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Exchange Rate Fluctuations and Firm's Survival: Evidence Manufacturing Contribution to the Nigerian Economic Growth

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Abstract

Exchange rate fluctuation has remained a challenging issue for developing countries and sub-Saharan African region in particular. Despite all the efforts towards a stable exchange rate by the sub-Saharan African countries in the last decades, economic growth has been sluggish in almost all the countries in the region. Objective of this study is to assess the economic impact of exchange rate fluctuations on manufacturing companies' survival in Nigeria, taking manufacturing contribution to gross domestic product as a proxy for survival. The study adopted Ex Post Facto Research Design and time-series data was used. Relevant secondary data for this study were generated from Central Bank of Nigeria statistical bulletin and the Annual Abstract of the National Bureau of Statistics between 1990 and 2020. The study employed ordinary least square estimation and used regression analysis to test the relationship between exchange rate fluctuations on manufacturing companies' survival in Nigeria. The study showed that exchange rate and production growth are positively and significantly related. From the result, exchange rate, interest rate and trade openness are statistically significant at 5 percent level while inflation is not. It therefore shows that exchange rate, interest rate and trade openness have effect on the manufacturing contribution to gross domestic product in Nigeria within the period studied. The indication from the result is that exchange rate fluctuation is not good for a growing economy like Nigeria. Exchange rate as the variable of interest in the study appears with correct sign showing that there is a positive and significant relationship between exchange rate and production growth. Based on the research finding, the study therefore recommends that efforts should be made in order to have an effective monetary policy that will guarantee a realistic exchange rate to boost sectorial output performance in Nigeria.

Keywords: Exchange Rate, Manufacturing Contribution, Interest Rate, Trade Openness

1. Background to the Study

Globalization is now a complete reality that virtually all companies must face; and no longer a fiction. The globalization of economic activities also encouraged the growth of companies beyond their home country and the operation of diverse companies as a single organization which cuts across countries.

Countries produce certain products in abundance so as to exchange with other products from other countries. This idea had encouraged economic liberalization which allows countries to seek exchange of resources in the form of

goods and services with one another. These countries that seek exchange of resources in the form of goods and services would definitely have different currencies and this exchange of resources would most likely be determined by the rate of exchange. Exchange rate is the rate at which one country's currency is exchanged for another country's currency. It is an important economic variable as its appreciation or depreciation affects majorly the performance of the manufacturing sector. Ojeyinka (2019) noted that the manufacturing sector plays a catalytic role in a modern economy and has many dynamic benefits that are crucial for economic transformation. Manufacturing sector is one of the sectors whose success or failure depends on the stability of exchange rate. Oladipupo and Onotaniyohowo (2011) observed that fluctuations in the rate of exchange had a significant effect on some macroeconomic variables in the economy like the level of inflation, unemployment, interest rates, and money supply. It also affects the production of goods in the economy, investment opportunities and level of employment.

The concept of exchange rate as a factor for this exchange of resources came in because these resources are being exchanged between countries with different currencies. The exchange rate in Nigeria today has become an everyday topic for discussion; this is as a result of the constant increase in the cost of goods and services as caused by the fluctuating exchange rate. Oyovwi, (2012), noted in his study that, the use of exchange rate as an incentive to shift resources into export sector became a policy of interest as a way of boosting national income. Akpan & Atan, (2012), equally observed that the exchange rate policy in Nigeria has undergone substantial transformation from the immediate post-independence period when the country maintained a fixed parity with the British pound, through the oil boom of the 1970s, to the floating of the currency in 1986, following the near collapse of the economy between 1982 and 1985 period. The instability and continued depreciation of the naira in the foreign exchange market has resulted in declines in the standard of living of the populace, increased cost of production which also leads to cost push inflation (Nwobia, Ogbonnaya-Udo & Okoye 2020). Most big organizations (corporations) are aware that exchange rate fluctuations affect the naira value of their companies in both assets and liabilities that are denominated in foreign currencies like the dollar. Uduakobong and Enobong (2015) noted that exchange rate stability is of crucial importance to the achievement of macroeconomic stability and the economic performance of any country.

According to Kandil (2004), there has been an ongoing debate on the appropriate exchange rate policy in developing countries. The debate focuses on the degree of fluctuations in the exchange rate in the face of internal and external shocks. Bobai, Ubangida & Umar (2013), argued that exchange rate is one of the major macroeconomic policy instruments and as such, changes in exchange rates would have powerful effects on tradable and non-tradable of countries concerned through effects of relative prices of goods and services.

Business survival/performance is most times determined by the rate of exchange rate fluctuations; this is because most transactions of big corporations/conglomerates are based on the system of exchange rate. Fluctuating exchange rate can have a serious impact on operating profit. Marston (1990), in his words explored the possibility that, for maintaining or expanding market shares, a firm's pricing decision may depend on the direction of exchange rate changes. He argued that the implication of this asymmetric pricing decision on the probability of firm survival is that the negative effect of a currency appreciation on firm survival may be smaller because of firms' decision to lower mark-ups.

Aliyu, (2011) and Benson and Victor, (2012) noted that despite various efforts by the government to maintain a stable exchange rate, the naira has depreciated throughout the 80's to date. Ikpefan, Isibor & Okafor (2016) stated that exchange rate was fairly stable from 1973 to 1979 during the oil boom period.

Ewa (2011) also noted that exchange rate of the naira was relatively stable between 1973 and 1979, during the oil boom and remained so prior to 1970 when the Nigerian economy was agro-based, accounting for more than 70% of the nation's gross domestic products (GDP) (Ewa 2011). However, from the late 1970s, oil became prominent and government shifted from Agricultural sector to oil sub-sector. Then the economy was open to the international communities and so much importation killed domestic manufacturing thereby creating rising exchange rate. Exchange rate has since then been completely left to be determined by market forces after the adoption of Structural Adjustment Programme (SAP) in 1986, instead of being managed by the monetary authorities that

intervene from time to time in foreign exchange market. As a result, many of the domestic companies that could not stand the stiff competition from foreign firms were forced to close down.

According to Fakiyesi (2005); in advanced economies, the manufacturing sector is a leading sector in many respects. It is a quest for increasing productivity in relation to import substitution and export expansion, creating foreign exchange earnings capacity, raising employment, promoting the growth of investments at a faster rate than any other sector of the economy, as well as wider and more efficient linkage among different sectors. Buabeng, Ayesu & Adabor ((2019), specifically noted that in Ghana, the manufacturing sector continues to play a vital role in the economy and contributed averagely 7 percent to Gross Domestic product between the year 2006 to 2016 and at the same time promotes the growth of investment and employment creation. But in Nigeria, the case is different because the manufacturing sector is faced with the problem of fluctuating exchange rate which adversely affects manufacturing output. Manufacturing organizations in Nigeria are highly dependent on importation of intermediate inputs and capital goods.

Nigeria has adopted both fixed and fluctuating exchange rate regimes for a possibility of achieving a stable exchange rate. It is not clear whether some of the measures and policies taken so far by the government to improve the stability of the exchange rate have really produced good results in terms of domestic investment growth rate. This is because, with all these measures and policies taken so far, Nigerian economy has not shown any appreciable progress going by the review of the contributions of the manufacturing sector to gross domestic product (GDP) growth rate from 1990 - 2020. Years after the economic reforms, investment in industries is reducing, unemployment is increasing and domestic output has continued to stagnate. The question now is; is exchange rate fluctuation good for a developing country like Nigeria after several reforms on exchange rate policy? Given this gap, the study seeks to examine the effect of exchange rate fluctuations on business survival in Nigerian with particular interest on manufacturing output growth rate.

2. Objective

Globalization of economic activities has encouraged economic liberalization where countries now seek to exchange their resources with that of another country and companies growing beyond their home country. Exchange rate as a macroeconomic variable is an important economic indicator for any developing country and as such, should be managed properly to avoid its adverse effect on other macroeconomic variables and the economy at large. Many companies are finding it very difficult to compete favourably and survive in the industry because of the fluctuating exchange rate. As a result, some companies not really doing very well while some are closing down and not very many are coming up. Several school of thought have aligned differently as to the effect of exchange rate fluctuations on business survival; Akinmulegun & Falana (2018); Orji, Ogbuabor, Okeke & Anthony-Orji (2018) are of the view that exchange rate fluctuations has a positive and significant effect on manufacturing and industrial output while; Emmanuel, Enock & Opoku (2019); Kalu & Anyanwaokoro (2020), Nwobia, Ogbonnaya-Udo & John (2020 in their submissions noted that exchange rate fluctuations has negative and significant effect on manufacturing companies performance in Nigeria. Opaluwa *et al.* (2010), Musa and Sanusi (2013). Jongbo (2014) Akinmulegun & Falana (2018), also argued that exchange rate fluctuation has the potentials of causing significant changes in industrial output in Nigeria.

Objective of this study is to assess the economic impact of exchange rate fluctuations on manufacturing companies' survival in Nigeria, taking manufacturing contribution to gross domestic product as a proxy for survival. Here the multiple regression was used to analyze the impact of exchange rate fluctuations on manufacturing companies' survival in Nigeria. This study used yearly data generated from Central Bank of Nigeria statistical bulletin, the Annual Abstract of the National Bureau of Statistics between 1990 and 2020.

3. Review of empirical literature

From theoretical point of view, the optimal currency area as developed by Mundell (1961) and McKinnon (1963), holds that a fixed exchange rate regime can increase trade and output growth by reducing exchange rate uncertainty and thus the cost of hedging, and also encourage investment by lowering currency premium from interest rates. The optimal currency area theorists belong to the school of macroeconomic thought that believes that a fixed exchange rate regime can increase trade and output growth thereby guarantying business survival. The supporters of this theory felt that floating exchange rate regimes adopted by most developed countries might not suit developing countries whose insurance markets are not so well developed and whose economy is not stable enough to absorb the risks from exchange rate fluctuations. There is generally no agreement on choosing the most suitable exchange rate to maintain macroeconomic stability. The choice of an appropriate exchange rate system depends on the particular features of each country involved in the trade. Therefore, in theory, if the right regime is adopted, it could facilitate better business climate and potentially enhance economic growth in the long-run. Economic theory does not clearly articulate how exchange rate regimes can affect business performance; a number of studies have investigated this relationship.

Scholars have tested the validity of many of the underlying theories of exchange rate fluctuations and business performance proposition in different countries and results have been mixed. Jae-gun & Won-sik (2016), analyzes the impacts from the exchange rate fluctuation to the elements of the financial statement, with the manufacturing (non-financial) companies that were traded in KOSPI and KOSDAQ. The analysis of the panel data on the paper shows how FX fluctuation can make effects to companies as the interaction effects between foreign currency asset and foreign exchange profit. The study found that exchange rate fluctuation has significant impact to the company value on the short and long-term. And it shows the effects of Korean economics during the financial crisis.

Orji, Ogbuabor, Okeke & Anthony-Orji (2018); estimated the impact of exchange rate movements on the manufacturing sector in Nigeria over the period 1981–2016. The study used time series data and ordinary least square estimation technique was employed to address the specified objective. Findings from the study show that, it is apparent that exchange rate movements play a significant role in the manufacturing sector's performance in Nigeria. The findings specifically showed that exchange rate, government capital expenditure, imports and foreign direct investment were positively related to manufacturing gross domestic product, while credit to private sector was negatively related. The study recommended that the apex bank keeps a closer watch on exchange rate movement in order to keep formulating up-to-date policies that will ultimately enhance exchange rate stability.

Akinmulegun & Falana (2018); examined the effects of exchange rate fluctuation on the Industrial Output Growth in Nigeria using time series data sparring from the period 1986 to 2015. Johansen's Co-Integration model was employed to explore the long-run relationship among the variables used, while the Vector Error Correction model (VECM) was used to evaluate the short and long-run dynamic among the variables and the Granger Causality used to measure contemporaneous relationship among the endogenous variables. The study found a unidirectional causality from Exchange rate to Industrial output. The response of industrial output to the shock from exchange rate was positive and significant; which shows that exchange rate has potentials of causing significant changes in industrial output in Nigeria. The study recommended the need for more macroeconomic policy attention to the proper management of the exchange rate.

Williams (2018); investigated the impact of exchange rate fluctuations on firm's performance in Nigeria from 2012 to 2016. The study formulated seven research questions and tested several hypotheses. The major objective of the study was to empirically investigate the impact of exchange rate fluctuations on return of investment. The study makes use of descriptive and ordinary least square methodology. The regression result shows that there is a positive relationship between Return on Investment and exchange rate of 145.4265. This implies that a unit increases in exchange rate of 145.4265 will bring about a rise of 145.4265 in Return on Investment. The result of the study equally revealed other variables used in the study have a positive relationship with return on investment. Emmanuel, Enock & Opoku (2019); examines the effect of exchange rate fluctuations on the performance of manufacturing firms in Ghana for the period 1990 to 2018. The study uses the bounds test approach to cointegration within the framework of autoregressive distributed lags model as the estimation strategy. The results reveal that exchange rate and monetary policy rate has a negative and significant relationship with manufacturing firm performance. It was also found that inflation, trade openness, and investment have significant positive relation

with manufacturing firm performance in Ghana. Based on the findings, the study recommended that government and private partnership should ensure effective management of the exchange rate fluctuation and also encourage manufacturing firms to patronize locally made capital goods for their production in the face of a depreciating exchange rate.

Osho & Efuntade (2019); examined the effect of exchange rate fluctuation on performance evaluations of multinational companies in Nigeria. The objective of the study was to examine how foreign exchange affects financial performance of multinational companies in Nigeria. Secondary data was used and were obtained from relevant literatures, Central Bank of Nigeria Statistical Bulletin and annual report of selected multinational companies in Nigeria. Ordinary Least Square was used to test the Linear Regression model. Findings show that exchange rate fluctuation has significant effect on performance of multinational companies in Nigeria. The study concluded that exchange rate fluctuations affect the operations of companies in Nigeria. It was recommended that, Multinational Companies should develop a robust foreign exchange risk management framework which will clearly show its currency risk assessment procedures and implementation of foreign exchange risk management strategy.

Ojeyinka (2019); examined the effect of exchange rate volatility on the performance of manufacturing sector in Nigeria for the period of 1981 to 2016. Annual data for the study were sourced from World Development Indicators of World Bank and Statistical Bulletin of the Central Bank of Nigeria. The study employed an ARDL technique of estimation. Findings from the study revealed that the impact of exchange rate volatility on manufacturing sector's performance is positive and significant both in the long-run and short-run. In addition, the study found that the impact of exchange rate on manufacturing sector's output is positive but not significant in the long-run while its impact is negative and significant in the short-run. Furthermore, the effect of import on manufacturing sector's performance is negative and significant in the long-run and short-run.

Nwobia, Ogbonnaya-Udo & John (2020), examined the effect of exchange rate fluctuation on Nigeria external trade from 2000 to 2019. The study made use of secondary data sourced from central bank of Nigeria statistical bulletin of various issues from 2000 being the year of monetary authority regime of flexible exchange rate to 2019. The correlation and regression analysis of the Ordinary Least Square (OLS) were used to analyze the data. The result shows that the three variables; exchange rate, balance of payment, and inflation rate have significant effect on the Gross Domestic Product (GDP) and external trade of Nigeria; Exchange rate has a negative effect on the GDP because as it increases, the external trade is negatively affected. Their study recommended that government should encourage export promotion strategies so as to maintain a surplus balance of payment on trade.

Egolum, Iliemena, & Goodluck (2020); examined the effect of exchange rate fluctuation on the financial performance of quoted conglomerates in Nigeria from 2007-2018. The study formulated three hypotheses which were tested using secondary data obtained from annual reports of the 8 quoted conglomerates in Nigeria and CBN annual statistical bulletin and analyzed using multiple regression analytical technique.

The study revealed that exchange rate fluctuations have significant negative effect on ROCE and ROE while a positive but insignificant effect on ROA. The conclusion drawn from this study is that foreign exchange fluctuations have significant negative effect on financial performance of quoted conglomerates.

The study recommended that Government should uphold the restriction policy on the importation of similar products manufactured in Nigeria so as to create and open more markets for the locally manufactured goods to thrive.

Kalu & Anyanwaokoro (2020); investigated the effect of Exchange Rates Fluctuations on International Trade in a Mono-product Economy: Nigeria's Experience, 1986-2018. Ex post facto method was adopted. In order to test the hypothesis, the study adopted Augmented Dickey Fuller, Vector Error Correction Model and co-integration tests. The study found that the Nigerian Economy shared a long run co-integration relationship with the studied international trade related variables. It was also revealed that the Nigerian economy adjusts at 81% to the shocks and dynamics of the exchange rate and its correlation. Also, a causal relationship exists between export and

exchange rate. It was recommended that: CBN should continue with the reduced Exchange Rate on Agriculture and other Manufacturing activities as this is capable of increasing Investment which will result in increased Foreign Exchange earnings through export of Agricultural products and even other made in Nigeria products.

Isibor, Olokoyo, Arogundade, Osuma & Ndigwe (2020) examined Exchange Rate Management and Sectoral Output Performance, a vision 2020 paper on innovation management and education excelelence.

The study was aimed at examining the effect of exchange rate management on output performance of both the agricultural and the manufacturing sector. Secondary data from 1981 – 2015 were analyzed using the Ordinary Least Square technique. The findings revealed that exchange rate have a positive and significant effect on only the agriculture sector. The study recommends amongst others that efforts should be made to increase the exportation of agricultural products in order to boost exchange rate.

Mamuda, Muhammad, Babangida & Jimoh (2021); examined the effect of exchange rate on economic growth from 1986 to 2019 using secondary data sourced from Central Bank of Nigeria Statistical Bulletin, using ordinary least square to analyze the data. The result revealed that exchange rate has significant positive effect on economic growth while interest rate and inflation rate have significant negative effect on economic growth. The study recommended that government should encourage export promotion strategies and also provide a conducive environment, adequate security, effective fiscal and monetary policy, as well as infrastructural facilities in order to attract foreign investors to invest in Nigeria.

Clearly, the findings in this literatures, suggest that exchange rate policies may also be important. However, not many studies have documented the long-term effects of these exchange rate policies on business survival, even though some found a significant effect, but uncertainty about its size remains. This paper has become part of the series of studies analyzing the effect of exchange rate fluctuations on business survival in Nigeria so as to provide clue on contending issues and fill some research gap.

3. Methodology

In most of the developing countries in Africa, manufacturing output growth is influenced to a reasonable extent by external factors which may include exchange rate of the domestic currency against other currencies, inflation, interest rate, trade openness, foreign direct investment and so many others. We measured manufacturing output growth as the ratio of its contribution to gross domestic product. This ratio is expected to be high and positively associated with global indicators. In Nigeria which is the study environment, the gross domestic product is not reflecting the expectations of the global world. Yearly data were generated from Central Bank of Nigeria statistical bulletin and the Federal Inland Revenue Service between 1990 which was the period the oil prices collapsed in the international market to 2020.We chose time series method because ordinary least square is appropriate in this study because it tends to avoid being biased. The econometric method was the most appropriate since we will be interested in model specification, measuring of the parameters of economic relationship.

The model equation is stated in Error Correction Form to establish whether there will be long run relationship between exchange rate fluctuation and manufacturing companies' survival assuming linear relationship.

4. The Model

$MGDP = f(EXCH + INTR + INFL + TOPN)$ …………….. (1)
Where: MGDP = Manufacturing contribution to Gross Domestic Product as a proxy for business survival,
MGDP = Manufacturing Gross Domestic Product used as a proxy for Manufacturing output Growth/business survival; EXCH = Exchange Rate; INFL = Inflation; INTR = Interest Rate; TOPN = Trade Openness
However, to hold firm the influence of the random variable, equations 1, will explicitly be transformed into the following Econometric models:
$MGDP = \beta_0 + \beta_1 EXCH_t + \beta_2 INTR_t + \beta_3 INFL_t + \beta_4 TOPN_t + e_t$. ……………….. (2)
Where; β_0, = Constants, and β_i (i = 1, 2, ….. 5) = the parameters to be estimated.

If we assume a linear relationship, then the model equation becomes:

Ln MGDP = β_0 + β_1 Ln $EXCH_t$ + β_2 Ln $INTR_t$ + β_3 Ln $INFL_t$ + β_4 Ln $TOPN_t$ + et. …………. (3)

Where; Ln = Elasticity, β_0, = Constants, and

      β_i (i = 1, 2, ….. 5) = the parameters to be estimated.

     MGDP, EXCH, INTR, INFL and TOPN are as defined above.

To transform our model for long-run analysis, an Error Correction Model (ECM) is specified thus:

$\Delta MGDP_t$ = β_0 + β_i $\sum \Delta x_i$ + λECM_{t-1} …………   (4)

Where,ΔGDP_t = differenced or stationarity level of gross domestic product

Δx_i = differenced exogenous variables in the model

β_0 = intercept, β_i = β_1, β_2, β_3, β_4 (slopes of the model)

λ = ECM parameter measuring the adjustment to previous equilibra achieved in the current period.

Other variables remain as defined before.

5. Results

Table 1: Regression Result; Dependent Variable: M. Gross Domestic Product (LMGDP)

Variables	Co-efficient	Std. error	't'$_c$	P-value
CONST	5.828835	1.578217	3.69	0.001
$LEXCH_{-1}$	1.094663	.1049927	10.43	0.000
$LINTR_{-1}$	-1.459241	.3904255	-3.74	0.001
$LINFL_{-1}$	.0454908	.1166122	0.39	0.700
$LTOPN_{-1}$	-.6357434	.2835199	-2.24	0.034

$F_{(4, 25)}$ = 103.10

Prob. > F   = 0.0000

R-squared   = 0.9428

Adj. R-squared = 0.9337

Durbin-Watson d-statistic (5,   30) =   1.107912

6. Result of Stationarity Test

The first pre-estimation test in any time series analysis is the test of stationarity. It is necessary to carry out stationarity test because almost all the time series data are always unstationary. When a regression is run with unstationary data, it leads to misleading result and using such misleading result to make policy will not produce the desired outcome and as such, all the variables are stationary at the 1st difference.

7. Economic Theory Expectation

The economic theory argument relates to signs of the coefficient of the variables. Economic theory argument is the first step in evaluating the effectiveness of a policy in bringing expected change in the variable of interest. The major policy variable in the study is exchange rate. Exchange rate is an important factor in the production of goods and services; and an appreciation in exchange rate means an increase in the production of goods and services which translates into an increase in the manufacturing contribution to gross domestic product. Therefore, economic theory posits positive relationship between exchange rate and production which therefore means that from the above result, that exchange rate satisfied the a priori expectation. When a variable satisfies the a priori expectation, it can now be judged as being effective in causing a change in the dependent variable. The result shows that as exchange rate appreciates by one percent, manufacturing contribution to GDP will increase by 1.0946 percent. Interest rate presents a very good result as can be seen from the result. This is because economic theory posits a negative relationship between interest rate and production growth. That is the higher the interest rate, ceteris

paribus, the lower the growth of production. Interest rate satisfied the economic theory expectation. The result shows that a percentage increase in interest rate will decrease production growth 1.459241 percent.

Another variable in the study is inflation and the result shows that inflation has a positive coefficient which means that the higher the level of domestic inflation, the higher the level of domestic investment. This is contrary to the economic theory argument because high rate of inflation discourages investment in production of goods and services. The result shows that one percent increase in domestic inflation will increase investment by 0.0454908 percent.

Lastly, the degree of openness is the last of the independent variables. The more open an economy is, the more it competes with other economies. Openness increases the prospect of production growth, ceteris paribus. That shows that economic theory predicts positive relationship between openness and production growth. From the result, openness did not satisfy the a priori expectation because the result showed a negative relationship which implies that as the exchange rate is increasing, that is by the naira losing its value, it becomes difficult for economy to favourably compete with other economies. The result shows that one percent increase in trade openness will decrease production by 0.6357434 percent.

The statistical 1st-order test is concerned about the significance of the independent variables in affecting the dependent variable. The student 't' test is the popular measure of test of significance in ordinary least square regression.

From the result, exchange rate, interest rate and trade openness are statistically significant at 5 percent level while inflation is not. Therefore, exchange rate, interest rate and trade openness have effect on production growth in Nigeria within the period studied. Since the variable of interest which is the exchange rate is statistically significant and at the same time satisfied the economic theory expectation. The study shows that exchange rate has actually achieved the desired result and therefore suggests that fluctuating exchange rate is not very good for a developing economy like Nigeria.

F-Test regression result of F_c (4, 25) = 103.10 against $F_{0.05}$ (4, 25) = 2.76 and $F_{0.01}$ (4, 25) = 4.18 calculated at 5% and 1% level of significance, shows that the overall regression is statistically significant.

The value of the coefficient of determination (R^2) is 0.9428 which shows that the changes in the values of the independent variables account for 94 percent of the changes in production growth within the period of study. This is high and represents a very good explanation.

Table 2: Co-integration/Unit Root Test:

Variable	ADF	1%	5%
Residual	-1.88	-3.72	-2.99

Source: Analysis of Data

The result shows that both variables; the dependent and independent variables are not cointegrated, thus, there is no need for error correction (ECM).

8. Discussion

The study examined the effect of exchange rate on business survival (production growth), From theoretical point of view, exchange rate has the correct sign, this is because when the exchange rate appreciates to an appropriate level it will increase the inflow of goods and services, thereby causing increased production output. This increased production output will increase the manufacturing contribution to GDP which will translate to faster economic growth and development in the economy. The study showed that exchange rate and production growth are positively and significantly related. Exchange rate is an important factor in the manufacturing of goods and services; and appreciating exchange rate means that production output will increase. Therefore, economic theory posits positive relationship between exchange rate and production growth. Exchange rate as the variable of interest

in the study appears with correct sign showing that there is a positive and significant relationship between exchange rate and production growth.

This finding is consistent with the submission of Orji, Ogbuabor, Okeke & Anthony-Orji (2018); Akinmulegun & Falana (2018); Osho & Efuntade (2019); who also affirmed in their studies that the naira losing its value is associated with slower production growth. They hold the view that exchange rate movements play a significant role in the manufacturing sector's performance in Nigeria. Their findings specifically showed that exchange rate, is positively and significantly related to manufacturing and industrial output in Nigeria. The outcome of this work also aligns with the findings of Ojeyinka (2019); who contends that the impact of exchange rate fluctuation is positively and significantly related to manufacturing sector's performance both in the long-run and short-run and Mamuda, et al (2021); who also found that exchange rate has significant positive effect on economic growth while interest rate has significant negative effect on economic growth.

The result of this study has some course of concern for policy makers in Nigeria. There is a lesson and policy implication to be derived the results. One side of the monetary policy reform is that if the government allows the naira to continue to lose its value, then the naira will no longer be able to compete with the currencies of other economies. But if a stable exchange rate achieved, then domestic companies can stabilize with time and compete with the foreign counterpart. Looking at the result, one can see that the policy is not doing very well looking at the result, at the same time; reform in other sectors of the economy is needed for the full benefits of the exchange rate.

9. Conclusion

Objective of this study is to examine the effect of exchange rate fluctuation on business survival in Nigeria and if exchange rate fluctuation is good for a developing country like Nigeria. The dependent variable is business survival (which was proxied by manufacturing contribution to GDP) and the independent variables include: exchange rate, interest rate, inflation and trade openness. Based on the research finding, even though there is a positive and significant relationship between exchange rate fluctuations and manufacturing contribution to gross domestic product, there is hope that monetary policy in Nigeria is prudently applied in conjunction with other economic policies, may well contribute to sustainable output growth. The study therefore recommends that efforts should be made in order to have an effective monetary policy that will guarantee a realistic exchange rate to boost sectorial output performance in Nigeria. Manufacturing firms should also be encouraged to patronize domestic raw materials for their production in the period of depreciating exchange rate.

References

Akinmulegun S. O. & Falana O. E. (2018), Exchange Rate Fluctuation and Industrial Output Growth in Nigeria; *International Journal of Economics and Financial Research ISSN(e): 2411-9407, ISSN(p): 2413-8533 Vol. 4, Issue. 5, pp: 145-158, 2018*

Akpan, E. O. & Atan, J. A., (2012) "Effects of exchange rate movements on economic growth in Nigeria," *CBN Journal of Applied Statistics, 2(2), (2012): 1–14.*

Aliyu, S. U., (2011), Impact of oil price shock and exchange rate volatility on economic growth in Nigeria: *An Empirical Investigation (Central Bank of Nigeria, 2009).*

Bobai, F. D., Ubangida, S., & Umar, Y. S. (2013). An assessment of exchange rate volatility and inflation in Nigeria; *Journal of Emerging Issues in Economics, Finance and Banking, 1(4), 321 - 340.*

Buabeng E., Ayesu E. & Opoku A. (2019), The Effect of Exchange Rate Fluctuation on the Performance of Manufacturing Firms: An Empirical Evidence from Ghana, *Economics Literature, 2019, 1(2), 133-147*

Egolum, P.U., Iliemena, R.O. & Goodluck, H. C. (2020); Exchange Rate Fluctuations and Financial Performance of Nigerian Companies: Study of Quoted Conglomerates (2007-2018); *International Journal of Innovative Research and Advanced Studies (IJIRAS) 7(7), July 2020 ISSN: 2394-4404*

Ewa A (2011). The impact of exchange rate fluctuation on the Nigeria Economic Growth (1980 – 2010). *Unpublished B.Sc Thesis of Caritas University Emene, Enugu State, Nigeria.*

Fakiyesi, O. A. (2005), "*Issues in Money, Finance and economic Management" Lagos: University Press.*

Harley T. W. (2018), An Empirical Investigation of the Impact of Exchange Rate Fluctuations on the Performance of Selected Listed Firms in Nigeria; *Journal of Business Management and Economic Research. 2(3), 2018 pp.1-10 Doi: 10.29226/TR1001.2018.22*

Ikpefan, O. A., Isibor, A. A, & Okafor, T. C. (2016), "Deregulation of the Foreign Exchange Market and its Effect on Industrial Produce in Nigeria", *Global Media Journal*, *1(7), 1 – 7*

Isibor. A, Olokoyo. F, Arogundade. M, Osuma. G, & Ndigwe. C (2019) Exchange rate management and sectoral output performance. *Innovation Management and Education Excellence Through Vision 2020. 31st IBIMA proceedings.*

Jae-gun E. & Won-sik S. (2016), A Study on the Financial Effects on Korean Companies by Exchange Fluctuation around Global Financial Crisis, *International Journal of Business and Social Science Vol. 7, No. 6; June 2016*

Jongbo, O. C. (2014). The impact of real exchange rate fluctuation on industrial output in Nigeria. *Journal of Policy and Development Studies*, *9(1): 268-78.*

Kalu, U. K. & Anyanwaokoro, M. (2020), Exchange Rates Fluctuations and International Trade in a Mono-product Economy: Nigeria's Experience, 1986-2018; *South Asian Journal of Social Studies and Economics 7(2): 21-48, 2020; Article no. SAJSSE.57675, ISSN: 2581-821X*

Kandil, M., (2004). "Exchange rate fluctuations and economic activity in developing countries: Theory and evidence," *Journal of Economic Development, 29(1), (2004): 85–108.*

Mamuda A., Muhammad R. U., Babangida M. & Jimoh M. A. (2021), Exchange Rate Fluctuations and Economic Growth Nexus: An Empirical Evidence from Nigeria. *Asian Journal of Economics, Finance and Management; 5(2): 33-40, 2021; Article no. AJEFM 532*

Marston, R. C. (1990), Pricing to market in Japanese manufacturing; *Journal of International Economics*, *1990, 29(3-4), 217-236*

McKinnon, R. (1963) "Optimum Currency Areas and Key Currencies: Mundell I *v.* Mundell II,"
Journal of Common Market Studies, *42(4), pp. 689–715.*

Mundell, R.A. (1961) "A Theory of Optimum Currency Areas." *American Economics Review51, pp. 657-665.*

Musa, Y. & Sanusi, J. A. (2013), Industrial Output Response to Inflation and Exchange Rate in Nigeria: An Empirical Analysis; *Journal of economics and sustainable development* ISSN 2222-2855 (Online) *4(20), 74-81, 2013*

Nwobia C. E., Ogbonnaya-Udo N., & Okoye J. N. (2020), Effect of Exchange Rate Fluctuation on Nigeria External Trade; *International Journal of Economics, Business and Management Research, 4(10); 2020, ISSN: 2456-7760*

Ojeyinka T. A. (2019), Exchange Rate Volatility and the Performance of Manufacturing Sector in Nigeria (1981 – 2016) *African Journal of Economic Review, 7(2), July 2019*

Oladipupo, A., & Onotaniyohuwo, F., (2011). Impact of exchange rate on balance of payment in Nigeria. African research review: *An international multidisciplinary Journal, Ethiopia 5(4): 73 – 88. www.Afrevjo.Com*

Opaluwa, H., Umeh, O., & Ame, A., (2010). The effect of exchange rate fluctuations on the Nigerian manufacturing sector, *Journal African Finance, 3(1), 145-156*

Orji A., Ogbuabor J. E., Okeke, C. & Anthony-Orji O. I (2018). Another Side of the Coin: Exchange Rate Movements and the Manufacturing Sector in Nigeria; *Journal of Infrastructure Development 10(1–2) 63–79, India Development Foundation, SAGE Publications*

Osho, A. E. and Efuntade, A. O. (2019), Effect of Exchange Rate Fluctuation on the Financial Performance Evaluation of Multinational Companies in Nigeria; *Research Journal of Finance and Accounting,* ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) *10(16), 2019 www.iiste.org*

Oyovwi, O. D. (2012), Exchange Rate Volatility and Economic Growth in Nigeria; *Mediterranean Journal of Social Sciences 3(3):399-407*

Uduakobong, S., & Enobong, C., (2015). An empirical analysis of the relationship between exchange rate movements and economic growth in Nigeria. *European Journal of Business and Management. 7(30).*

Williams, H. T. (2018). An empirical investigation of the impact of exchange rate fluctuations on the performance of selected listed firms in Nigeria. *Journal of Business Management and Economic Research*, *2(3), 1–10.*