Innovations

Economic Recession and Manufacturing Sector Out Put in Nigeria

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Abstract
The study examined the effect of economic recession on Manufacturing Sector Output in Nigeria for the period 1981 to 2021. The data used for the study was sourced from central Bank of Nigeria (CBN) Statistical Bulletin and Annual Reports and Accounts of various issues. The dependent variable for the study was manufacturing sector output while the independents variables are inflation rate and government expenditure as proxies for economic recession. The variables used in the study were tested for stationarity using Augmented Dickey Fuller (ADF) test and the Johanson co-integration test to establish the long-run relationship among the variables. Furthermore, the Error Convection Model (ECM) test was developed for long-run static model. The result from the study revealed that (a) inflation has a negative and significant impact on manufacturing output in Nigeria and (b) government expenditure has a positive and insignificant impact on manufacturing sector out-put in Nigeria. The study concluded that inflation influence manufacturing sector output in Nigeria negatively. The study recommended among others that (a) government should resuscitate the decayed infrastructure all over Nigeria especially power, railways etc to reduce the cost of doing business in Nigeria (b) credit squeeze by banks which put the government in competition for available loanable funds with genuine investors should be stopped.

Keywords: *Inflation, Recession, Government, Expenditure, Investors*

Introduction

Emergence of economic recession is usually triggered off by the negligence of core economic policies. The recession imposed severe pressure on the various sectors of the Nigerian economy. The manufacturing sector seems to be the hardest hit. The sector face challenges which centered on massive decline in sales, patronage, profit margin, low production, retrenchment, difficulty in obtaining loans, increased production costs, factory closure, low power supply, abrupt increase in tariff as well as losses on foreign exchange loans (Ikeke, 2017).

According to Adeniji, 2008). discovered that firms could not have access to dollars for importation of raw materials due to scarcity of foreign exchange. Nigeria is now confronted with shortage of dollar in financing her import.

Some firms that were fortunate to pay for the dollars receive them after 3 to 4months. These made a few of the manufacturing firms' capability consumption to fall around 35% (Ikeke, 2017). One of the effects of economic recession is high rate of unemployment which mounts pressure on the management accountants' role of staffing and effective management of human resources. Edogbanya, (2013) noted that the result of the recession had grown to be unbearable for firms leading to huge loss of jobs.

Noko (2016) stated that over 20,000 employees working in manufacturing companies lost their jobs due to the recession. This increased cost of production, led to low capacity utilization and also made our industries increasingly less competitive in the global economy (Lyman, 2014).

Economic recession created harsh economic climate in Nigeria, which is evidenced by high energy cost, high bank interest rate (22%) and high naira exchange to dollar (N460 to $US) etc. Some of the multinational companies like Dunlop plc and Michelin plc relocated to neighboring countries because of harsh economic climate. The horrendous nosedive in stock market prices reduced level of investment in stocking manufacturing industries. Many of the manufacturing industries were delisted in the stock exchange because of poor performance and closure and investors no longer acquire their shares. The issue of expansion was also made difficult in manufacturing industries by low stock prices and delisting of industries at the stock exchange. There were massive labour turnover (Layoffs) as a result of low capacity utilization and factory closure.

Manufacturing industry was the hardest hit with about 80% of its factory closed down. Most industries were producing blow 50% capacity utilization. The dwindling state of the economy made naira rate of exchange to US dollar very unstable and tremendously high. It posed difficulty on importation of spare parts, equipments and raw material for manufacturing industries.

The inflation affected customers 'purchasing power resulting in consistent drop in sales volume. Some customers seem to be quality conscious while some seem to be price conscious and in all, firms were in continuous struggle to maintain their customers. Firms fought to survive, they engaged in various strategies and lots of below the line marketing push to ensure that their competitors did not snatch their customers.

Statement of Problem

The lingering effect of the various years of recession on the economy of Nigeria to present date has negative impact on our manufacturing industries. Previous administrations in Nigeria have tried to introduce and implement different social, economic and political reforms. Such reform programmers could neither be described as success nor failure because they were abandoned halfway, calling into question the real intentions of the government of the day that might have introduced them. Political stability in governance is an important requirement for conducive business environment. Frequent changes in policies and programmes as a result of intervention in governance renders business plans and projections useless. And no foreign investors will like to do business in a Chaotic and unstable environment.

The problem of economic recession in manufacturing industries cannot be solved unless the Nigerian factors responsible for continuing existence of this malady is unraveled and salvaged with proper economic reform programme. According to Eze (2009) Corruption and embezzlement of public fund is blamed for the stunted economic growth which stalled national development and industrial expansion. The stunted economic growth has serious negative impact on the manufacturing industries. The manufacturing industries are affected when it bothers on reserve to service imports, from where they obtained foreign exchange to import their spare parts, machineries and raw materials. The stunted economy has resulted to high interest rate, to unstable naira to dollar exchange rate and these affects manufacturing industries that rely on bank loan to finance their business and exchange to dollar for procurement of their spare parts, machinery etc. Our leaders have deliberately made wrong economic and development decisions leading to colossal loss in financial resources, which most often were borrowed. Loans were accessed from foreign banks meant for projects at home but the funds so borrowed never made it into Nigeria shores (Eze, 2009).

Objectives of the Study

The broad objectives of this study is to evaluate the effect of economic recession on manufacturing sector in Nigeria. The specific objectives are:

i. To determine the effect of inflation rate on the manufacturing sector output in Nigeria
ii. To determine the effect of government spending on manufacturing sector output in Nigeria.

Research Questions

The following questions are raised in the course of this study

i. To what extent does inflation rate affect manufacturing sector output in Nigeria?
ii. What is the effect of government spending on manufacturing sector output in Nigeria?

Research Hypotheses

This is stated in their null form

Ho_1: Inflation does not affects manufacturing sector output in Nigeria.

Ho_2: Government spending affects manufacturing sector output in Nigeria.

Significance of the Study

It is important to note that the study will be of educational values and has social benefits to government officials and banks, the policy makers and the entire citizenry.

The study will also provide richly desired information to Nigeria undergraduates and those pursuing higher degree in the discipline of finance, entrepreneurs, economics and the likes.

It will help to alert the general public, policy makers, practitioners, administrators; tax administrators and the generality of the Nigerian citizens on the problems associated with economic recession. Finally, the findings of this study will be useful and of great assistance to future researchers and students embarking on similar study.

Scope of the Study

This study shall be restricted to the period between 1981 and 2021. The included variables were manufacturing sector output, economic recession and government expenditure.

Review of Related Literature

Theoretical Framework

This study is anchored on the contingency theory. Robert and Schmidt (1957) developed a Contingency theory, as an outgrowth of systems design. Scott adds that in contingency theory "the best way to organize depends on the nature of the environment to which the organization relates". The environment has a far-reaching impact on organizations. The growth and profitability of any organization depends critically on the environment in which it exists. Any environmental change has an impact on the organization in several different ways.

Ile (1999) asserts that contingency approach to management is of the view that the management technique that best contributes to the attainment of organizational goals might vary in different types of situations or circumstances. He goes further to say that modern theories of organization and management was developed largely since the 1917's by the contribution made by Alfred, Korzybaki, Mary Parker-Follent, Chester, Barnard and Norbert Wiener etc. Contingency theory is guided by the general orienting hypothesis that organizations whose internal features best match the demands of their external environments will achieve the best adaptation (Scott, Lawrence and Lorch, 1967). The more homogenous and stable the environment, the more formalized and hierarchical the form. Their view is ecological - those organizations that can best adapt to the environment will survive. Different types of organizations are needed in different types of environments.

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Empirical Studies

Agri, et al., (2017) examined the impact of economic recession on macroeconomic stability and sustainable development in Nigeria from 1980 – 2016. The OLS method was adopted for data analysis. The results show negative impact of these variables on economic growth and sustainable development. The recession impacts on socioeconomic and political lives of the Nigerian people should be studied to find the root causes and proffer solutions for sustainable economic development. This study perceives economic recession as a symptom of deeper structural problems inherent in the Nigerian economy, and overdependence on external modern capitalist societies.

Oyewole and Olaniyi (2017) examined the business educators' perception of the impact of economic recession on Nigeria's socio economic lives. The study adopted descriptive survey design. A five point rating scale items structured questionnaire was used for data collection. The result showed that the economic recession highly affected Nigeria's socio-economic lives.

Shido-Ikwu (2017) analysed the main reasons for the emergence of the current economic recession in Nigeria. The research findings indicate that the main causes for the emergence of the economic recession in Nigeria can be grouped under three main factors: legacy factors, policy factors and political/security factors.

Awujola and Ejezie (2015) examined the impact of Global economic recession in the context of the political economy approach. The study used the global economic recession as a variable between Micro and Macro factors in fiscal and monetary policies of the elitist economic managers and state government in the international economic system. It portrayed global economic recession as demise of political and economic capability and ineffectiveness of capitalism up surge of free markets and greed of those who failed to anticipate the consequences of their actions. It affirms that the political and economic implications of Global economic recession can be ameliorated through concerted efforts between states in the international economic system and national governments, under a broad regulatory framework devoid of greed to share and sustain economic growth in the beleaguered financial sector.

Chukwu, Liman, Enudu and Ehiaghe (2015) empirically reviewed on the effect of economic recession in textile manufacturing industries in Nigeria. This research study investigated the effects of economic recession in textile manufacturing industries in Nigeria. Economic recession has disastrous ripple effects on manufacturing industries. The data collected from questionnaire instrument were also analysed using percentages. The research finding show that the effect of economic recession in manufacturing industries are low capacity utilization and factory closure, horrendous nosedive in stock market prices, delisting of share at the stock exchange, fall in commodity prices and low foreign direct investments.

Ayayi (2008) in a study of the collapse of Nigeria's manufacturing sector, used cross-sectional research design and found out that the main cause of collapse in Nigeria manufacturing sector is low implementation of Nigerian budget especially in area of infrastructure. This means that low implementation of fiscal policy affects the level of growth in Nigerian manufacturing sector.

Rasheed (2010) investigated the productivity in the Nigerian manufacturing sub-sector using co-integration and an error correction model. The study indicates the presence of a long-run equilibrium relationship index for manufacturing production, determinants of productivity, economic growth, interest rate spread, and bank credit to the manufacturing sub-sector, inflation rates, foreign direct investment, exchange rate and quantity of graduate employment. This finding has research gap on the area of factors that affect manufacturing sector in Nigeria.

Sangosanya (2011) used panel regression analysis model and Gibrat's law of proportionate effect in investigating firm's growth dynamics in Nigerian manufacturing industry. The study observed that the manufacturing firms finance mix, utilization of assets to generate more sales, abundance of funds reserve and government policies are significant determinants of manufacturing industry growth in Nigeria. This result means that the manufacturing sector financial performance and long-term sources of fund option determines the growth of manufacturing sector in Nigeria.

Eneji, Dimis and Umejiaku (2017) carried out a review on the impact of economic recession on macroeconomic stability and sustainable development in Nigeria. The Nigerian economy has been hard by a recession, caused by excessive imports, plunging oil revenue and sharp low investment inflows. The study uses multiple regression analysis of time series data on selected macroeconomic variables in two econometric models. The results show negative impact of these variables on economic growth and sustainable development. The recession impacts on socioeconomic and political lives in Nigeria should be studied to find the root causes and proffer solutions for sustainable economic development.

This study perceives the economic recession as a symptom of deeper structural problems inherent in the Nigerian economy, and overdependence on external modern capitalist societies. It recommends that Nigeria needs positive economic change that is caused by structural and fiscal reforms. Nigeria should strive to diversify the economy, be self-reliance and corruption- free, eat what she produces, and mostly use what she makes. The paper concludes that Nigeria can get out of the recession.

Research Methodology

Research Design

The study used the ex-post factor research design to examine the relationship among the variables. The data for the study was generated from the Central Bank of Nigeria Statistical Bulletin and Annual Report and Account of various issues. The study covers the period spanning 1981-2021.

Method of Data Analysis

The multiple regression model was employed in the study for the purpose of analyzing data and drawing conclusion. The following analytical techniques and criteria were employed: economic, statistical and econometric criteria.

The model for the study is specified as follows:
MOP= f (INF, GEX,)

Where
MOP = Manufacturing output
INF = Inflation rate as proxy for economic recession
GEX = Government expenditure as proxy for economic recession
The above equation can be put in an econometric form as;
MOP $=b_0+b_1$ INF+ b_2 GEX+ μ
Where;
Where; Bo is the constant intercept
β_1=coefficient of parameter inflation
β_2= coefficient of parameter GEX

μ = the stochastic error term or disturbance variable.
MOP=c+LB_1INF+LB_2GEX+ b_3 + μ
Where
L=logged values of the variables

Presentation and Analysis of Data

Testing for Unit Root

Table 4:1 Unit Root Result

Variable	ADF	Integration	Significance
MOP	-6.722398	1 (1)	1 %
INF	-6.620191	1 (1)	1 %
GEX	-6.192023	1 (1)	1 %

Source: Author's computation

Using the augmented Dickey-Fuller tests, the results as presented in Table 4;1 shows that all the variables are stationary at first difference. That is, the result indicates that the variables, are integrated of order one I(1).Therefore, a co-integration test was carried out to confirm and determine the existence of a long-run relationship among the variables as specified in the equation.

Testing for Co-integration

Co-integration implies that variables exhibit a similar type of behavior in the long-run. Hence, it ascertains whether the variables have a sustainable long-run relationship or are stable over time. The test is done to avoid having a spurious result. The common methods used for co-integration are Johansen procedure. A lack of co-integration suggests that such variables have no- long – run equilibrium relationship. Table 4.2 below gives the summary of co-integration result for the model.

Table 4.2: Co-integration Result

Unrestricted Co-integration Rank Test (TRACE)

Hypothesized		**Trace**	**0.05**	
No of CE(s)	Eigenvalue	Statistic	Critical value	Prob
None*	0.569353	44.80450	35.19275	0.0034
At most 1	0.265029	15.31815	20.26184	0.2087
At most 2	0.121674	4.540812	9.164546	0.3375

Source: Author's Computation

Trace test indicates 1 con-integration equation at 0.05 level denotes rejection of the hypothesis .

Unrestricted Co-integration Rank Test (maximum Eigenvalue)

Hypothesized		**Max- Eigen**	**0.05**	
No of CE(s)	Eigenvalue	Statistic	Critical value	Prob
None*	0.569353	29.48635	22.29962	0.0042
At most 1	0.265029	10.77734	15.89210	0.2687
At most 2	0.121674	4.540812	9.164546	0.3375

Source: Author's computation

Max- Eigen value test indicates 1 co-integrating eqn (s) at the 0.05 level denotes rejection of the hypothesis at the 0.05 level MacKinnon – Haug – Michelis (1999) – values.

From table 4.2, it is observed that both trace test statistic and the max- Eigen value test indicates two co-integrating equation at 5% level of significance. The Johansen co integration test reveals that there is a longrun relationship among dependent and independent variables.. The conclusion drawn from the result is that there exists a unique long-run relationship among the variables.

Table 4..3: Error Correction Model Test

Variable	**Coefficient**	**Std. Error**	**t- statistics**	**Prob**
C	13.01342	0.068480	190.0321	0.0000
INF	-0.003824	0.017628	-2.216908	0.0035
LGEX	0.001032	0.017554	0.058810	0.8296
ECM(-1)	1.014586	0.046865	2.164894	0.0045

Source: Author's computation

R- Squared	0.937637
Adjusted R- squared	0.931968
F – Statistics	165.3876
Prob (F- statistics)	0.000000
Durbin- Watson stat	1.992372

Interpretation of the Result

Coefficient of determination, this is also called the goodness of fit. This explains the percentages, proportion or total amount of variations in the dependent variables as a result of changes in the independent variables included in the model. This will portray the usefulness and significance of the regression. The closer its values are to 1 the better the fit since it is usually 0-1. From our regression result, R^2 is 0.93%. This implies that the independent variables can explain about 93% of the variables in the dependent variable, leaving the remaining 7% which would be accounted for by other variable outside the model.

The adjusted R^2 is 93% meaning that even with an adjustment in the independent variables, they can still account for about 93% of the changes in the dependent variables.

The F- statistics, this is use to test for the overall significant of the model. . From the result in table 4.3 above, our computed value of F- statistics is 165.3876, while the probability is 0.000000. Since the probability of the F- statistics in the computed output is less than the desired 0.05 level of significance, we accept and state that there is a significant relationship between the variable of the estimate and that of the dependent variable

In table 4.3 above, we find out that inflation rate has a negative sign given its value as 0.003824 this implies that a unit decrease in recession increases the manufacturing output by 3%, this conform to our a' priori expectation. Government expenditure has a positive sign given its value as 0.201032, this implies that a unit increase in government expenditure increases manufacturing output by 20%, this suggest that it conform to theoretical expectation.

T- Statistics, this is carried out to know the significant of individual explanatory variables in the model. That is to find out the significant influence of explanatory variables on the dependent variables at chosen level of significant. It is used to test or reject the hypotheses of the study from our regression model, it was discovered that economic recession is statistically significant because of high t-statistics and low probability value.

Government expenditure has an insignificant impact (0.058810) this implies it has contributed to manufacturing output in Nigeria, respectively.

Test for autocorrelation, this is to test whether errors corresponding to difference observation are uncorrelated. It checks the randomness of the residuals. If the value of the Durbin-Watson from the regression result is close to 2 no autocorrelation in that regression result but if it deviates significantly then there is autocorrelation. The Durbin-Watson statistic (D.W) of 1.9 reveals no autocorrelation in the models. Hence, the result is good for econometric analysis.

The coefficient of the error correction term carries the correct sign and it is statistically significant at 5 per cent level with the speed of convergence to equilibrium of 51 per cent.

Hypothesis Testing

Ho_1: Inflation rate has no significant effect on manufacturing sector in Nigeria

Ho_2: Inflation rate has significant effect on the manufacturing sector in Nigeria

Meanwhile, drawing inference from table 4.3 above we find out that the computed value of T- test for economic recession is -2.216908 While it's probability is 0.0035 since it's probability is lesser than 0.05% level of significance, we reject the null hypotheses (H0) and accept the alternative hypothesis which says that inflation rate has significant effect on manufacturing sector in Nigeria

Hypotheses Two
Ho: Government expenditure has no significant effect on manufacturing sector in Nigeria
Hi: Government expenditure has significant effect on manufacturing sector in Nigeria

From table 4.3 above we find out that the computed value of T- test for mortality rate is 0.058810, while it's probability is 0.8296 since it's probability is greater than 0.05% level of significance, we accept the alternative (Hi) hypothesis and reject the null hypothesis which says government expenditure has insignificant effect on manufacturing sector in Nigeria

Summary, Conclusion and Recommendation

Summary of the Finding

The findings of the study reveal the following:

i. Inflation rate is negative and has a significant impact on manufacturing sector in Nigeria.
ii. Government expenditure is positive and has a insignificant impact on manufacturing sector in Nigeria,

Conclusion

In conclusion, the effect of economic recession on the manufacturing sector has high negative effects on engagement levels, and this is something every manufacturing business should be concerned with. While engaged, employees will not make the recession disappear; they will certainly help companies get through it with far more success than would otherwise be possible. To overcome this crisis, human resource practitioners need to be more strategic in their engagement responsibilities, and need to support their engaged employees. This encourages acceptance and positive attitude from organizations and especially from the government since it will involve all stakeholders to attain the goals of effective human resources management. Thus, government involvement is critical in combating the problems of declining industrial growth in Nigeria. Every organization has the right to protect its interest and thus create modalities for true survival in a harsh economic condition.

Recommendations

The inexplicable credit squeeze by banks which puts the government in competition for available fund against genuine would be investors should be discouraged and stopped.
Effort should be made to strengthen further our stock exchange so that investor's confidence will be restored.

Government should resuscitate the decayed infrastructures all over Nigeria especially power, rail road etc to reduce cost of doing business or manufacturing.

Government should invest in agriculture because it promotes employment and reduces the cost of living and reduce the nation's recession.

From the study so far, information on the cause and effect of economic recession on food production has been elaborated and the following recommendations are given below:

1. Farmers should be encouraged through provision of land, fertilizers, funds (loans, empowerment e.t.c) and teaching series on Agriculture and its importance.
2. Youths that are unemployed should venture into Agriculture in other to be able to afford the cost of living nationwide.
3. Since Agriculture has been seen to be one of the tools that can fight Nigeria's Economic recession, Nigerian's should not hesitate to go into Agriculture at the slightest opportunity.

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