (King & Levine, 1993, cited in Ozekhome, 2021). The efficiency, as well as the level of investment, is thus, expected to rise with reforms in the financial sector through financial development. The relationship between real sector growth and financial development shows that efficiency, monetization and capital formation brought about by financial reforms

affect the viability and stability of the financial system (Imala, 2005). Thus, well-organized and regulated financial institutions face lower bankruptcy, funding costs, and illiquidity problems, and are usually insulated from financial crises, thus enabling them to carry out greater financial intermediation through resource mobilization and credit channeling to the real sector unhindered (Levine, 1997; Kishan & Opiela, 2000).

Financial reforms, in theory, drive efficiency, competition, and convergence in the financial architecture. In fact, well-developed financial institutions are susceptible to lower fragility and systemic crises. Studies on financial liberalization, development, and fragility gave credence to the imperative of financial reforms in line with Demirguc-kunt and Detragiache (1998), who found the existence of a strong positive correlation between bank reforms, efficiency, and financial development. The development of the financial sector through well-implemented reforms will, therefore, encourage lower system fragility, a more stable financial system, greater competition, more deepened financial architecture, and consequently greater real sector performance through greater credit intermediation (Abiad & Mody, 2005; Ozekhome, 2020).

3.2. Empirical Literature

Demirguc- Kunt, and Detragiache (1998) examine the relationship between financial reforms and financial intermediation, using evidence from 53 countries for the period 1980-1995 on financial liberalization and financial fragility. The findings show that a weak institutional and regulatory environment makes financial intermediation weak, particularly in countries where the rule of law is weak, corruption is pervasive and there is inefficient bureaucracy and ineffective contract enforcement mechanisms. The study by chete (2002) on financial reforms and fragility confirms the existence of a positive relationship between weak financial reforms and the probability of financial crises.

Ikhide and Alawode (2001), using evidence from Nigeria find that the success or failure of the financial sector reform program depends on, among other factors, the implementation of an appropriate sequence of the various regulatory and reform policies. Ningi and Dutse (2008) examine the role of banking reforms on the Nigerian economy. Employing descriptive statistics, the results show that recapitalization, a component of financial sector reforms, has positively changed the Nigerian economy through greater support and competition in the private sector, better financial opportunities, including credit mobilization, and enhanced monetary policy transmission mechanism.

Alege and Ogunrinola (2008) assess the effects of financial reforms on the growth of the Nigerian economy. Using cointegration and error-correction modeling techniques on annual time series data covering the period 1970-2002, the results show that financial reform policies have had beneficial and cost implications on the economy. Monetary depth, increased financial intermediation, and overall deepening of the financial sector are the benefits while rising interest rate and asset deepening are the indices of costs.

Olajide, Asaolu, and Jegede (2011) examine the nexus between financial sector reforms and the Nigerian economy for the period 1995- 2004. Specifically, the role of regulatory policies of interest rates liberalization, exchange rate reforms, and bank recapitalization are examined on

economic performance. The evidence shows a positive and significant link between regulation and reforms of the banking sector and real sector economic growth.

Ozekhome and Mohammed (2015) investigate the effect of the real exchange rate (RER) on manufacturing sector performance in Nigeria. Utilizing cointegration and error correction modeling techniques, the empirical findings show that the real exchange rate has a negative and significant impact on manufacturing performance. Based on the evidence, the authors recommend the adoption of a realistic exchange rate to enhance the performance of the manufacturing sector and make it relevant for rapid and sustained economic growth in Nigeria.

Usuab, Odozi, and Adeniyi (2016) investigate the link between financial reforms in the context of financial liberalization and growth of small and medium scale enterprises (SMEs) in Nigeria, accounting for some key macroeconomic variables such as inflation and domestic national output (GDP). Employing the ARDL approach to cointegration and error correction modeling on annual time series data covering the period 1981-2012, the results show that financial reform has a negative, though the non-significant effect on the growth of SMEs. The authors suggest policy measures to diversify the productive base of the economy, as well as the improvement of the business environment in Nigeria. The study by Folarin (2019) examines the link between financial reforms and industrialization in Nigeria. He finds evidence of the possibility of reversal of financial reforms in Nigeria.

Ozekhome (2020) examines the nexus between electricity supply and industrial development in Nigeria. Cointegration, dynamic error correction techniques, and long-run analysis were conducted on annual time series data covering the period 1981-2018. The empirical results show evidence of a short-run dynamic and a long-run equilibrium relationship between electricity supply and industrial development in Nigerian. The results, in particular, show a negative and moderately significant relationship between electricity supply and industrial development in the short run, and a positive and insignificant relationship in the long run. Against the backdrop of the findings, he recommends effective and efficient policies and strategies to enhance industrial development in Nigeria.

Edo and Osadolor (2020) investigate the determinants of industrial growth in Nigeria over the period 1981-2018. The results from the dynamic OLS show that SMEs constitute the most significant driver of industrial growth in Nigeria. The findings also show that foreign private investment and crude oil have positive and significant effects on industrial growth. Exchange rate and lending rate, on the other hand, are negatively related to industrial growth. Based on the evidence, the authors conclude that there is a compelling need to put in place appropriate policy measures to reposition the sector for increased competition through greater access to credit for industrial entrepreneurs, reduction of corporate tax and lending rates on loans to industries and the stabilizing of the exchange rate.

Onyiejuwa and Ayodele (2020) examine the role of infrastructural development and other factors that affect industrial sector output in Nigeria. Employing annual time series data for the period 1961-2017, and the Fully Modified Ordinary Least Squares (FMOLS), the empirical results show strong positive effects of electricity consumption, government expenditure on infrastructure, capital formation, inflation rate, and per capita income on industrial output in

Nigeria. Based on the findings, the author suggests the need for government to be more pragmatic in its effort at developing and improving the quality of infrastructure to drive industrial growth in Nigeria.

From the review of the pertinent studies, there is a paucity of empirical evidence on the effect of financial sector reforms on manufacturing sector performance in Nigeria. The recognition of this gap in the literature is the motivation for this study.

4. Methodology

4.1. Model Specification

In the empirical specification, the systematic relationship between financial sector reforms and manufacturing sector performance is specified as:

$$MP_t = f(FR_t, CPS_t, ELECT_t, CAPU_t, INT_t, EXR_t)$$

Where, MP = Manufacturing sector performance- measured as manufacturing sector output as a share of GDP;

FR = Financial sector reforms- measured as an index of financial reforms that captures the gradual progression, institutional changes, and regulatory framework in the financial system;

CPS = Credit to the private sector as the ratio of GDP;

ELECT= Electricity consumed by the manufacturing sector (in megawatts);

INT= Interest rate on loanable funds (measured as prime lending rate); and,

EXR = Exchange rate of the naira to the dollar (N/$)

$\alpha_1 - \alpha_6$ are parameters to be estimated, t represents a period, and ε is the unobserved error term. *Apriori, we* expect: $\alpha_1, \alpha_2, \alpha_3 \alpha_4 > 0$; $\alpha_5, \alpha_6 < 0$.

4.2. Estimation Technique and Data Sources

The study uses Cointegration and Error Correction Model (ECM) to examine a more systematic linkage between financial sector reforms and manufacturing sector performance in Nigeria. As a prelude to this, the unit root properties of the time series are investigated. The study covers the period of (1986 – 2020). The period is chosen because it encompasses the various financial reforms, particularly 1986, which marked the beginning of financial sector liberalization in Nigeria, which contains several forms and dimensions of institutional, regulatory, and supervisory control, including the overall reform of the financial sector to enhance competition and efficiency. The data are obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and the National Bureau of Statistics (NBS).

5. Empirical Results and Analysis

5.1. Unit Root Test for Stationary

Unit root test involves a test of stationary of variables used in regression analysis. The stationarity of time series is hinged on the fact that non-stationary time series cannot be applied to an extended period apart from the present. This makes forecasting and policy inferences based on such a series of little practical value. Besides, the regression of a non-stationary time

series on another could produce spurious and nonsense correlations (Engle & Granger, 1987). The results of the unit root test are presented in levels and first difference in Table 1, using the Augmented Dickey-Fuller (ADF) test. From the unit root test results, the null hypothesis of no unit root could not be rejected for the time series variables at the 5% level of significance, implying that the variables are non-stationary at levels. Following Box and Jenkins (1994), that non-stationary time series variables can be made stationary by differencing them, the variables were subjected to the first-differencing mechanism. After the first differences, the variables became stationary. The variables are, therefore, difference-stationary, attaining stationary after the first difference. They are thus integrated of order one {i.e. I [1]}.

Table 1: Unit Root Stationary Test

Variables	ADF Statistics (in levels)	ADF Test (in First Difference)	Order of Integration	Remark
D(FR)	-0.817	4.644**	I(1)	Stationary
D(CPS)	-1.109	-5.820**	I(1)	"
D(ELECT)	-0.997	-5.715***	I(1)	"
D(CAPU)	-1.158	-5.466***	I(1)	"
D(INT)	-1.076	-4.984**	I(1)	"
D(EXR)	-1.114	-5.1777***	I(1)	"

Note: *, **, *** indicates significance at the 10%, 5% and 1% levels, respectively.
Source: Authors' computation using Eviews 9

5.2. Co-integration Test

Having established that the series in the analysis are all I(1) variables, possessing unit roots, the co-integration test is conducted on them. The economic interpretation of cointegration is that two or more variables are linked to form an equilibrium or long-run relationship. Even though the series themselves in the short-run deviate from equilibrium, they will converge to equilibrium in the long run. Indeed, a non-stationary series might have a long-run relationship with other non-stationary variables and this does not create a spurious regression. Engle and Granger (1987) argued that given that time series are integrated of the same order, any linear combination of such time series yields a cointegrated series. If the deviation of this long-run relationship is stationary, the variables are adjudged co-integrated. The results from the Engle and Granger residual-based two-stage cointegration test are presented in Table 2.

Table 2: Engle and Granger Residual Based Cointegration Tests Results.

Variable	Test Statistic	95 Percent Critical Value	Remark
Residual Vector	-6.1242**	-4.6814	Stationary

*** denotes rejection of the null hypothesis of no significant counteraction at the 5% level*.
Source: Authors' computation using Eviews 9

As can be seen from the table, the test statistic of -6.12 is greater than the 5 percent critical value of -4.68, an indication that the residuals are stationary. There is thus, significant and plausible evidence of a long-run equilibrium relationship between financial sector reforms and manufacturing sector performance in Nigeria.

5.3. The Error Correction Model (ECM)

The confirmation of cointegration among the time-series variable provides justification for fitting an error correction model. The results of the error correction model showing the response of manufacturing sector performance to financial sector reforms and other variables is presented in Table 3.

Table 3: Error Correction Model Results

Dependent Variable: MP		
Variable	Coefficient	T-ratio
D(MP (-1))	0.0215	0.92871
D(FR)	0.1072	2.1082**
D(CPS)	0.1162	1.8334*
D(ELECT)	0.2017	1.1063
D(CAPU)	0.0341	1.8315*
D(INT)	-0.0692	-2.2404**
D(EXR)	-0.0923	-2.6771***
D(EXR (-1))	0.0542	0.8210
C	0.1434	1.5213
ECM(-1)	-0.730	-2.9241**
R-squared	0.95	
Adjusted R-squared	0.901	
F-statistic	54.24 (0.000)	
Breusch-Godfrey LM Serial Correlation Test Statistic	1.65 (0.32)	

Note: *, **,*** indicates significance at the 10%, 5% and 1% levels, respectively.
Source: Authors' computation

The adjusted R^2 value shows that the independent variables and the ECM explain over 90 percent of the net systematic variations of manufacturing sector performance, thus suggesting a high predictive capacity for the model. The F-value of 58.24 is highly significant at the 1 percent level, thus validating the hypothesis of a significant linear relationship between manufacturing sector performance and the regressors. The coefficient of the lagged manufacturing performance is positively signed but not significant. Thus, past levels of manufacturing performance positively influence current levels of manufacturing performance but the effect is not significant in Nigeria, due perhaps to policy inconsistency. Based on the estimates, a 1 percent improvement in previous manufacturing performance positively drives further manufacturing performance by 0.93 percent.

The coefficient of financial reforms is positively signed in line with theoretical expectation and significant at the 5 percent level. Thus, better and efficient reform in the financial sector encourages manufacturing sector performance through a higher level of financial development manifested in a greater level of resource mobilization, diversification of risks, and enhanced access to basic financial services. The result supports the findings of Olajide, et al (2011) and at variance with the findings of Usuab et al (2016). The coefficient indicates that a 1 percent improvement in financial reforms steers manufacturing sector performance by 0.11 percent.

The coefficient of credit to the private sector is positively signed in line with economic expectation, though significant only at the 10 percent level. Thus, increased financial intermediation due to financial sector reforms stimulates the manufacturing sector's performance. The effect is however not pronounced due to the low level of credit intermediation to the real sector of the economy, arising from exorbitant lending rates, huge and complex demand for collateral requirements by lending institutions, and other restrictions that affect unfettered access to credit and financing. This finding buttress the results of Bundiera et al (2000), and Ozekhome and Ukinamenmen (2016). A unit percent increase in credit to the private sector induces manufacturing sector performance by 0.12 percent.

The coefficient of electricity supply is positively signed but fails the significance test. Since its t-ratio is greater than 1, the conclusion is that a reliable, accessible, stable, and efficient electricity supply promotes manufacturing sector performance. The effect which is however weak in Nigeria is due to the poor and epileptic power supply, in addition to the weak infrastructural base in Nigeria; a factor that explains the slow growth and development of the manufacturing industrial sector in Nigeria. The result supports the findings of Ozekhome (2020). Based on the estimates, a unit percent improvement in electricity supply triggers manufacturing performance by 0.20 percent.

The coefficient of capacity utilization is positively related to manufacturing performance but significant only at the 10 percent level. Thus, increased capacity utilization encourages manufacturing sector performance in Nigeria, but the effect is moderately significant (not very pronounced), due perhaps to the poor capacity utilization in Nigeria, arising from a combination of under-utilized power generation, transmission, and distribution, alongside infrastructural deficit. The finding supports the position of the MAN (2010). The coefficient indicates that a 1 percent improvement in capacity utilization stimulates manufacturing performance by 0.03 percent.

The coefficient of interest rate (cost of loanable funds) is negatively signed and significant at the 5 percent level. Thus, the rising interest rate has an outright destabilizing effect on manufacturing sector performance in Nigeria. Invariably, the high cost of loanable funds undermines manufacturing sector performance through the increased cost of production and operation it engenders, particularly, for SMEs, other start-ups, and infant manufacturing firms. The result is in line with the findings of Ozekhome (2020). A unit increase in the cost of borrowing reduces manufacturing sector performance by 0.07 percent.

Finally, the coefficient of the exchange rate variable is negatively signed and significant at the 5 percent level. Thus, the rising exchange rate has a diminishing impact on manufacturing performance in Nigeria. Invariably, the depreciation of the domestic currency increases the cost of inputs and other capital machinery required to grow the manufacturing sector. Since the Nigerian economy, particularly the manufacturing sector is highly import-dependent, the ultimate effect is to slow down manufacturing sector performance. The finding supports the results of Ozekhome and Mohammed (2015). Based on the results, a 1 percent rise in the exchange rate (.i.e. depreciation/devaluation) of the domestic currency dampens manufacturing sector performance by 0.09 percent.

Apart from the diagnostic statistics, the error-correcting term that captures the adjustment from a short-run equilibrium to a long-run equilibrium is appropriately negative and significant. Its coefficient indicates that the contemporaneous adjustment of manufacturing sector performance to long-run equilibrium after short-term disequilibrium and perturbation is 73 percent. The post-estimation evidence using the Breusch-Godfrey LM test leads to the non-rejection of the null hypothesis of no serial correlation {with F-statistic = 1.65} with a corresponding p-value of 0.32, which is greater than 0.05. There is thus, no evidence of autocorrelation in the model. The estimated model is, therefore, sufficiently and reliably fit for structural and policy analysis.

6. Policy Implications of Findings

A number of important policy implications emanate from the empirical findings. First, financial sector reform is predicated on the need for reorientation, repositioning, and overhauling of the entire financial system to attain effectiveness and efficiency in the facilitation of efficient financial intermediation for real sector growth. Through the reform of the financial sector, financial development can be enhanced for better resource mobilization and channeling. The reform of the financial sector also enables the integration of the domestic financial system into the global financial architecture, to evolve a system that is consistent with regional integration requirements and international best practices with greater capacity to support real sector manufacturing performance. To this end, better and efficient supervision and regulation of the financial system in the direction of increased credit mobilization and intermediation to enhance manufacturing sector performance is important.

Second, to propel the rapid growth of the manufacturing sector in Nigeria, and thus, delink the economy from the volatile influence of a domineering dependence on oil and the associated external vulnerabilities in a matchless diversification drive, that enhances foreign exchange earnings capacity, accelerate technological development and create employment, the electricity sector must be developed to sustainable, accessible, reliable and efficient levels, through well-exploited capacity utilization.

Fourth, appropriate interest rates through sound and stable monetary policy frameworks, in addition to sectoral-driving policies, such as concessional lending rate to propel the growth and development of the manufacturing is important in Nigeria. Finally, a stable and competitive exchange rate is key to driving the growth of the manufacturing sector in Nigeria.

7. Conclusion

The paper sets out to re-examine whether financial sector reforms influence manufacturing sector performance in Nigeria. In doing this, a weighted index that captures the gradual progression, institutional and regulatory changes covering the various scope and dimensions of the reform process was constructed. Employing cointegration and error correction modeling techniques on annual time series data for the period 1986-2020, the empirical results show that financial sector reforms positively and significantly influence manufacturing performance in Nigeria. Credit to the private sector and capacity utilization rate has positive and moderate effects on manufacturing sector performance. Electricity supply is positively related to

manufacturing sector performance but the effect is weak, due apparently to the poor and unreliable electricity supply in Nigeria. Further evidence shows that the interest rate and exchange rate variables have a negative and significant relationship with manufacturing sector performance in Nigeria.

Based on the foregoing findings, the government and policymakers should embark on the continuous reform of the financial sector in order to enhance its development for increased financial intermediation to the real sector of the economy. Sectoral policies that will increase loanable funds and finance to the manufacturing sector at the concessional interest rate, in addition to improved electricity supply through massive investment in the energy/power sector, and the implementation of sound, stable and competitive exchange rate policy are other important ways of enhancing the performance of the manufacturing sector in Nigeria.

8. Limitation (s) of the Study and Direction for Further Study:

The study is limited by its concentration on the gradual progression and institutional changes involved in the reform of the financial sector. Further study in the subject matter should, therefore, capture the effect of policy and institutional reversal in the construction of financial reform index in order to examine the possible effects of such reversal conditioned on the reform and regulation of the financial sector on real sector performance.

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Appendix

Financial Reform Index

Years	Bank Denationalization & Restructuring	Interest Rate Liberalization	Strengthening of Prudential Regulations	Direct Credit	Free Entry into Banking	Capital Account Liberalization	Stock Market Liberalization	Foreign Exchange Market Liberalization	Index of Financial Reforms/
1986	0	0	0	0	0	0	0	1	1
1987	0	1	0	1	1	0	0	1	3
1988	1	1	0	1	1	0	1	0	5
1989	1	1	0	1	1	1	1	0	6
1990	1	1	0	1	1	1	1	0	6
1991	1	0	1	1	0	1	1	0	5
1992	1	0	1	1	0	1	1	0	5
1993	1	0	1	1	0	1	1	0	5
1994	1	0	1	1	0	1	1	0	5
1995	1	0	1	1	0	1	1	0	5
1996	1	0	1	1	0	1	1	1	6
1997	1	1	1	1	1	1	1	1	6
1998	1	1	1	1	1	1	1	1	8
1999	1	1	1	1	1	1	1	1	8
2000	1	1	1	1	1	1	1	1	8
2001	1	1	1	1	1	1	1	1	8
2002	1	1	1	1	1	1	1	1	8
2003	1	1	1	1	1	1	1	1	8
2004	1	1	1	1	1	1	1	1	8
2005	1	1	1	1	1	1	1	1	8
2006	1	1	1	1	1	1	1	1	8
2007	1	1	1	1	1	1	1	1	8
2008	1	1	1	1	1	1	1	1	8
2009	1	1	1	1	1	1	1	1	8
2010	1	1	1	1	1	1	1	1	8
2011	1	1	1	1	1	1	1	1	8
2012	1	1	1	1	1	1	1	1	8
2013	1	1	1	1	1	1	1	1	8
2014	1	1	1	1	1	1	1	1	8
2015	1	1	1	1	1	1	1	1	8
2016	1	1	1	1	1	1	1	1	8
2017	1	1	1	1	1	1	1	1	8
2018	1	1	1	1	1	1	1	1	8
2019	1	1	1	1	1	1	1	1	8
2020	1	1	1	1	1	1	1	1	8

Source: Reports from Policy and Institutional Reforms in the Nigerian Financial Sector.