

EFFECT OF CURRENCY DEVALUATION ON SURVIVAL OF NIGERIAN ECONOMY

By

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Abstract

This study looked at the effect of currency devaluation on the survival of the Nigerian economy. A non-experimental methodology was used, and data for the study were gathered from statistical bulletins and CBN reports on the Nigerian economy from 1987 to 2022. The data was analyzed using descriptive statistics and ordinary least squares (OLS) approach. The results revealed a p-value of 0.000 which shows a significant relationship between the Exchange Rate and Gross National Income (GNI), but an insignificant relationship between Exchange Rate and Generated Revenue with a p-value of 0.4844. The study concludes that currency devaluation has an impact on the country's income, which influences the survival rate. The study concluded that when developing economic policies, policymakers should carefully analyze the impact of exchange rate variations on Gross National Income (GNI).

Keywords: *Exchange Rate, Gross National Income, Generated Revenue, Survival, Nigeria Economy*

1.0 Introduction

Ajayi (2022) define devaluation as a monetary policy instrument that is utilized by nations with fixed or semi-fixed exchange rates in order to stabilize the economy. According to Udo, Ben, Abener, and Uzonna (2018), devaluation is the end result of a decline in the value of a country's currency in comparison to the major currencies of the world. The effect of devaluation on the domestic economy is contingent on a number of factors, including the competitive advantage of the economy, the business cycle of the nation in relation to its trading partners, the elasticity of demand for exports and imports, capital flight, and inflation.

According to Momosu and Akani (2016), currency devaluation is an endogenous factor that affects economic performance in general. This is the case when the required components that would help accomplish the positive advantages of currency depreciation are not accessible.

Devaluation is the reverse of revaluation and frequently it gets mixed up with depreciation, which means the change in the exchange rate of a currency (Ajayi, (2022); Osundina & Osundina, (2016)). However,

it is important to remember that revaluation is not the same thing as depreciation. It is used to encourage exporting, discourage importation, and to rectify unfavourable balance of payment by making home goods cheaper to other countries and making foreign goods expensive in the home country (Osundina & Osundina, 2016). This makes it possible to fix an unfavourable balance of payment. It is the government, not the market forces of demand and supply, that determines whether or not a currency will be devalued. The government is the one that decides the reasons for a currency devaluation. The export competitiveness of a nation can be boosted by a currency devaluation that is well-structured, and this can also help reduce the trade imbalance over time. However, a sudden and large depreciation of the currency may frighten foreign investors, which may result in the investors moving their portfolio investments outside of the country (Caglar and Titiloye, 2019). This would put additional downward pressure on the value of the currency.

As a result of a research authored by Robert Brand (2020), in which he said that the fall in oil prices is piling pressure on Nigeria to devalue the naira as falling export revenue depletes foreign-exchange reserves, so limiting the ability of the central bank to support the currency, the implication is that Nigeria will be forced to devalue the naira. Emele and Alonso (2020) also emphasized that the central bank's reserves have decreased by 20 percent in the last two years, reaching the lowest level since November 2017, and may soon slip below the \$30 billion line established by Governor Godwin Emefiele for the country to explore devaluation.

Depreciation of a country's currency is a reflection of the economy as a whole, incorporating both domestic and international variables (Alobied, 2022). A nation like Nigeria that is through a recession may find that devaluing their currency is a viable alternative. According to Osundina and Osundina (2016), the effects of devaluation, while having their positive results, also embrace the negative effects of making the importation of goods more expensive, as well as protecting domestic industries, which causes them to be less efficient and effective without much or any competition among international competitors. According to a report from a representative for the Central Bank of Nigeria, "there is a significant chance that it will depreciate more than that because of the price of oil and the pandemic disease (coronavirus)." It is going to be looked into whether or not we should permit a higher rate of conversion for dollar earnings from oil. Additionally, it should be stated that the devaluation most likely takes into consideration the devaluation of oil-exporting peers as well as an overvalued starting point.

According to people with first-hand knowledge of the matter, the Central Bank of Nigeria plans to eliminate the various exchange rate policy in favor of a unified one in order to implement a single exchange rate for the naira. This will result in a higher value for the country's currency. It was compelled to act when the global coronavirus pandemic (COVID-19) caused oil prices to drop by

more than half, putting pressure on the currencies of crude-dependent economies such as Nigeria, which is the largest producer of the commodity in Africa (Anagun, 2022).

2.0 Literature Review

Concept of Currency devaluation

Devaluation refers to a sharp currency decrease at a fixed exchange rate. Devaluation of currencies is a macroeconomic monetary policy aimed at decreasing the value and profit in local currency. The costs of goods and services are lower in a country where the currency has been devalued than in a country where the currency has not been devalued. Reduced prices of goods and services will help boost regional trade with the ultimate aim of boosting economic growth and development to help alleviate poverty (Okere, 2021). A devaluation means there is a fall in the value of a currency. The main effects is that exports are cheaper to foreign customers, imports more expensive. In the short-term, a devaluation tends to cause inflation, higher growth and increased demand for exports (Pettinger, 2019).

Concept of Economic survival status in Nigeria

The survival of an economy is contingent upon its economic growth, which can be defined as the progressive augmentation in the market value of products and services produced over a period of time. The usual method of measurement involves calculating the percentage rate of growth in real gross domestic product (GDP), also referred to as real GDP (Rapetti, Skott, & Razmi, 2012). Despite experiencing certain advancements in socio-economic aspects, Nigeria's human capital development was positioned at a relatively low rank of 150 out of 157 nations according to the World Bank's 2020 Human Capital Index. The impact of high inflation on household welfare has been significant, as evidenced by the rise in prices from 2020 to 2022, which has further exacerbated poverty levels among Nigerians. The severity and frequency of extreme weather occurrences, such as floods and heat stress, have notably increased, particularly in the northern regions of the country. The adverse impacts of climate risks have already resulted in a decrease in per-capita food production, leading to a rise in the percentage of the population experiencing under nutrition from 6.5% in 2004 to 12.7% in 2020 (World Bank, 2023).

However, in this study, Gross National Income and Revenue will be used to measure survival.

- i. Gross National Income (GNI):** This refers to the aggregate value of all commodities and services generated inside a country's borders over the course of a year, taking into account the contributions of both labor and property provided by its population. In contrast to gross domestic product (GDP), which measures production according to the geographic place of production, gross national income (GNI) reflects the allocation of production based on the ownership location. The calculation of income is based on the dual factors of ownership and residence, so the term "gross national income" is used to denote this concept with greater precision. The economic indicator in question is defined as the sum of the Gross Domestic Product (GDP) and the net income earned by domestic residents from foreign investments, subtracting the income earned within the domestic economy by foreign residents. The distinction between qualitative advancements in the field of technology, such as the

enhancement of computer processing speeds, and quantitative expansions in the production of commodities, such as the increased number of computers manufactured, is not accounted for in this analysis. Both qualitative and quantitative developments are regarded as manifestations of economic progress. When a nation's capital or labor resources are utilized beyond its national boundaries, or when a foreign corporation is conducting operations within its jurisdiction, the calculation of GDP and GNI may yield disparate assessments of overall economic output (Todaro, & Smith (2012); Daly (1996)).

- ii. Government revenue:** It is also known as national revenue, which refers to the funds that the government receives from both tax and non-tax sources. These funds are essential for the government to carry out public expenditure. Government revenue and government spending are integral elements of the government budget, serving as crucial instruments in the implementation of the government's fiscal strategy. The primary responsibility of a government is the acquisition of revenue, as it is essential for the functioning of the government, the provision of public goods (as stipulated by the social contract to serve the public interest), and the enforcement of laws. The imperative of generating revenue played a significant role in the evolution of the contemporary bureaucratic state (Bräutigam, 2002).

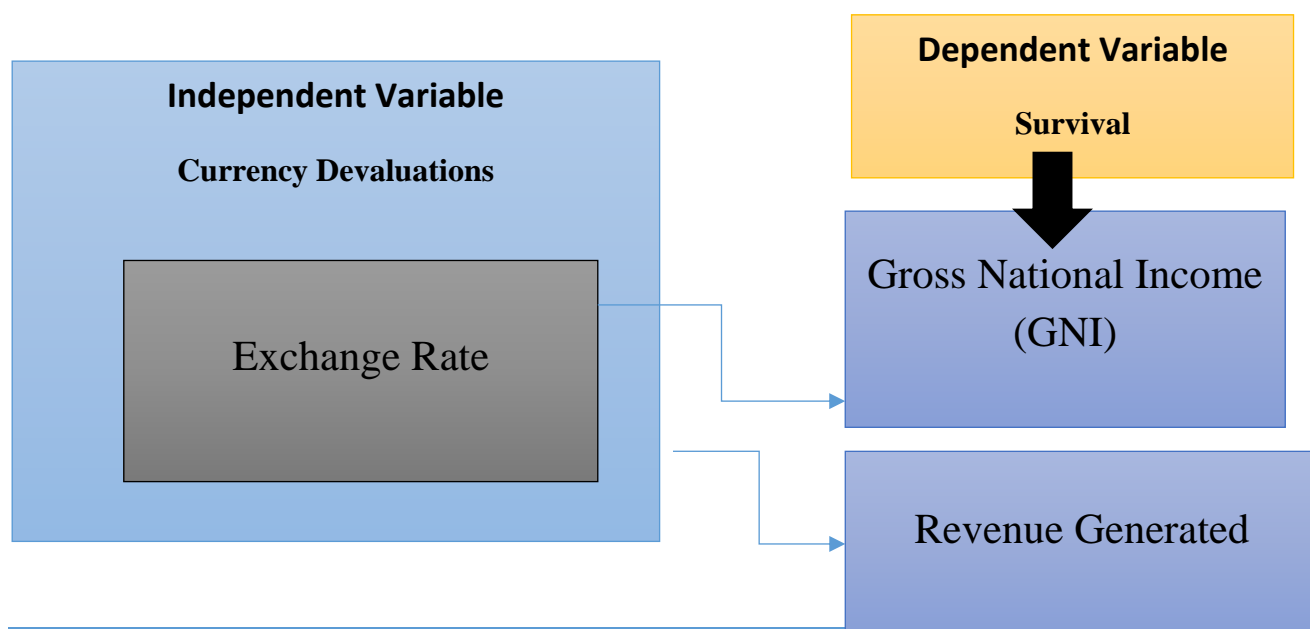
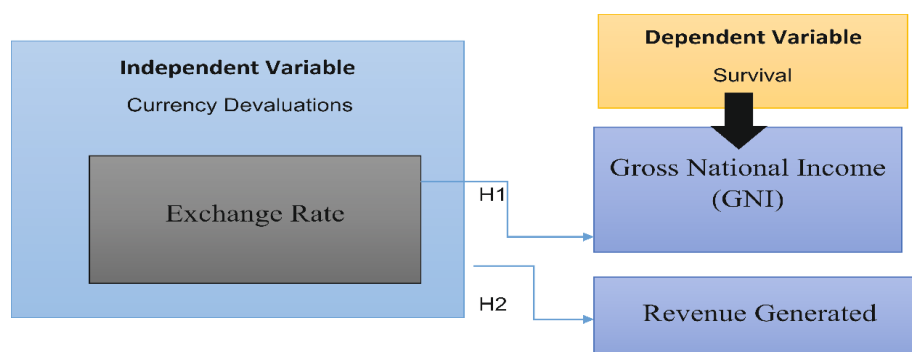


Figure 1: Conceptual Framework for Currency devaluations and survival of Nigeria

Sources: Authors' Conceptualization, 2023

Theoretical review

J-Curve theory

J-curve theory was propounded by Magee in 1973. The J-Curve concept, which has been extensively studied by economists such as Marshall Lerner and researchers at the Federal Reserve, has garnered significant attention in the field. The emergence of the concept in the 1970s marked a significant development in the field, paving the way for subsequent studies to further expand on the theoretical framework. The theoretical framework posits that in the event of currency depreciation, there is an initial deterioration in the trade balance, which is subsequently followed by an improvement. The phenomenon known as the J-curve effect is //currency devaluation, assuming certain conditions. In the realm of international economics, the phenomenon of currency devaluation entails a noteworthy consequence: an escalation in the cost of imports. The underlying premise of this analysis posits that there is a marginal fluctuation in the volumes of imports and exports. As a result, there is a consequential decrease in the current account, leading to a diminished surplus and an increased deficit. The J-curve effect, as observed in economics, refers to a phenomenon where the trade balance of an economy experiences a temporary deterioration following a devaluation, before eventually rebounding and surpassing its previous level (Magee, 1973).

Theory of Balance of Payment

In 1944, the esteemed economist John Maynard Keynes introduced the influential concept of the balance of payments theory. The assumption made in this statement is that the current account and capital account of the balance of payments will eventually reach a state of equilibrium over time. Theoretical review: The author highlights the relationship between changes in the balance of payments and various economic factors such as income levels, savings, and investment. They argue that these factors play a crucial role in driving changes in the balance of payments. Additionally, the author suggests that exchange rates act as a mechanism to maintain equilibrium in the balance of payments. This perspective emphasizes the interconnectedness of these economic variables and their impact on the overall stability of the balance of payments. The assumptions put forth in this argument have faced criticism on several fronts. One such critique pertains to the assumption of fixed exchange rates, which was championed by Keynes. However, with the increasing prevalence of floating exchange rates, this assumption has lost some of its relevance. Additionally, the argument overlooks the significant role played by expectations, speculation, and other factors that can exert influence on exchange rates (Keynes (1944). These omissions limit the comprehensiveness of the analysis. Keynes (1944) argues that the existing theory falls short in offering a comprehensive understanding of the multitude of factors that impact the balance of payments.

Empirical Review

In a study conducted by Okere (2021), the impact of currency devaluation in Nigeria was investigated. Furthermore, the study seeks to evaluate the influence of naira depreciation on the import volume of SMEs in Nigeria. Lastly, the study aims to examine the effectiveness of the naira in promoting the growth of indigenous small and medium-sized enterprises in Nigeria. The methodology employed in this research will be discussed in detail. The primary objective of this study was to examine the impact of the depreciation of the Nigerian currency, the naira, on the production levels of small and medium-sized enterprises (SMEs) operating within the Lagos state region. The research population was sampled using the easy sampling method, resulting in a total sample size of 200 respondents. The research findings indicate that the devaluation of the Nigerian currency, the naira, has both good and negative implications for businesses and the overall economy of Nigeria. Collected via the utilization of primary data.

Ojuolape (2021) conducted a comprehensive systematic review of existing research on the relationship between currency devaluation, trade, and economic growth. The study examined a range of previous works spanning from the 1940s to the present, aiming to determine the impact of currency devaluation on these variables. The findings of the study revealed that the effects of currency devaluation remain inconclusive and uncertain, as indicated by the varying results across the reviewed literature. The study suggests that countries should consider devaluing their currency only if they have a significant production capacity for goods and services intended for both domestic consumption and export. Moreover, nations on the brink of currency depreciation should strive to strengthen domestic technological advancements and infrastructure in order to bolster gross domestic product (GDP) and promote employment opportunities.

The study conducted by Nawaz and Ghani (2017) examines the relationship between currency depreciation and output in Pakistan. The present study employed the ISLM framework and ARDL methodology to examine the effects of currency depreciation on output within the context of an open economy. The findings of the study indicate that there is a positive impact of terms of trade on output level in the short term. However, in contrast to previous research, the long-term effect appears to be negative. This study employed unexpected monetary injections as a variable of interest and observed that such injections had no statistically significant impact on output in both the short-run and long-run.

3.0 Research Method

This study adopted a non-experimental design to determine whether any relationship exist between naira devaluation and economic growth of Nigeria. The population of the study consists of the Nigeria economy at large. The relevant information used for the purpose of data analysis were drawn from the central bank annual report, Nigeria economic report, and statistical bulletin between 1987 and 2022 in order to establish the effect between the variables. The method of analyses for the study was limited to the use of E-view software. The ordinary least square method (using Panel data) was use to examine the relationships between the variables.

The simple linear regression model is given as;

$$Y = f(x).....i$$

Where Y is economic growth (represented by GNI and REV), while X stands for currency devaluation (represented by EXR)

In accordance with the study objectives, the econometric form of the equation is given as;

$$\begin{aligned} \text{GNI} &= \beta_0 + \beta_1 + \text{EXR} + e \dots\dots\dots \text{ii} \\ \text{REV} &= \beta_0 + \beta_1 + \text{EXR} + e \dots\dots\dots \text{iii} \end{aligned}$$

Where;

GNI= Gross National income (dependent variable)
 REV= Revenue (dependent variables)
 EXR= Exchange rate (Independent variables)
 β_0 and β_1 = Coefficients of the estimated variables.
 e = Error term.

4.0 Presentation of Results and Discussions

Test summary for hypothesis one

H₁: Currency devaluation (Exchange Rate) have no significant effect on the Gross National Income (GNI) of the Nigeria economy.

Dependent Variable: GNI_\$B
 Method: Least Squares
 Date: 10/07/23 Time: 22:16
 Sample (adjusted): 1991 2020
 Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXCHANGE RATE	1.463904	0.217005	6.745952	0.0000
C	30.13825	35.47384	0.849591	0.4028
R-squared	0.619088	Mean dependent var	225.3840	
Adjusted R-squared	0.605484	S.D. dependent var	178.8640	
S.E. of regression	112.3454	Akaike info criterion	12.34537	
Sum squared resid	353401.4	Schwarz criterion	12.43879	
Log likelihood	-183.1806	Hannan-Quinn criter.	12.37526	
F-statistic	45.50787	Durbin-Watson stat	0.238899	
Prob(F-statistic)	0.000000			

Source: Eviews 9

The coefficient associated with the variable Exchange Rate is estimated to be 1.463904. The coefficient in question pertains to the relationship between the change in Gross National Income

(GNI) measured in billions of dollars (\$B) and each unit change observed in the variable Exchange Rate. The obtained results exhibit statistical significance, as evidenced by the remarkably low p-value of 0.0000. This implies a robust and noteworthy association between the variables under investigation. The obtained R-squared value of 0.619088 suggests that around 61.91% of the observed fluctuations in Gross National Income (GNI) in billions of dollars can be accounted for by the changes in the variable Exchange Rate. The observed results indicate a significant level of explanatory capacity within the model.

The F-statistic obtained in this study is 45.50787, indicating a significant relationship between the variables under investigation. The associated p-value, also known as the probability of obtaining such a large F-statistic by chance alone, is 0.000000. This extremely low p-value suggests strong evidence against the null hypothesis, further supporting the presence of a significant effect. The obtained results indicate that the regression model as a whole exhibits statistical significance. This implies that the observed relationship between the variables Exchange Rate and GNI can be considered highly reliable.

H₂: Currency devaluation (Exchange Rate) does not have significant relationship on the generated revenue in the Nigeria economy.

Dependent Variable: GENERATED REVENUE

Method: Least Squares

Date: 10/07/23 Time: 22:38

Sample (adjusted): 1991 2020

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXCHANGE RATE	-1826.222	2577.160	-0.708618	0.4844
C	967405.2	421289.1	2.296298	0.0294
R-squared	0.017618	Mean dependent var		723835.9
Adjusted R-squared	-0.017467	S.D. dependent var		1322717.
S.E. of regression	1334219.	Akaike info criterion		31.10993
Sum squared resid	4.98E+13	Schwarz criterion		31.20334
Log likelihood	-464.6490	Hannan-Quinn criter.		31.13981
F-statistic	0.502139	Durbin-Watson stat		0.757894
Prob(F-statistic)	0.484420			

Source: EvIEWS 9

The observed coefficient for the variable exchange rate in the research model is -1826.222. The coefficient in question pertains to the relationship between generated revenue and exchange rate fluctuations. Specifically, it quantifies the impact of a unit change in the exchange rate on the generated revenue. Nevertheless, the observed statistical outcome lacks significance due to the associated p-value of 0.4844, surpassing the conventional threshold of significance set at 0.05. The findings of this analysis indicate that there is no statistically significant relationship between the exchange rate and the generated revenue within the framework of this particular model.

The coefficient of determination, commonly known as the R-squared value, is calculated to be 0.017618. This value indicates a relatively low level of explanatory power in the model under consideration. The

findings of this study suggest that there is a limited association between the fluctuation in exchange rates and the generated revenue. Specifically, our analysis reveals that approximately 1.76% of the variability observed in the generated revenue can be attributed to the variation in exchange rates.

The F-statistic, calculated to be 0.502139, indicates the overall significance of the regression model. The associated p-value, denoted as Prob (F-statistic), is computed to be 0.484420. This p-value represents the probability of obtaining an F-statistic as extreme as the observed value under the null hypothesis that all regression coefficients are equal to zero. The obtained p-value is observed to be relatively large, suggesting that the regression model as a whole lacks statistical significance. In essence, the comprehensive model fails to provide a substantial explanation for the variability observed in generated revenue.

5.0 Summary, Conclusion and Recommendation

The observed data indicates a notable positive correlation between the exchange rate and Gross National Income (GNI), implying that fluctuations in the exchange rate can exert an influence on a nation's GNI. The analysis conducted suggests that there is no significant correlation between the exchange rate and generated revenue. This finding implies that any potential currency devaluation may not have a substantial impact on the generated revenue within the Nigerian economy, based on the limitations of this study. Based on the findings of the analysis conducted, it can be deduced that the exchange rate exerts a more pronounced influence on the Gross National Income (GNI) of Nigeria compared to its impact on the generated revenue. The Gross National Income (GNI) is subject to the impact of exchange rate fluctuations, as acknowledged in existing research. However, it is important to note that the revenue generated by an entity or economy may be influenced by various other factors that are not adequately captured within the confines of this particular model.

Based on the analysis conducted, the following recommendations were made.

- i. Policymakers should carefully consider the implications of exchange rate fluctuations on Gross National Income (GNI) when formulating economic policies. By doing so, policymakers can gain a comprehensive understanding of the potential effects that these fluctuations may have on the overall economic landscape. This consideration is crucial as exchange rate fluctuations can significantly impact a country's GNI, which serves as a key indicator of its economic performance and overall welfare.
- ii. Therefore, policymakers must take into account the potential consequences of exchange rate fluctuations on GNI in order to make informed decisions that promote sustainable economic growth and stability. The monitoring and management of exchange rate movements have the potential to contribute to the stabilization of national income.

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