

FOREIGN EXCHANGE POLICY IN NIGERIA: IMPLICATIONS FOR ECONOMIC PERFORMANCE

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ABSTRACT

This paper sets out to examine the relationship between Nigeria's Foreign Exchange Rate policy and output performance. It goes further to examine the effect of money supply as a possible macroeconomic factor that could influence output performances. This essentially, demonstrates the fact that output performance in Nigeria cannot be determined by foreign exchange rate policy alone, but could be influenced by other factors. The study used secondary data obtained from the Central Bank of Nigeria (CBN) statistical bulletin, spanning 1981-2015. Data were analyzed using Ordinary Least Square (OLS) technique. The study revealed that foreign exchange rate affected gross domestic product negatively and significantly. It also revealed positive interaction level among macroeconomic variables such as money supply in determining output performance. In view of the findings it was recommended that the apex monetary authority should manage the naira by regulating the foreign exchange market; and policy decisions on foreign exchange rate and other macroeconomic factors such as money supply should be taken by considering the degree of interaction among the variables.

Keywords: Foreign Exchange Rate, Money Supply, Gross Domestic Product, Unit Root.

1.0 INTRODUCTION

On Wednesday, June 15, 2016 the Central Bank of Nigeria (CBN) formally unveiled a flexible foreign exchange policy that would allow the foreign exchange interbank trading window to be driven purely by the market forces. Accordingly, Naira was floated by the Central Bank of Nigeria, a policy which effectively removed controls on the local currency and allowed increased supply of major currencies, especially the US Dollars, in order to strengthen the country's weak economy. This is one of the few foreign exchange rate policies the Central Bank of

Nigeria had undertaken over the years to stabilize the value of Naira and boost local production of goods and services.

In November, 2014 Naira was devalued from about 160 to 176 per one US Dollar. A further decline took place in February, 2015 when the CBN suspended Dollar Auction System (DAS) and set a new target of 196.5 for the interbank rate, which was increased to 197 (Oyedele 2016). The Central Bank of Nigeria (CBN) also issued directives to help in the management of the foreign exchange rate regime. Such directives allow some institutions to price their goods and services in foreign currencies rather than in Naira, and also exclude certain transactions from eligibility to access foreign exchange in Nigerian foreign Exchange Market. The powers to regulate and control the Nigerian foreign exchange market lies with the Central Bank of Nigeria (CBN). The enabling laws include the Central Bank of Nigeria (CBN) Act, the Foreign Exchange (Monitoring and Miscellaneous Provisions) Act, and Money Laundering (Prohibition) Acts. Section 1 (2) of the Foreign Exchange Act empowers the CBN, in collaboration with the Federal Minister of Finance, to issue guidelines from time to time, to regulate the procedures for transactions in foreign exchange. These powers prompted the CBN to introduce a flexible foreign exchange policy regime which allows Naira to be floated in the foreign exchange market.

To float the Naira simply means that its foreign currency value would henceforth be determined by the Marshallian Scissors of demand and supply (Umo, 2016). The policy allows the market to operate as a single market structure via the interbank market and authorized dealers; an implication that it would be purely an exchange rate managed via Thompson Reuters platform. The CBN would participate via periodic intervention and would introduce Foreign Exchange Primary Dealers (FXPD) that deal with CBN on a two-way quote basis while the primary dealers are also expected to deal with other players in the interbank market. Other implications of the new policy are the introduction of non-deliverable over-the-counter (OTC) naira – settle futures with daily rates on the CBN approved Foreign Market Daily Quotations (FMDQ), monitoring trading and Reporting System, and removing the monopoly of CBN as the only source of foreign exchange supply. The policy allows proceeds of Foreign Investment Inflows and International Money Transfers to be purchased by Authorized Dealers at the Daily Interbank Rate, while non-oil exporters will have unfettered access to their foreign exchange proceeds.

Obviously, the implications of the flexible exchange rate policy for output performance leave much to be desired, particularly in an economy which the production capacity is low and highly depends on imports. With low production capacity couple with floating foreign exchange rate regime, the economy may experience more fluctuations which could worsen the state of the nation's level of inflation and unemployment.

Nigeria's floating exchange rate regime seems appalling, perhaps unprecedented in the country. Nigerian people are familiar with the peg or managed exchange rate regime. The policy as adopted by the Central Bank of Nigeria (CBN) is without implications. The policy would allow the foreign exchange interbank trading window to be driven purely by the market forces, and a foreign exchange ban on 41 imported items. The aim is to effectively remove controls on the Naira and allow increased Dollar supply that would strengthen Nigeria's weak economy. Whereas the policy was expected to boost output performance in the economy, rather it is characterized by unprecedented high level of inflation, unemployment and poverty. The seeming low level of local production of goods and services (output performance) has worsen the level of inflation, unemployment and poverty in the country and has pushed the economy into recession. The economy continues to flounder with low production capacity, poor management of money supply, high import dependent, and reign of double digit interest rate. It therefore becomes imperative to carry out a critical assessment of the impact of foreign exchange rate policy on output performance in Nigeria. Specifically, the research seeks to i) Examine the relationship between foreign exchange rate and gross domestic product; and ii) Determine the effect of Money Supply on the Gross Domestic Product.

2.0 LITERATURE REVIEW

2.1 CONCEPTUAL FRAMWORK

Exchange rate can be defined as the rate at which banks sell or buy one currency in exchange for another. It can be described as the price or unit of one country's currency quoted in terms of another or a quantitative expression of a country's currency in terms of another, (Essien & Siminialalayi, 2015). Foreign exchange rate policy is a monetary policy instrument used by any government to influence the quantity and value of money in circulation (Oyedele 2015). There are two main types of foreign exchange rate policy, the fixed exchange rate and the flexible exchange rate policies. Jinghan (2000) stated that under the fixed or pegged exchange rate all exchange transactions take place at an exchange rate that is determined by the monetary authorities. The authorities may fix the exchange rate by legislation or intervention in currency market. The flexible, floating or fluctuating exchange rates are determined by market forces. The monetary authorities do not intervene for the purpose of influencing the exchange rate.

Oyedele (2015) opined that given the downward pressure on naira as a result of the steep decline in foreign currency revenue accruing to government from petroleum, the Central Bank of Nigeria has taken a series of

measures, including naira devaluations, suspension of dollar auction system and prohibition of certain items from foreign exchange, to address the issues.

Umo (2016) stated that the Central Bank of Nigeria decision to float the naira simply mean that its foreign currency value would be determined by the Marshallian Scissors of demand and supply. Other complementary measures of the new foreign exchange regime include a purely market-driven rate for the naira, a periodic CBN intervention, a foreign exchange ban on forty-one (41) imported items, and unfettered access to non-oil export proceeds. Iwayemi (2016) believed that the exchange rate policy and its management should be seen as part of a larger economic reform programme to drive more sustainable post-crude oil economic future that is propelled by an evolving and robust economic competitiveness that will situate Nigeria among the major economic players regionally and internationally within a generation. Akpakpan (2016) summarized the major advantages of the new exchange policy to include generating substantial Naira income for the government, reducing corruption in the management of foreign exchange in Nigeria by eliminating the discretionary powers of CBN officials in the allocation of foreign currencies, and stimulating and inflow of portfolio investments. On the other hand, Akpakpan (2016) stated that the new policy will worsen the problems of inflation, income inequalities, unemployment, poverty and misery in the country. The policy has disrupted cost calculations in sectors, particularly the real sectors of the economy, and that the expected inflow of foreign investment will be mainly portfolio investment but the foreign direct investments in the real sector not likely to be substantial because of poor infrastructural development and insecurity in the country.

Although a floating exchange rate policy is good, this may not be the best in an economy like Nigeria that depends heavily on importation, hence huge demand for foreign exchange. Leaving foreign exchange trading in the interbank market will see exchange rates rising astronomically since banks are driven by profits. An economy that is largely dependent on import has no business with a full float exchange rate policy (Exhalenaija 2016). On the other hand, Umo (2016), Akpakpan (2016), and Exhalenaija (2016) agreed that a managed exchange rate policy is appropriate for Nigeria given the state of development of the economy. The policy would put Nigeria in a position to avoid speculative attacks on the currency and the consequent negative impact on the real economy. The policy would also prevent Naira from full depreciation against market forces to prevent a very sick economy from imminent collapse.

2.2 THEORETICAL FRAMEWORK

A number of theories have given credence to the study on foreign exchange rate policy and economic growth of various countries of the world. This study has identified theories that favour the policy to include the Mint-Parity theory, Purchasing Power Parity theory, Balance of Payments theory of Foreign Exchange Rate and the Interest Rate Parity theory. On the other hand, the Classical theory, Keynesian theory, Neo-classical theory, the Rostow's Stages of Economic Growth model and Endogenous Growth theory favour economic growth. The study emphasizes on a few of these theories such as the Purchasing Power Parity theory, the Balance of Payments theory and the Rosow's Stages of Economic Growth model to establish the theoretical relevance to the study.

The Purchasing Power Parity Theory of Foreign Exchange Rate

The Purchasing Power Parity Theory was propounded by Professor Gustar Cassel of Sweden. According to this theory, rate of exchange between two countries depends upon the relative purchasing power of their respective currencies (Mukherjee, 2015). By definition, the rate of exchange determined in relation to price-levels is known as the purchasing power parity. The actual rate of exchange must be such that the same amount of purchasing power, when exchanged at that rate, must buy the same amount of goods and services in both countries (Shaikh, 2015). For example, if a certain amount of goods can be bought for \$1 in USA and a similar item can be bought for ₦350.00 in Nigeria. Then, the rate of exchange between USA and Nigeria is $\$ = \text{₦}350.00$. A major critique of this theory posited that the actual rates of exchange between the two countries very seldom reflect the relative purchasing powers of the two countries due to interventions in controlling prices, or controlling exchange rates or imposition of restrictions on imports and exports of goods. Further, it is very difficult to measure purchasing power of a currency. It is usually done with the help of index number, (Mukherjee 2016).

The Balance of Payment Theory of Foreign Exchange Rate

The balance of payments theory of exchange rate holds that the price of foreign money in terms of domestic money is determined by the free forces of demand and supply on the foreign exchange market. It follows that the external value of a country's currency will depend upon the demand and supply of the currency. The theory states that the force of demand and supply are determined by various items in the balance of payments of a country (Hirose uk.Com). According to the theory, a deficit in the balance of payments leads to fall or depreciation in the rate of exchange, while a surplus in the balance of payments strengthens the foreign exchange reserves, causing an appreciation in the price of home currency in terms of foreign currency. A deficit balance of payments of a country implies that demand for foreign exchange is exceeding its supply. The main merit of the theory is that it

brings the determination of exchange rate problem within the purview of the general equilibrium analysis. The fundamental defect of the theory is that it assumes perfect competition, including no interference with the movement of money from one country to another. This is very unrealistic. The theory also claimed that there is no causal connection between the rate of exchange and the internal price level. But, there should be such connection, as the balance of payments position may be influenced by the price-cost structure of the country (Hiroseuk.Com).

Rostow's Stages of Economic Growth Model

Rostow's stages of economic growth model is one of the major historical models of economic growth. It was theorized by Walt Whitman Rostow in 1960. The model identified five basic stages which economic growth occurs. They are the traditional stage, where decisions are based on obligations, culture and traditions and trade is largely done by barter ;the pre-conditions for take-off stage, where a shift from agrarian to an industrial or manufacturing society begins slowly; the take-off stage, where the economy begins to experience a rapid and self-sustaining growth; the drive to maturity stage, where there is improvement in production techniques, increase in the growth of new industries accompanied by increase in export; and the stage of high mass consumption, where the economy is deemed to have matured and all industries are in full operation producing enough goods and services (Inam & Umobong, 2015). Rostow's model is a part of the liberal school of economics which lays emphasis on the efficacy of modern concepts of free trade. It encourages export of raw materials to finance the development of industrial sector at the early stage of take-off. One of the criticisms of the model is that it was based on European and American historical background and has bias for such countries like Great Britain, Russia, United States of America, Germany and Canada. The process of economic development in Nigeria is not justified in the different stages of the model.

2.3 EMPIRICAL FRAMEWORK

The empirical literature reviewed a thesis conducted by Okonkwo (2014) on the impact of exchange rate variations on the Nigeria Economy, 1989-2009. The thesis reviewed and appraised the relationship between exchange rate variation on Nigeria balance of trade from 1989-2009. The study was necessitated by the fact that balance of trade is directly or indirectly affected by the direction of exchange rate in the country. The data collected were presented using simple regression model and analyzed by Ordinary Least Square (OLS) analytical method. Findings based on analysis showed that there is a relationship between exchange rate changes and changes in Nigeria's balance of trade, and also, exports rate greatly affects balance of trade.

Ikechukwu, (2011) examined the impact of money supply on economic growth in Nigeria (1981-2010). In the model he specified the real gross domestic product (real GDP) as the regress, while broad money supply, real exchange rate, and real interest rate as the regressors. Secondary data were employed from CBN statistical bulletin for the period 1981-2010. The statistical techniques used for the analysis is the ordinary least square techniques with the aid of strata 10 software package. The research indicates that real interest rate and real exchange rate in Nigeria within the period under study failed to influence real gross domestic product while broad money supply being the only significant regressor influenced real gross domestic product (real GDP), within the period under study. The researcher recommended that effectiveness of influencing real gross domestic product in Nigeria can be promoted by emphasizing on broad money supply because this variable is statistically significant.

Inam & Umobong (2015) conducted an empirical analysis of the relationship between exchange rate movements and economic growth in Nigeria. The specific objectives of the study were to examine the relationship between exchange rate and economic growth; and also to determine the nature and the direction of causality between exchange rate and economic growth in Nigeria. The study employed the Ordinary Least (OLS) technique and the Granger Causality Test, using annual data spanning 1970–2011. The study revealed the existence of a positive and insignificant relationship between exchange rate and economic growth in Nigeria and recommended that government should adopt appropriate monetary and fiscal policies that will not only ensure a realistic and stable exchange rate but will also serve to foster economic growth.

3.0 METHODOLOGY

The study is designed to be empirical. The model was formulated and estimated using secondary data. The data used were obtained from central bank of Nigeria (CBN) statistical Bulletin, 2015. Data obtained were analyzed with the aid of E-view software version 9.0.

Model Specification

In specifying the model, the study took the Gross Domestic Product (GDP) and Human Poverty Index as dependent variables, while exchange rate, inflation rate, investment and trade openness were used as independent variables in Nigeria. The functional form of the model is specified below:

Model specification:

$$Y = f(\text{EXR}, \text{MS})$$

$$Y = a + b_1 \text{EXR} + b_2 \text{MS} + e$$

Where:

Y = Gross Domestic Product (GDP)

a = intercept

EXR = foreign exchange rate

MS = money supply

e = Random error

Technique of Data Analysis

T-test: This is used to determine the individual significance of the independent variables' impacts on the dependent variable.

F-test: This is used to determine the overall significance of the model.

The Coefficient of Determination (R^2): This measures the proportion of the variation in the dependent variables that is explained by the variation in the independent variables. It is used to evaluate the explanatory power of the regressors on the regressands. The closer it is to 1, the better the goodness of fit.

Stationarity Test: Generally, before estimating each of the models, the variables will be tested for stationarity, using the Augmented Dickey-Fuller unit root test, to show their order of integration. This is necessary so as to avoid the problem of spurious regression.

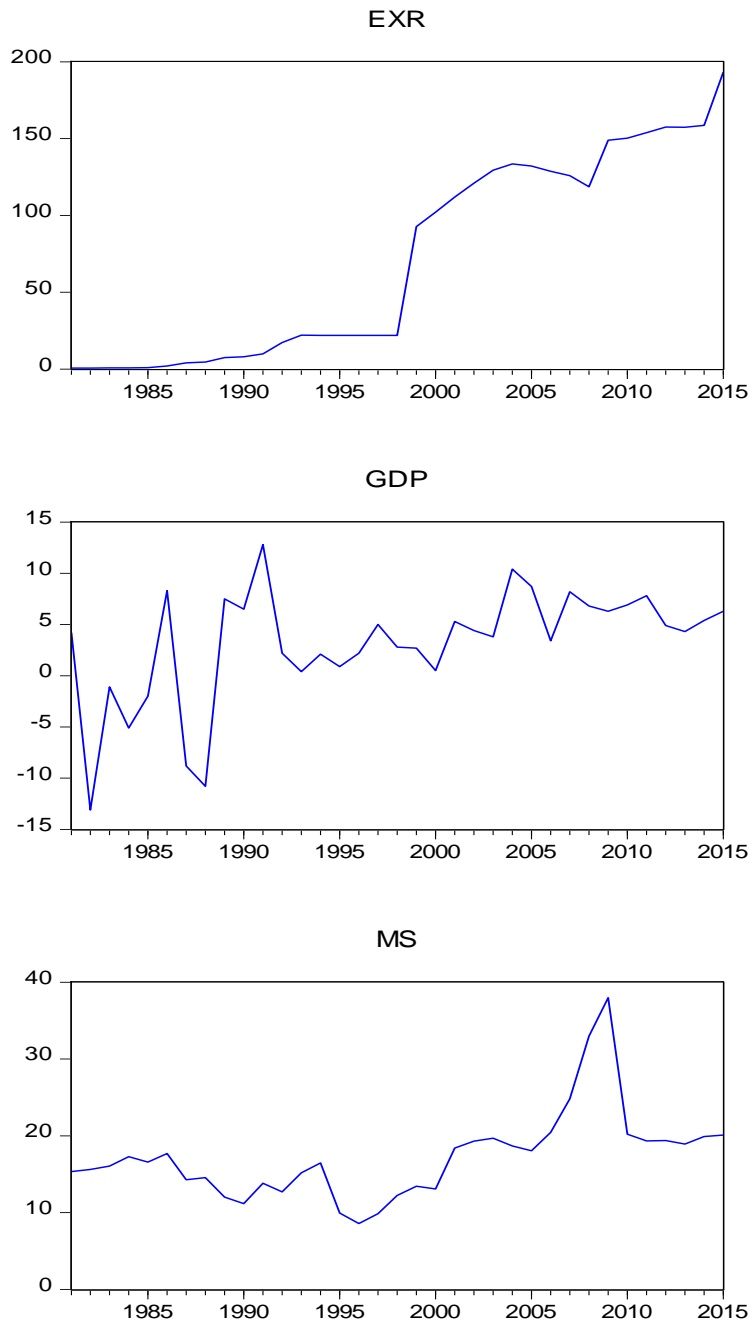
Autocorrelation test: This aims to see whether the errors corresponding to different observations are serially correlated or not; uncorrelated errors are desirable. The Durbin Watson test would be used to test for the presence of autocorrelation in our models.

Heteroscedasticity test: This is to see whether the error variance of each observation is constant or not. Non-constant variance can cause the estimated model to yield a biased result, while general heteroscedasticity test would be adopted for this purpose.

4.0 ANALYSIS OF RESULTS

The results of the unit root tests, diagnostics tests, the co-integration tests, and the static regression analysis are presented and discussed. The various tests were conducted using E-views 10 statistical package. According to

Gujarati and Sangeetha (2007), “a visual plot is usually the first step in the analysis of any time series”. The trend in variable of study is shown below



The graphs below show that the variables exhibit different degrees of fluctuations at levels; they seem to be trending upwards. Thereafter, the Augmented Dickey-Fuller (ADF) test enabled us to avoid the problem of spurious or nonsense regression results that are associated with non-stationary time series data. The Augmented Dickey-fuller tests are displayed below.

Table 4.1: Augmented Dickey-Fuller Unit Root Tests

Variable	ADF Value (Prob.)	Critical Value (Prob.)	Order of Integration	Remark
GDP	0.0027	0.05	I(0)	Stationary at Level
EXR	0.0002	0.05	I(1)	Stationary at 1 st Diff.
MS	0.0001	0.05	I(1)	Stationary at 2 nd Diff.

Source: E-Views 10.0

The results of the unit root test above indicate that EXR and MS are integrated at order I(1), that is they are stationary at first difference. However, GDP is integrated at order I(0), that is, stationary at level. Some diagnostics tests were conducted for the model. These are displayed below.

Table 4.2: Summary of Diagnostic Tests

Serial Correlation	Heteroscedasticity	Normality
1.83	0.2129	0.193407

Source: E-Views 10.0

The results above show that there is no evidence of serial correlation, the model is normally distributed and the data are homoscedastic. This makes the equations in the model not a spurious or nonsense model. Having conducted the diagnostics tests, long-run equilibrium relationship among the variables in the model was conducted. The Johansen co-integration technique was employed. The cointegration results of the variables are presented below.

Table 4.3: Trace Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.422807	30.98787	29.79707	0.0363
At most 1	0.322047	12.85179	15.49471	0.1204
At most 2	0.000770	0.025422	3.841466	0.8733

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 4.3 shows that there is long-run equilibrium relationship among variables in the model. This is because the trace test indicates one co-integrating equation. Having conducted the unit root tests, the diagnostic tests, and the co-integration tests, the regression result is analyzed below

Table 4.5: Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.762440	2.844386	0.268051	0.7904
EXR	-0.042403	0.016598	-2.554643	0.0156
MS	0.037665	0.188455	0.199865	0.0429
R-squared	0.225813	Mean dependent var	3.145714	
Adjusted R-squared	0.177426	S.D. dependent var	5.649432	
S.E. of regression	5.123802	Akaike info criterion	6.187487	
Sum squared resid	840.1069	Schwarz criterion	6.320802	
Log likelihood	-105.2810	Hannan-Quinn criter.	6.233507	
F-statistic	4.666833	Durbin-Watson stat	1.831548	
Prob(F-statistic)	0.016655			

Source: E-views 10.0

The table above showed how foreign exchange rate affects the growth of the Nigerian economy. The relationship between foreign exchange rate and gross domestic product is negative with a coefficient value of -0.042403. This implies that foreign exchange have contributed negatively to economic growth of Nigeria. In other words, a 1% rise in foreign exchange rate of the naira reduced growth by 4.2%. This is true of the Nigerian economy as citizens depend heavily on foreign products for consumption. The heavy dependence has put pressure on the naira which affects the rate it exchanges with other foreign currencies, especially the U.S. dollar. This serves as a leakage to the economy and reduces total output (GDP). The p-value (0.0156) of t-test shows that the co-efficient of money supply is significant at 5% level.

However, the coefficient of money supply is 0.037665. This implies that money supply is positively related to gross domestic product of the Nigerian economy. Hence a 1% rise in money supply increased growth by 3.8%. The relationship was significant at the 5% level.

The high R² value of 0.225813 indicates that the variables: exchange rate and money supply accounts for 22.6% variation in growth of Nigeria. The remaining 77.4% are explained by other variables that contribute to GDP not

included in the model. At 5% level of significance, the F-statistic of 4.666833 showed that the overall model was significant with a P-value of 0.016655.

5.0 RECOMMENDATIONS AND CONCLUSION

The study examined the impact of foreign exchange rate policy on output performance in Nigeria from 1981 to 2015. Specifically, the research seeks to examine the relationship between foreign exchange rate and gross domestic product; and determine the effect of Money Supply on the Gross Domestic Product. The Ordinary Least Square (OLS) regression was used to estimate the model specified in line with the objectives. The major finding of the study is that foreign exchange rate affected gross domestic product negatively in Nigeria during the period under study. The relationship between gross domestic product and foreign exchange rate was significant.

Another major finding is that Money Supply affected Gross Domestic Product positively. The relationship was significant at the 5% level. This corroborates with the standard macroeconomic theory which says that an increase in the supply of money should lower the interest rates in the economy, leading to more consumption and lending/borrowing and correlate to an increase in the total output or spending and, presumably GDP, particularly in the short run. It also agrees with Ikeckukwu (2011) finding of the study on the impact of money supply on economic growth in Nigeria, which states that broad money supply influences real gross domestic product (real GDP) positively.

Based on the findings, the following recommendations were stated:

1. The Central Bank of Nigeria should manage the naira by putting measures in place to regulate the foreign exchange market.
2. There is need to increase local production capacity of manufacturing companies in Nigeria. This would ease pressure on the naira as foreign currency would not be heavily demanded for import of consumables.
3. The apex monetary authority should be discrete in formulating and implementing sound monetary policies, especially as regards money supply. This would stabilize the economy.

Gross Domestic Product is essential for macroeconomic stability and serves as a means of measuring a country's economic growth. It therefore means that decisions taken on the foreign exchange of the naira must be done with adequate considerations. The implication is that the surge in demand for foreign currencies, particularly with Dollar will put pressure on the currency and escalate the exchange rate thus, impacting negatively on economic growth. If this is done, then the economy will thrive in all aspects.

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