

EXCHANGE RATE REGIMES AND ECONOMIC PERFORMANCE IN NIGERIA: A COMPARATIVE ANALYSIS

MAZDAN INTERNATIONAL BUSINESS REVIEW

e-ISSN: 2583-0929

Article id: MIBR0204004

Vol-2, Issue-4

Received: 8 Oct 2021

Revised: 18 Nov 2021

Accepted: 20 Nov 2021

GWAISON PANAN DANLADI

Citation: Danladi, G. P., (2021). Exchange Rate Regimes and Economic Performance in Nigeria: A Comparative Analysis. *Mazdan International Business Review*, 2(4), 38-46.

Abstract

For a decade, Nigeria has witnessed changes in its exchange rate regime which have influenced the structure of the Nigerian economy in various ways. This study was thus conducted to compare the impact of the exchange rate regimes on the economic performance of Nigerians from (1960-2014). This time period has been divided into two parts: the fixed exchange rate system (1960-1985) and the flexible exchange rate system (1985-present) (1986-2014). The ex post facto research approach was used in this study, allowing the researcher to use secondary data for the periods in order to assess the two hypotheses mentioned in the study. To analyze the data, the researcher used e-view8.0 using the Ordinary Least Square (OLS) method. The results suggest that the fixed exchange rate system has a large beneficial influence on the Nigerian economy's performance, whereas the flexible exchange regime has a good but negligible impact. It has been suggested that the current system of flexible exchange rates be fine-tuned to allow for government action in fixing exchange rates as necessary. The government should undertake an import substitution program to save foreign reserves and improve the balance of payments position among other recommendation were made.

Keywords: Exchange Rate, Exchange Rate Regime, Fixed Exchange Rate, Flexible Exchange Rate, Gross Domestic Product (GDP), Privatization, and Commercialization

1. INTRODUCTION

International trade emerged as a result of nation-to-nation variations in resource endowment. Some countries have more than they require, while others do not. Furthermore, although some countries are particularly efficient in producing certain items, others are not. These issues have been resolved as a result of international commerce. That is, it is founded on comparative advantage in production, trade benefits, and specialization. Nations can now buy products they need but can't create for one reason or another through commerce (especially international trade), while exporting goods they can produce in excess to other countries. Importing what a country requires will require payment in foreign currency, which is the primary distinction between domestic and foreign trade, also known as international trade. This necessitates the establishment of a rate at which the importer's home currency will be exchanged for the exporters. When a Nigerian buys items from a vendor in Belgium, for example, a foreign exchange difficulty arises. The buyer prefers to pay in naira, but the seller prefers to be paid in the Belgian franc. Another issue would be determining the number of naira to be exchanged for the Belgian franc. That is, the rate of exchange between the two currencies involved will need to be determined. The exchange rate is the rate at which one national currency swaps for another in the foreign exchange market. By definition, the foreign exchange market is an international marketplace where

one national currency may be exchanged for another (Adeniran, Yusuf, and Adeyemi, 2014).

Over the last four decades, Nigeria's exchange rate arrangements have changed dramatically. According to CBN bulletin (2014), it is 0.3571% in 1960, 0.6955% in 1970, 0.61% in 1980, 8.04% in 1990, 102.1% in 2000 and 148.68% in 2010 respectively.

Following the introduction of the Structural Adjustment Programme in 1986, it transitioned from a fixed regime in the 1960s to a pegged arrangement in the 1970s and mid-1980s, and eventually to different forms of floating regimes since 1986. (SAP). Since 1986, the floating system in Nigeria has been characterized by a controlled float regime with no clear commitment to protecting any specific parity. I should point out that these adjustments are not unique to the Naira; the US dollar was pegged to gold until 1971, when it was de-linked and floated. The fixed exchange rate system resulted in an overvaluation of the naira, which was aided by currency control restrictions, resulting in major economic inefficiencies. This resulted in enormous imports of completed products, which had negative effects for local output, the balance of payments, and the amount of the country's foreign reserves. Furthermore, aggressive activities by dealers and end-users of foreign exchange bedeviled the time. These

and other issues influenced the 1986 approval of the SAP, which included a more flexible exchange rate system.

In theory and reality, a long-term misalignment of the exchange rate in the foreign currency market will have a negative influence on economic performance in the medium run. As a result, the government should constantly intervene in a timely manner to maintain the exchange rate's stability. Monetary authorities often interfere in the money market through monetary policy measures and operations to affect exchange rate movement in the desired direction, ensuring the domestic economy's competitiveness. Given the nature of the economy and the need to reduce inefficiencies in production and consumption, enhance non-oil export earnings, and attract foreign direct investment, maintaining a fair exchange rate for the naira is critical in Nigeria. Furthermore, persistent issues such as import dependency, capital flight, and a lack of motivation for backward linkages in the production process, among others, must be addressed (Tornell and Velasco, 1999).

Nigeria's exchange rate strategy has been targeted at protecting the external value of the local currency and maintaining a healthy balance of payments position since the inception of the CBN, which is a key component of the enabling statute. After the Autonomous Foreign Exchange Market (AFEM) failed in 1995, the Inter-Bank Foreign Exchange Market (IFEM) was established on October 25, 1999. It should be remembered that the IFEM was created as a two-way quotation system with the goal of diversifying the supply of foreign exchange in the economy by promoting the use of privately generated foreign exchange to support interbank activities. The IFEM also attempted to help the naira obtain a more reasonable exchange rate. Due to supply-side rigidities, the government's continual expansionary fiscal operations, and the attendant problem of chronic excess liquidity in the economy, the IFEM's functioning had similar challenges and setbacks as the AFEM's.

The uniqueness of the Nigerian foreign exchange market must be emphasized. Crude oil export receipts account for more than 90% of the country's foreign exchange profits. As a result, the volatility of global oil market prices has a direct influence on foreign exchange supply. Furthermore, the oil industry accounts for more than 80% of government revenue. As a result, when the world oil price is high, the revenue shared by the three levels of government rises in lockstep, eliciting commensurate expenditure increases that, as has been observed since the early 1970s, have proven difficult to reverse when oil prices fall and revenues decrease in lockstep. Such unsustainable spending levels were, in fact, at the foundation of the government's huge deficit expenditures. When the price of oil is high, reserves must be built up to buffer the impact of income shortfalls on government spending when the price of oil falls on the international oil market. The following factors were found to be responsible for the prolonged demand pressure and subsequent depreciation of the naira currency rate under the IFEM.

- Limited foreign exchange supply sources.
- The excess liquidity in the system caused by the transfer of government accounts from the CBN

to banks and the massive extra-budgetary spending on unproductive ventures in 1999;

- The heavy debt service burden; and Speculative demand, fueled by social and political unrest, expectations of future naira depreciation, and deterioration of the external sector's position.

Despite the massive amount of foreign exchange that the CBN supplied to the foreign exchange market, the impact was not reflected in the performance of the real sector of the economy, which became a source of serious concern. Nigeria's high import proclivity for completed consumer products resulted in foreign exchange revenues from oil that continued to drive output and job growth in the nations from which Nigeria's imports came. This situation forced a policy shift on July 22, 2002, when demand pressure in the foreign exchange market increased and the number of external reserves continued to deplete.

To replace the IFEM, the CBN reintroduced the Dutch Auction System (DAS) (Sanusi, 2004). As a result, the purpose of this study is to compare the advantages and drawbacks of the fixed (pegged) exchange rate system and the floating or flexible exchange rate system, as well as the desirability of one over the other. In other words, the impact of fixed and flexible exchange rates on the performance of the Nigerian economy over time will be examined in this study. The major focus would be on their influence on the Gross Domestic Product (GDP).

Statement of the Problem

Over the years, Nigeria has witnessed changes in its exchange rate regime. For instance, Nigeria adopted a fixed exchange rate regime from 1960 immediately after her political independence. According to Barro and Gordon (1983), Calvo and Vegh (1994), Edwards and Savastano (2000), Eichengreen et al (1999), and Frankel (2003), a fixed regime can boost trade and output growth by providing a nominal anchor and much-needed credibility for monetary policy, avoiding competitive depreciation, and promoting financial market development. On the other hand, the opposing school of thought recommended that a flexible or floating exchange regime is more reliable in arresting low economic growth rates. Among these schools are Calvo and Reinhart (2002), (Calvo, 2003), etc. Amidst this controversy, the Nigerian government has experimented with both fixed and flexible exchange regimes since its independence in 1960. However, records show that there has not been any appreciable improvement on her growth indices. For instance, CBN (2013) revealed that the growth rate increased from 1.8% to 3.1 % between 1960 and 1980. At the same period, the exchange rate fluctuated from 0.3% to 1.8%. This was the period of the fixed exchange rate regime in Nigeria. However, there was a dramatic fall in the GDP growth rate between 1990 with 8.3% to as low as 3.9% in 2000. Within this period also, the exchange rate appreciated from 8.04% in 1990 to as high as 102.10% following the introduction of flexible or floating exchange rate regime in Nigeria. Furthermore, from 2010 to 2013, the growth rate remained constant at 7.161% while the exchange rate appreciated from 148.68% to 156.00%. The above picture indicates that the impact of changes in the exchange rate between the two periods has not been the same, hence, this study.

Besides, different empirical works had been carried out on the impact exchange rate regime on the performance of the Nigerian economy, for instance, Ajekwe, Korna, and Idyu. (2013) Adeniran, Yusuf and Adeyemi (2014), Momodu (2015) and David, Umeh and Ameh (2010) A noticeable weakness of the above studies is the methodology used. for instance, Ajekwe, Korna, and Idyu. (2013) used only t-statistics to analyze time-series data. It has been proved that the Use of only t-statistics in analyzing time series data of this nature without due consideration to the properties of the time series data is misleading. This present study is a clear departure from previous ones since the author conducted a unit root test, cointegrated test, and ECM in other to examine the characteristics of the time series data use. The study is therefore set out to examine the impact of the exchange rate regime on the performance of the Nigerian economy.

Research Questions

The research questions for this study are as follows:

1. To what extent has the fixed exchange rate influence the performance of the Nigerian economy?
2. To what extent has a flexible exchange rate predicted the performance of the Nigerian economy?

Objectives of the Study

The following objectives were formulated to guide this study the broad objective of this study is to examine the comparative analysis of the exchange rate regime on the performance of the Nigerian economy.

Specifically, to:

1. Determine the nature of the relationship between exchange rate and economic growth
2. Examine the extent the fixed exchange rate regime has had on the Nigerian economy.
3. Investigate the extent flexible exchange rate system has had on the Nigerian economy.

Hypotheses of the Study

The following maintained hypotheses were tested in this research:

- H01: There is no significant relationship between exchange rate and economic growth in Nigeria.
- H02: The fixed exchange rate does contribute significantly to economic growth in Nigeria
- H03: There is no significant relationship between flexible exchange rate and economic growth in Nigeria

2. LITERATURE REVIEW

Conceptual Review of Literature

Exchange Rate is defined by Ajekwe, Korna, and Idyu (2013) as the value of one currency in terms of another currency or currencies. The exchange rate between the two currencies, for example, is the value of Nigeria (₦) versus the US dollar (\$). The exchange rate system (or regime) is a method or alternative used by countries to conduct international commerce and pay other

international commitments. The price of one currency in terms of another is known as the exchange rate (Mordi, 2006). The real exchange rate is a benchmark for displaying the competitiveness of local industries in the global market. Its growth or decrease demonstrates the strength and weakness of the currency in relation to foreign money. They claimed that there are two types of exchange rate regimes in use: fixed and flexible exchange rates. Variations of these two exchange systems exist (such as Dirty-float or Managed-floating rates, for example).

According to Sanusi (2004), a variety of exchange rate regimes are used across the world, ranging from the most severe instance of fixed exchange rate systems, such as currency boards and unions, to a freely floating regime. In actuality, nations use a mix of regimes, such as adjustable peg, crawling peg, target zone/crawling bands, and controlled float, depending on their economic circumstances. He defined the several types of regimes.

The exchange rate of the local currency is pegged to a unit of gold, a reference currency, a basket of currencies, or the SDR in a fixed exchange rate system, with the primary goal of guaranteeing a low rate of inflation. The fixed regime's benefits and drawbacks have been thoroughly established in the literature. The reduction of transaction costs in trade, increased macroeconomic discipline, the possibility of increased credibility due to exchange rate stability, and increased response to domestic nominal shocks are just a few of them. However, one key disadvantage of fixed/pegged regimes is the lack of monetary policy discretion (or monetary policy independence).

He went on to say that the floating exchange rate system, on the other hand, suggests that the exchange rate will be determined by the forces of demand and supply. This regime presupposes that there is no visible intervention in the foreign currency market and that the exchange rate naturally adjusts to settle any market deficit or excess. As a result, changes in foreign exchange demand and supply might affect exchange rates but not the country's international reserves. The exchange rate acts as a "buffer" for external shocks under this setup, giving the monetary authorities complete control over monetary policy. The drawbacks of the free-floating system have been well documented. Consistent exchange rate fluctuation, rising inflation, and transaction costs are among them. On the other side, the most significant benefit of the floating system is monetary policy independence, which is defined as a country's capacity to regulate its monetary aggregates and affect its domestic interest rate and inflation.

The managed floating regime is a version of the freely floating regime in which the government intervenes in the foreign currency market to affect the exchange rate but does not commit to maintaining a fixed exchange rate or some restricted limitations around it. By influencing the foreign currency market, the central bank 'gets its hands dirty'. Changes in foreign exchange demand and supply may be linked to changes in exchange rates and/or changes in international reserves, depending on the central bank's activity. Fiscal and monetary policies are utilized throughout the system to promote internal and external equilibrium (David, Umeh, & Ameh, 2010). The choice

of one regime over the other is influenced by a number of variables. Internal economic fundamentals, the external economic environment, and the impact of numerous random shocks on the home economy are all important factors to consider. As a result, nations like Nigeria, which are sensitive to both internal and external shocks (such as terms of trade shocks and an unsustainable debt load), which need real exchange rate depreciation, choose to adopt a regime that allows for more flexibility. Overall, there is agreement that if the source of macroeconomic volatility is mostly endogenous, a fixed exchange rate regime is preferable. If the disturbances are mostly exogenous, however, a flexible regime is preferred. Regardless of the currency rate regime used, it is increasingly acknowledged that a country's long-term prosperity is dependent on its commitment to maintaining strong economic fundamentals and a stable financial system (Momodu, 2015).

Theoretical Review of Literatures

According to Rostow (1950s), all civilizations may be classified into one of five groups based on their economic dimensions: the traditional society, the pre-conditions for self-sustaining growth, the takeoff, the rise to maturity, and a period of high mass consumption. One of the most common criticisms of the Rostow model is that one stage constantly overlaps with the next, implying that the classification of five phases of growth is not a credible theory of economic development in and of itself.

The Harrod Domar growth model assumes that every economy must set aside a percentage of its national revenue, even if just to replace worn-out capital assets. New investments that reflect net additions to the capital stock, on the other hand, are required to expand. It claims that the national saving ratios and the capital-output ratio work together to determine GNP growth rates. According to economic logic, economies must save and invest a specific percentage of their GDP in order to expand. Because of the assumptions behind this theory, it is inapplicable to the majority of emerging nations, such as Nigeria. Furthermore, the neocolonial dependency model is an indirect offshoot of Marxist theory, in which the persistence of progress is due to the historical history of the unequal connection between international capitalist powers and impoverished countries. The presence of industrial capitalism policies is primarily to blame for the neo-colonial perception of underdevelopment and continuous deteriorating poverty in some nations. As a result, the model advocates a revolutionary fight or, at the very least, a fundamental reform of the global capitalist system to free the dependent developing countries from direct and indirect economic control.

The optimum currency area (OCA) hypothesis, published by Mundell and McKinnon in 1961, is the earliest and most widely used theoretical framework for the selection of exchange rate regimes (1963). This research focuses on trade and business cycle stability. It is based on shock symmetry, degree of openness, and labor market mobility ideas. The OCA theory, however, is unable to give an unequivocal suggestion for the optimal exchange rate regime since the relationships between the nominal exchange rate regime and macroeconomic performance both counteract and reinforce one other. A fixed exchange

rate system, for example, can improve trade and production growth by decreasing exchange rate uncertainty and hence the cost of hedging, as well as stimulate investment by lowering the currency premium from interest rates, according to the idea. On the other hand, by preventing, postponing, or slowing the essential relative price adjustment process, it might impede trade and production growth. Mundell (1961) proposed a dual currency system for Canada, with eastern and western Canadian dollars, as a result of these balancing effects.

Empirical Literature Review

Since the introduction of the Structural Adjustment Policy in the 1970s, when many developing nations transitioned from fixed exchange rate regimes to floating exchange rate regimes, the influence of exchange rate on macroeconomic performance has gotten a lot of attention in the literature. It is an essential macroeconomic variable as well as a significant factor in international trade. While both theoretical and empirical literature have sought to find the best appropriate exchange rate regime for an economy by evaluating the impact of regime choice on numerous macroeconomic and financial variables, none has been able to reach a clear conclusion.

One of the most thorough multi-country studies, Ghosh, Anne-Marie, and Holger (1997), looked at the impact of the nominal exchange rate regime on inflation and growth using data from 136 nations from 1960 to 1989. They discovered that under fixed exchange rates, both the amount and variability of inflation were significantly lower than under floating exchange rates. However, their findings imply that the inflation bias of flexible exchange rate arrangements does not appear to exist among the pure floaters in the sample, notably among the high and upper-middle-income individuals. This suggests that the study's positive relationship between exchange rate flexibility and inflation may not be monotonic. Their research did not reveal a strong relationship between growth and currency regimes, which is likely due to the fact that investment ratios are larger but trade growth is lower under fixed exchange rates than under floating exchange rates. They discovered, however, that actual production variability is substantially larger under fixed exchange rates than under floating exchange rates. Furthermore, research by Hausmann, Gavin, and Stein (1999) found that Latin American nations with fixed exchange rates had higher financial depth (as measured by M2/GDP), lower interest rates, and less effective wage indexation in the 1990s than those with flexible exchange rates. Their findings also showed that monetary policy has been more pro-cyclical under floating rates than fixed rates.

Using de facto and secondary data on GDP and balance of payments during the period, Ajekwe, Korna, and Idyu (2013) investigated the impact of fixed and flexible exchange rate systems on the Nigerian economy from 1960 to 2007. To evaluate the data, the researcher used the Ordinary Square Least (OLS) approach, often known as the basic regression methodology, using the Statistical Package for Social Science (SPSS). The fixed exchange rate system has had a considerable beneficial influence on GDP and a little but favorable impact on the balance of payments, according to the findings. On the other hand, the flexible exchange rate system has had a considerable

positive influence on GDP and a negligible negative impact on the balance of payments.

From 1986 through 2013, Adeniran, Yusuf, and Adeyemi (2014) looked at the influence of exchange rates on economic development. The majority of the data in this study is secondary, derived from several issues of the Central Bank of Nigeria's Statistical Bulletin. From 1986 to 2013, the monetary authority transitioned from a fixed exchange rate to a flexible exchange rate system. The data was analyzed using the ordinary least square (OLS) correlation and regression analysis. The exchange rate has a beneficial influence, although it is not large, according to the findings. The findings also revealed that interest rates and inflation rates have a negative influence on economic growth, but that this effect is minor. As a result, they suggested that the government pursue export promotion techniques in order to preserve a surplus balance of trade, as well as a favorable environment, enough security, competent fiscal and monetary policies, and infrastructure facilities.

In his research of the effects of exchange rate on production in Nigeria; a comparative analysis, Momodu (2015) discovered that, contrary to predictions, the exchange rate regimes in Nigeria had no effect on the level of output. Future regulations should encourage the use of local technologies to boost productivity, according to the authors. Infrastructure provision should be upgraded in order to maintain GDP development, and raw material sources should be diversified.

The Gaps in the Literature

Several empirical works of literature have been reviewed above on exchange rate regimes, vitality, and fluctuations in economic growth in Nigeria and other countries this include, Little, Cooper, Corden and Rajapatirana (1993), Edwards (1993), Ghosh, Anne-Marie, and Holger (1997), Hausmann, Gavin, and Stein. (1999), Aliyu (2011), Ajekwe, Korna, and Idyu (2013), Adeniran, Yusuf and Adeyemi (2014), Momodu (2015) and David, Umeh and Ameh (2010). Some gaps are identified, a noticeable weakness of the above studies is the methodology used. For instance, Ajekwe, Korna, and Idyu. (2013) used only t-statistics to analyze time-series data with SPSS software. It has been proved that the Use of only t-statistics in analyzing time series data of this nature without due consideration to the properties of the time series data is misleading. Some of the research is carried out in foreign countries in Asia, Latin America, and Europe which might not apply to Nigeria for instance, Little, Cooper, Corden, and Rajapatirana. (1993), Edwards (1993), Ghosh, Anne-Marie and Holger, (1997), Hausmann, Gavin, and Stein. (1999). The time covered by some of these empirical studies above is not quite adequate, for instance, Momodu (2015) covers only the post SAP era. This research will help to fill the entire above existing gap.

3. METHODOLOGY

Research Design

The purpose of this paper is to explain the link between an exchange rate regime and the performance of the Nigerian economy. The Ex Post Facto research design was used in this study, which is a sort of research that involves events

that have already occurred and for which data is already available.

Nature and Sources of Data

Secondary data will be heavily used in this research. This is because the topic at hand is descriptive, and data on it already exists. The data for this study will mostly originate from textbooks and journals, as well as publications from the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and other sources as needed.

Techniques of Data Analysis

Data for this research has been analyzed using the Ordinary Least Square (OLS) through the use of E-view 8.0 to test hypotheses

Model Specification

The equations below have been formulated in an explicit form as:

$$GDP = f(EXR, IFR, MS, IR) \quad (1)$$

Structurally, equation (1) is transformed into the following form:

$$GDP_t = \alpha_0 + \alpha_1 EXR_t + \alpha_2 IFR_t + \alpha_3 MS_t + \alpha_4 IR_t + \mu_t \quad (2)$$

equation two above can be represented in log form below

$$\log GDP_t = \alpha_0 + \alpha_1 EXR_t + \alpha_2 IFR_t + \alpha_3 \log MS_t + \alpha_4 IR_t + \mu_t \quad (3)$$

If the variables under examination are cointegrated, an error-correction model would be required to investigate the influence of different exchange rate regimes on Nigeria's economic performance. It's enough to say that cointegration is the theoretical foundation for the error-correction model. We used the following error-correction model:

$$\Delta GDP_t = \alpha_0 + \sum_{i=1}^m \alpha_{1i} \Delta GDP_{t-i} + \sum_{j=0}^n \alpha_{2j} \Delta EXR_{t-j} + \sum_{k=0}^o \alpha_{3k} \Delta IFR_{t-k} + \sum_{l=0}^p \alpha_{4l} \Delta MS_{t-l} + \sum_{k=0}^q \alpha_{5k} \Delta IR_{t-k} + ECM_{t-1} + \mu_t \quad (4)$$

Where:

GDP = Gross Domestic product

INR = Interest rates

EXR = Fixed Exchange Rate Regime,

IFR = Inflation rate.

MS = Broad money supply

ECM = Error correction term

Two regression models shall be estimated for comparative analysis: Pre-SAP era {(1960-1985) which is the fixed exchange rate policy regimes} and the post SAP era {(1986-2014) which is the flexible exchange regime}

A priori Expectations

$\alpha > 0$; $\alpha < 0$; $\alpha < 0$; $\alpha > 0$;

Estimation Techniques and Procedures

The first task in the estimation procedure is to establish the two-exchange regime for comparative analysis. The pre sap era (1960-1985) fixed exchange rate regime and the post-SAP era (1986- 2014) flexible exchange regime in Nigeria. The impact of the exchange regimes on

Economic Growth is also of great importance to this study.

The variables' time-series characteristics were then investigated. The traditional econometric theory is based on the assumption that the observed data are from a stationary process, that is, one with constant means and variances throughout time. Non-stationary series are those that are not stationary. The stationary test is justified by the fact that most economic variables, in both real and nominal terms, evolve, grow, and change with time. This is because a large portion of economic theory is concerned with long-run equilibrium connections that are formed by market forces and behavioural regulations. To conduct this stationary test, we used the Dickey-Fuller test.

A cointegration test is used to see if there is a long-term link between the dependent variable and the explanatory variables. To test for cointegration, the study adopted the Engle-Granger approach. The Error Correction Model (ECM) is also used to determine the speed of adjustment of the short-run disequilibrium to the long-run equilibrium. The Ordinary Least Square (OLS) technique is employed for each to estimate the impact of the exchange regimes on the economic performance of the Nigerian economy.

4. RESULT PRESENTATION AND DISCUSSION

Descriptive Statistics

The statistical characteristics of the variables are discussed in this section. As a result, the variables' univariate statistics, such as mean, median, skewness, Jarque-Bera, and kurtosis, are presented. The descriptive statistics findings for chosen variables are shown in Table 1 below.

Table 1 Descriptive statistics for selected variables for fixed exchange regimes (1960-1985)

Variables	GDP	EXR	IFR	IR	MS
Mean	21470.11	0.546058	8.773077	6.440000	6001.847
Median	7909.000	0.608000	6.000000	6.495000	1368.650
Maximum	67908.60	0.893800	33.90000	10.00000	22299.24
Minimum	2233.000	0.307900	0.200000	3.200000	542.4000
Std. Dev.	21837.37	0.174133	9.329890	1.708241	7112.573
Skewness	0.721035	0.015235	0.993037	0.224067	1.036471
Kurtosis	2.031044	1.770118	3.099087	2.790420	2.607606
Jarque-Bera	3.269980	1.639667	4.283831	0.265144	4.821986
Probability	0.194954	0.440505	0.117430	0.875840	0.089726
Sum	558222.9	14.19750	228.1000	167.4400	156048.0
Sum Sq.Dev	1.19E+10	0.758058	2176.171	72.95220	1.26E+09
Observations	26	26	26	26	26

Source: (Authors' computation, 2015; using E-views 8.1)

Table 2 Descriptive statistics for selected variables For Flexible Regime (1986-2014)

Variables	GDP	EXR	IFR	IR	MS
Mean	670052.1	88.06034	20.38190	18.91828	3773858.
Median	624072.0	102.1000	12.54000	18.36000	878457.3
Maximum	992821.0	176.0000	72.73000	31.65000	17523435
Minimum	49410.00	2.020000	5.420000	9.930000	23806.40
Std. Dev.	236044.3	57.59409	18.18592	4.719709	5349748.
Skewness	-0.347663	0.374575	1.575804	0.543864	1.339349
Kurtosis	2.742333	1.632057	4.249584	3.619030	3.367849
Jarque-Bera	0.664427	2.939264	13.88870	1.892676	8.833809
Probability	0.717334	0.230010	0.100964	0.388160	0.112072
Sum	19431511	2553.750	591.0750	548.6300	1.09E+08

Sum Sq. Dev	1.56E+12	92878.21	9260.373	623.7184	8.01E+14
Observations	29	29	29	29	29

Source: Author's computation, 2021

The skewness of the histogram is a measure of its symmetry. A variable with negative skewness is significantly below the mean, whereas one with positive skewness is often above the mean. The kurtosis (fourth moment), which gauges the tail shape of a histogram, is displayed in the findings. Platypurtic (fat or short-tailed) variables have a kurtosis value of less than three. All variables in the fixed regime fall into this group, but only GDP and EXR fall into this category in the flexible regime.

In a flexible exchange rate regime, variables with a kurtosis value greater than three are called leptokurtic (slim or long-tailed), and the variables that qualified for this are IFR, INR, and MS. The residuals are normally distributed, according to the Jarque-Bera test, because the probability values for all variables are very low and near to zero. The descriptive statistics revealed that the data sets are normally distributed, in conclusion. Because the majority of the probability values are smaller than unity, and their means are almost equal to the corresponding medians, this is the case.

Unit Root Test

Unit root tests of the data's time-series characteristics are investigated to establish the order of integration of the variables utilized in the model, in keeping with current improvements in time series modeling. If a series becomes stable or $I(0)$ after being differenced d times, it is said to be integrated of order d , denoted $I(d)$. The exam is called the Augmented Dickey-Fuller. The tests' findings are consistent, indicating that all variables are stationary at the level. (that is, they are integrated of order zero) under the fixed regime and under the flexible regime. The results of the stationarity tests for the variables are presented in Tables 3 and 4.

Table 3 Augmented Dickey-Fuller Unit Root Test Result for Pre SAP-Era

VARIABLE	T-Statistics	1%	5%	Order of integration
GDP	-4.177975**	-4.394309	-3.612199	$I(0)$
EXR	-4.968538**	-4.394309	-3.612199	$I(0)$
IFR	-6.711943**	-4.394309	-2.612199	$I(0)$
IR	-5.846780**	-4.394309	-2.612199	$I(0)$
MS	-4.802683**	-4.416345	-3.622033	$I(0)$

Source: Author's computation, 2021

Table 4 Augmented Dickey-Fuller Unit Root Test Result for Post SAP Era

VARIABLE	T-Statistics	1%	5%	Order of integration
GDP	-8.865705**	-4.339330	-3.587527	$I(0)$
EXR	-5.488842**	-4.339330	-3.587527	$I(0)$
IFR	-6.891572**	-4.440739	-2.632896	$I(0)$
IR	-6.350142**	-4.467895	-3.64493	$I(0)$
MS	-8.334754**	-4.356068	-3.595026	$I(0)$

Source: Author's computation, 2021

Cointegration Test

There may be a linear combination of non-stationary time series variables that is stationary. The variables are said to be cointegrated in this scenario. This means that the non-

stationary variables have a long-term association. This study follows the Engle-Granger approach and the result is presented in Tables 5 and 6. The result of Engle-Granger procedures showed that we reject the null hypothesis of no cointegration since the Gross domestic product (GDP), an exchange rate (EXR), and inflation rate (IFR) are all significant.

Table 5 Engle-Granger Cointegration Test Result Pre-Sap Era (1960-1985)

Variables	Trace-Statistic	Probability
GDP	90.03377	0.0406
EXR	50.92946	0.3734
IFR	32.34903	0.3698
IR	17.93585	0.3482
MS	7.381452	0.3061

Source: Author's computation, 2021

Table 6 Engle-Granger Cointegration Test Result for Post SAP Era (1986-2014)

Variables	Trace-Statistic	Probability
GDP	152.3101	0.0000
EXR	90.08987	0.0001
IFR	50.12013	0.0082
IR	18.18313	0.3317
MS	6.242773	0.4301

Source: Author's computation, 2021

Exchange Rate Regimes and the Economic Performance of the Nigerian Economy

Table 7 OLS Result of the Fixed exchange Regime

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.664794	0.550030	8.480986	0.0000
LOG(EXR)	0.714747	0.174814	4.088621	0.0005
LOG(IFR)	0.143405	0.037370	3.837416	0.0010
LOG(IR)	-0.257404	0.186970	-1.376713	0.1831
LOG(MS)	0.683276	0.040360	16.92970	0.0000
X				
R-squared	0.990305	Mean dependent var		9.290298
Adjusted R-squared	0.988459	S.D. dependent var		1.280213
S.E. of regression	0.137535	Akaike info criterion		-0.958840
Sum squared resid	0.397232	Schwarz criterion		-0.716898
Log-likelihood	17.46491	Hannan-Quinn criteria.		-0.889169
F-statistic	536.2764	Durbin-Watson stat		2.018527
Prob(F-statistic)	0.000000			

Source: Author's computation, 2021

Table 8 OLS Result of the Flexible exchange Regime

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.34641	1.929417	5.880745	0.0000
LOG(EXR)	0.077719	0.173692	0.447453	0.6586
LOG(IFR)	0.094038	0.130208	0.722215	0.4771
LOG(IR)	-0.204503	0.445102	-0.459451	0.6500
LOG(MS)	0.146719	0.114088	1.286021	0.2107
R-squared	0.501003	Mean dependent var		13.31308
Adjusted R-squared	0.417836	S.D. dependent var		0.569622
S.E. of regression	0.434620	Akaike info criterion		1.326895
Sum squared resid	4.533464	Schwarz criterion		1.562636
Log-likelihood	-14.23998	Hannan-Quinn criteria.		1.400726
F-statistic	6.024110	Durbin-Watson stat		2.435356
Prob(F-statistic)	0.001671			

Source: Author's computation, 2021

Test of Hypothesis

Using the p-value in the OLS results in table 9 and 10 above for the fixed and flexible exchange rate (0.0005 and 0.6586) respectively. There is a significant relationship between the fixed exchange rate and the performance of the Nigerian economy between 1960-1985, while there is no significant relationship between flexible exchange rate and the performance Nigerian economy between 1986 and 2014.

5. DISCUSSION OF FINDINGS

The value of the intercept which is 4.664794 and 11.34641 shows that the Nigerian economy experienced a 4.664794% and 11.34641% increase when all other variables are held constant during fixed and flexible exchange rate regimes respectively. The estimate coefficients which are 0.714747 and 0.077719 during fixed and flexible {Exchange Rate} shows that a unit change in Exchange Rate will cause a 0.714747% and 0.077719% respectively. There is a positive relationship between exchange rate and economic growth in both the pre-SAP and the post SAP era. There is also a positive relationship between inflation rate and money supply with the GDP with 0.143405, 0.683276, and 0.094038, 0.146719 coefficients respectively for fixed and flexible regimes. While there is a negative relationship between interest rate and GDP, the results show that units change in Interest Rate will cause a 0.26% and 0.20% decrease in GDP during the fixed and flexible regimes respectively. The explanatory variable accounts for 99% and 50% variation in the dependent variable during the fixed and the flexible regimes respectively, this indicates that the model captured the variation. Using the t-statistics above, all the variables are significant except for interest rate during the fixed regimes, while none of the variables is significant during the flexible regime. The f-statistics are all significant in both regime periods. The Durbin-Watson result indicates the absence of autocorrelation in both. The result shows that the exchange rate has a positive and significant impact on economic growth during the fixed regimes only. This finding is consistent with earlier research (Asher, 2012; Azeez et al, 2012; Obansa et al, 2012) indicating the exchange rate has a beneficial influence on GDP.

Conclusion

This research study examined a comparative analysis of the exchange rate regimes on the performance of the Nigerian economy growth from 1960 to 2014. The result revealed that the fixed exchange rate regime has a positive and significant impact on the performance of the Nigerian economy this is affirmed by previous studies that developing countries are relatively better off in the choice of fixed exchange rate regimes. The findings also revealed that interest rates had a small but considerable negative influence on economic growth. Some scholars suggested that the exchange rate is positively associated to economic growth, while others argued that it is adversely related, based on the empirical research. The exchange rate regime is positively associated to production growth, although the fixed exchange rate is significant, according to the study's empirical research.

Recommendations

The current system of flexible exchange rates should be fine-tuned to allow for some sort of government action in fixing exchange rates when the need arises, according to the results of this research. To boost our exports and improve exchange rates, the government should push export promotion initiatives that stimulate the growth of non-oil exports. To entice foreign investors to invest in Nigeria, adequate security, competent fiscal and monetary policies, as well as infrastructure amenities, should be given. This will aid in improving the value of the Nigerian currency. Another suggestion is that the government implement an import substitution program to assist boost the exchange rate by conserving finite foreign reserves.

REFERENCES

- [1] Ajekwe, T, Korna, J. M. & Idyu, I.A. (2013) A comparative analysis of the impact of fixed and flexible exchange rate system on the Nigerian economy. *IOSR Journal of business and management science* 14,72-92.
- [2] Aliyu, S.R.U. (2011). Impact of oil price shock and exchange rate volatility on economic growth in Nigeria: An Empirical Investigation, *Research Journal of International Studies*.
- [3] Asher O. J (2012). The impact of exchange rate fluctuation on Nigeria economic growth (1980 – 2010). Unpublished B.sc Thesis of Caritas University Emene, Enugu State, Nigeria.
- [4] Azeez, B.A., Kolapo, F.T & Ajayi, L.B (2012). Effect of exchange rate volatility on macroeconomic performance in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*. 4(1), 149-155.
- [5] Adeniran, J.O. Yusuf, S. A.& Adeyemi, O. A. (2014) The impact of exchange rate fluctuation on the Nigerian economic growth: An Empirical Investigation. *International Journal of Academic Research in Business and Social Sciences* 4 (8)
- [6] Barro, Robert & David Gordon, (1983). Rules, discretion, and reputation in a model of monetary policy. *Journal of Monetary Economics*, 12: 101-22.
- [7] Berg, Andrew, Eduardo Borensztein & Paolo Mauro, (2002). An evaluation of monetary regime options for Latin America. *The North American Journal of Economics and Finance*, 13: 213-235.
- [8] Barkoulas J, Baum C, Caglayan M (2002). Exchange rate effects on the volume and Variability of trade flows. *Journal of International Money and Finance*, 21: 481-496.
- [9] Bordo, Michael, (2003). Exchange rate regime choice in historical perspective. NBER Working Paper 9654.
- [10] Calvo, Guillermo, (2003), Explaining sudden stop, growth collapse and BOP crisis: the case of discretionary output tax, The Mundell Fleming Lecture for the Third Annual IMF Research Conference, Washington, DC.
- [11] Calvo, Guillermo & Carmen Reinhart, (2002). Fear of Floating. *Quarterly Journal of Economics*, 117, no. 2, May, 379-408.
- [12] Calvo, Guillermo & Carlos Vegh, (1994). Inflation Stabilization and Nominal Anchors. *Contemporary Economic Policy*, 12 (April), 35-45.
- [13] De Grauwe P (1988). Exchange rate variability and the slowdown in the growth of international trade. *IMF Staff Papers*, 35: 63-84
- [14] Dooley, M.P., D. Folkerts-Landau, and P. Garber, 2003, An Essay on the Revived Bretton Woods System, NBER working paper 9971.
- [15] Edwards, S. & E. Levy-Yeyati (2003), Flexible Exchange Rates as Shock Absorbers, *Economies: What Do We Know? What Do We Need to Know? in Economic Policy Reform: The Second Stage*, ed. by Anne O. Krueger, 453-510. Chicago: University of Chicago Press.
- [16] Edwards, Sebastian, & Miguel A. Savastano, 2000. Exchange Rates in Emerging Economies: What Do We Know? What Do We Need to Know? in *Economic Policy Reform: The Second Stage*, ed. by Anne O. Krueger, pp. 453-510. Chicago: University of Chicago Press.
- [17] Eichengreen, B & Leblang, D. (2003). Exchange rates and cohesion: historical Perspectives and political-economy considerations, *Journal of Common Market Studies* 4(1), 797–822.
- [18] Eme, O.A & Johnson A.A (2012). Effect of exchange rate movements on economic growth in Nigeria. *CBN Journal of Applied Statistics*. 2(2), 1-28.
- [19] Ewa A (2011) in Asher O. J (2012). The impact of exchange rate fluctuation on the Nigeria economic growth (1980 – 2010). Unpublished B.Sc Thesis of Caritas University Emene, Enugu State, Nigeria.
- [20] Eichengreen, Barry, Paul Masson, Miguel Savastano, & Sunil Sharma, (1999). Transition strategies and nominal anchors on the road to greater exchange rate flexibility,” *Essays in International Finance*, No. 213 (Princeton: Princeton University Press).
- [21] Fischer, Stanley. (2001). Exchange rate regimes: is the bipolar view, correct? *Journal of Economic Perspectives* 15(2): 3-24.
- [22] Frankel, Jeffrey, 1999. *The International Financial Architecture*, Brookings Institution, Washington, DC.
- [23] Frankel, Jeffrey, 2003. Experience of and lessons from exchange rate regimes in emerging economies, in *Monetary and Financial Cooperation in East Asia*, Asian Development Bank, Macmillan, 2003.
- [24] Ghosh, Atish, Anne-Marie Gulde, Jonathan D. Ostry & Holger C. Wolf, (1997). Does the nominal exchange rate regime matter? NBER Working Paper 5874.
- [25] Ghosh, Atish, Anne-Marie Gulde, and Holger C. Wolf, 2003. *Exchange rate regime: choices and consequences*. Cambridge: MIT Press.
- [26] Hausmann, R., L. Pritchett, & D. Rodrik (2005). Growth accelerations. *Journal of Economic Growth* 10 (4): 303–29.

- [27] Hausmann, R, M. Gavin, C. Pages-Serra, & E. Stein (1999), Financial turmoil and the choice of exchange rate regime, Inter-American Development Bank, mimeo.
- [28] Johansen, S. (1991), Estimation and hypothesis testing of cointegrating vectors in Gaussian Vector Autoregressive Models", *Econometrika* 59.
- [29] Levy-Yeyati, Eduardo & Federico Sturzenegger, (2002) Classifying exchange rate regimes: Deeds versus Words. Mimeo, Universidad Torcuato Di Tella.
- [30] Lin, Justin Yifu, (2001). WTO accession and financial reform in China. *Cato Journal*, 21(1), 13-18.
- [31] Little, I., R. Cooper, W. Corden, & S. Rajapatirana (1993), Boom, crisis, and adjustment: The macroeconomic experience of developing countries, Oxford University Press for The World Bank.
- [32] McKinnon, Ronald, (1963). Optimal currency areas. *American Economic Review*, 53, 717-724.
- [33] McKinnon, Ronald, (1999). Exchange rate coordination for surmounting the East Asian currency crisis. *Journal of International Development* 11(1): 95-106.
- [34] McKinnon, Ronald, & G. Schnabl, (2003). The East Asian dollar standard, fear of floating, And original sin, in: G. Ortiz, ed. *Macroeconomic Stability, Financial Markets, and Economic Development*, Bank of Mexico.
- [35] Montiel, Peter J. & Jonathan Ostry, (1991). Macroeconomic implication of real exchange rate targeting in developing countries. IMF Working Paper 91/29. International Monetary Fund.
- [36] Momodu, A.A. (2015) The impact of exchange rate on output in Nigeria a comparative analysis. *European Journal of Business and Management*.7(5)
- [37] Mordi, M.C. (2006). Challenges of exchange rate volatility in economic management of Nigeria, In the *Dynamics of Exchange Rate in Nigeria*, CBN Bullion 30 (3), 17-25
- [38] Mundell, Robert, (1961). The theory of optimal currency areas. *American Economic Review*, 51, 657-661.
- [39] Mussa, M., P. Masson, A. Swoboda, E. Jadresic, P. Mauro & A. Berg, (2000), Exchange rate regimes in an increasingly integrated world economy. IMF Occasional Paper No.193, Washington, DC.
- [40] Obstfeld, Maurice & Kenneth Rogoff, (1995). The mirage of fixed exchange rates. *Journal of Economic Perspectives* 9, (4) 73-96.
- [41] Reinhart, Carmen M. & Kenneth Rogoff, (2004). The modern history of exchange rate arrangements: A reinterpretation. *Quarterly Journal of Economics*, 119(1), 1- 47.
- [42] Rogoff, Kenneth, Aasim M. Husain, Ashoka Mody, Robin J. Brooks, & Nienke `Times, (2003). Evolution and performance of exchange rate regimes. IMF Working Paper 03/243, International Monetary Fund.
- [43] Sanusi, J.O. (2004) Exchange rate mechanism; the Nigerian experience. A paper presented at Nigeria British trade and commerce. Abuja
- [44] Tornell, A. & A. Velasco (1999), Fixed versus flexible exchange rates: Which Provides More Fiscal Discipline? Forthcoming, *Journal of Monetary Economics*
- [45] World Bank, 2004. *World Development Indicators 2004*. Washington D.C.