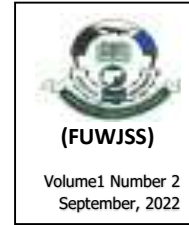# EFFECTS OF REAL EXCHANGE RATE AND TOTAL DEBT STOCK ON GENERAL PRICE LEVEL IN NIGERIA

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## Abstract

Over the years, exchange rate and debt profile have been critical challenges to the Nigerian economy. In attempts to address these challenges, successive Nigerian governments have formulated and implemented unsuccessful policies to tackle these challenges. Regrettably, Nigeria has consecutively witnessed exchange rate depreciation which results to increase in general price level. Immediate reactions by governments and monetary authorities' have always been the pegging of the real exchange rate with the aim of inducing economic growth and development; thereby reducing general price levels. Employing an econometric model of Error Correction Mechanism (ECM), this study examines the effects of real exchange rate and debt stock on general price in Nigeria. Findings were consistent with apriori expectation as the regressors (real exchange rate debt stock and imports) have positive effects on general price level and a fast speed of adjustment to equilibrium restoration. The study thus concludes that real exchange rate, debt stock and imports can trigger increase in general price level. Consequently, the study recommends deliberate exchange rate measures as well as debt control measures for enhanced stability in the general price level in Nigeria.

**Keywords:** Exchange rate, debt profile, IMF, price, monetary, econometrics

**Introduction**

Exchange rate and debt profile is a critical challenge to the Nigerian economy. Successive governments have deliberately formulated and implemented policies that were designed to address these challenges but achieved unappreciable success (Adelowokon, 2021). Very often, Nigeria has witness exchange rate depreciation which results to increase in general price level. The immediate reactions of monetary authorities have been pegging of exchange rate with the hope to induced economic growth and development, and reduce the general price level (Adelowokon, 2021). Since the introduction of ministerial government in 1951 to date, the naira is quoted against dollar and pounds as the only intervening currencies in line with the International Monetary Fund (1MF) demand (Adeyemi & Samuel, 2021).

The IMF had earlier raised alarm that the naira exchange rate was rising above the stipulated rate of 2% (World Bank, 1999). The naira was then devalued at 100 for one US dollar. Actually, the general price level in Nigeria was not considered a serious challenge before her independence due to the absence of inflationary pressures (Ajao & Igbekoyi, 2019; Alim & Lahiani, 2014; Akpan, 2019). Nigerians enjoyed relatively low cost of living but immediately after the civil war in the 1970s, the trajectory changed as general price level in Nigeria took another dimension as a result of increase in inflation rate. The value of naira as against dollar and pounds sterling started to deteriorate: In 1970 it was 1.44 dollar to one naira while in 1971 it was 0.582 pounds sterling to a naira. It degenerated in 1973 to1.519 dollar and 0.614 pounds sterling to a nairaand further in1974 to 1.589dollar and 0.675 pounds sterling to one naira (Adeyemi & Samuel, 2021). This downward trend continued in 1975 as the naira exchanged at1.623dollars and 0.734 pounds sterling this has a strong bearing on the Udoji salary award of 1974 which increased wage extensively. Higher wages increased the purchasing power of consumers accompanied with increase in general price level (Adeyemi & Samuel, 2021).

The advent of Structural Adjustment Programme (SAP), and second-Tier Foreign Exchange (SFEM) in 1986 was one of government's major policy trust aimed at ensuring the over-valued naira exchange rate become more realistic and responds to market force as well as internal and external shocks (Akpan, 201; Anyanwu,

1989). However, Anyanwu (1989) observed, the SAP/SFEM was a disaster that was fast destroying the foundation of Nigeria economy. There was acute and persistence exchange rate depreciation of the naira (from 1.56 naira to 1.0 dollar at the end of September 1986 to 7.8950 naira to 1.0 dollar by mid February 1990). Also by August 1998, the dollar was sold for 21.99 naira at the Foreign Exchange Market (FEM) while at parallel market it was sold for 45 naira. The value of naira continued to depreciate in response to dollar up to 115.7 to a dollar by the 12 April, 2001 (CBN) .By 2003, it rose to N130 to the US dollar. As at 2015, the value of one dollar to naira was recorded as 141.97 which also led to increased in the cost of living characterized by hike in general price level (CBN, 2015). In addition, the debt stock of Nigeria which can be traced to the pre-independent period though the debt level was negligible until the jumbo loan of 1.0 billion Us dollars in 1978, all contributed to the persistence rise in general price level of goods and services.

Central Bank of Nigeria (CBN) has over the years deliberately introduced monetary policies to achieve price stability in the economy (Adeyemi & Samuel, 2021). The increase in the general prices of goods and services persisted despite these deliberate exchange rates control measures. The depreciation of the naira relative to dollar recorded in 2014 as N304 per dollar to N197 per dollar in 2015. This further rise in the prices of goods and services resulted to increase in inflation rate which rose from 8.5 in 2014 to 9.0 (NBS, 2021). According to National Bureau of Statistics (NBS, 2019), prices increased in nearly every segment of household goods and consumables between July and December 2019 which indicates the effect of the weakening naira against the dollar in the foreign exchange market resulting to increase in general price level (Adeyemi & Samuel, 2021). The report exposed unstable consumer prices of imported goods while locally produced consumer goods maintained stable prices in the period under consideration. Transportation cost, insurgency, climate change, and exchange rate fluctuations are some of the contributing factors for price increases. The open nature of Nigeria economy with multi facets dimensions of international transactions but heavily imports dependent economy, volatile social and political environment, implies that exchange rate depreciation coupled with accumulated debt stock of over 30 trillion naira according to Debt Management office (2022) can lead to increase in

general price level in form of inflation as well as high cost of living. Thus, this paper seeks to unravel the effects of these macroeconomic variables on general price response in Nigeria. The broad objective of this paper is to examine the effects of exchange rate and Nigeria total debt stock on general price level in Nigeria. The specific objectives examine the impact of exchange rate on general price level in Nigeria; determine the impact of total debt stock on general price level in Nigeri; and investigate the impact of imports on general price level in Nigeria

**Conceptual Clarification**
**Inflation:** Inflation in economics is the general increase in the prices of goods and services in an economy. The experience of continuous increase in price level caused currency unit to purchase fewer commodities. Inflation is synonymous with reduction in purchasing power of money. Inflation is measured in three ways: consumer price index (CPI), Personal Consumption Expenditure (PCE) and the producer price index (PPI).

**General Price Level:** General Price level is a macroeconomic aggregate variable which is hypothetical measure of overall prices of goods and services in an economy in a given interval. It is an index that measures the change in prices of goods in an economy. General price level is calculated using the consumer price index method.

**Real Exchange Rate:** Real exchange rate expresses the purchasing power of two currencies relative to one another. Two currencies may have a certain exchange rate on the foreign exchange market, it imply cost equivalence of goods and services purchased with one currency in another currency. This is attributed to different inflation rates with different currencies. Real exchange rates are calculated as a nominal exchange rate adjusted for the different rate of inflation between the two currencies (Fortex Financial Dictionary, 2012).

**Debt Stock:** Debt stock refers to the total value of debt that a country owes to all lenders. It is different from debt service payments which are payments that a country makes on its debt. ADebt stock Debt Management Office (20120), debt stock means the total debt outstanding at the beginning of the financial year plus the gross

borrowing during the year minus the liabilities charges during the year.

**Empirical Literature Review**

According to Otaki (2005) balance of payments is a systematic record of all economic transactions, visible as well as invisible in a period between one country and the rest of the world. It shows t payments to all other countries and its total receipts from them. Bop, thus is a statement of payments and receipts and international transactions. Payments and receipts on international account fall into visible balance of trade, invisible items and Capital transfers.

Kindle Berger defines balance of payment as all payments on economic transactions between the residents of the reporting country and the residents of foreign countries, "Balance of payments of country over a period with the rest of the) describes world" it as at Ben statistical record of the character a relationship with the rest of the world.

Clarida and Waldman (2008) took a sample of ten countries - Australia,Britain, Canada, the euro area, Japan, New Zealand, Norway, Sweden,Switzerland, and the United States and examined the exchange rate changes that occurred in between 1990 to 2006. They found out that on the average, the ten currencies they studied revealed that inflation is unexpectedly high and caused the currencies to appreciate and  result to core  headline inflation.

Zhanga (2011) tested whether the ERPT to import prices was complete and estimated the pass-through to CPI. Their findings, using structural VAR model, indicated that exchange rates had less effect on the rising domestic prices in China and India. . Alim and Lahiani (2014) investigated whether a credible monetary policy aimed at controlling inflation reduces the exchange rate pass through in three East Asian and two Latin American economies. Their results indicated that lower ERPT were associated with a credible monetary policy regime aimed at controlling inflation. They also found that ERPT was higher in Latin American countries than in the East Asian economies.

Oyinlola and Babatunde (2018) examined the extent of exchange rate on import prices for Nigeria between 1980 and 2006, using UECM-Bounds test proposed by Pesaran  (2019). They also showed that world export prices had a dominant effect compared to exchange rate in -explaining changes in Nigeria's import prices in the short and

long run. Akpan (2019), Utilizing annual data for Nigeria from 1980-2017, ESD (2012) found the exchange rate pass through to be incomplete in Nigeria, as the elasticities were76.0 and 31.0 per cent in the long run and short run respectively. They indicate that exchange rate changes increase domestic prices for two consecutive periods, and stress the need to ensure exchange rate stability in view of its large impact on domestic prices. They, however, found import price pass-through to be quite low whereas oil price pass-through was more severe than the exchange rate pass-through.

Obi and Gobna (2020) investigated the determinants of exchange rate in Nigeria, by employing cointegration approach. The result showed that improvements in productivity, investment-GDP ratio, and higher inflation lead to exchange rate appreciation. On the other hand, high degree of openness increases in foreign reserves, and interest rate differentials result in exchange rate depreciation. Adelowokan (2021) considered the interest and inflation rate channels of ERPT in Nigeria applying the ordinary least squares estimation procedure and using annual data for the period 1970 to 2019. The study couldn't find any evidence of ERPT to inflation in Nigeria during the period as neither the exchange rate of the Naira vis-a-vis the US dollar nor could its lagged value influence consumer prices. However, it found evidence of the pass-through effect to interest rates. Oriavwote and Oyovwi, (2020) studied the determinants of real exchange rate in Nigeria with data covering 1970-2019 by applying OLS technique. The result showed that the ratio of government spending to GDP, terms of trade and technological progress are not important determinants of the real effective exchange rate. Nevertheless, capital flow, price level and nominal effective exchange rate are important in determinants of real effective exchange rate in Nigeria.

Adeyemi and Samuel (2021) investigated the ERPT to consumer prices in Nigeria using the VECM approach and data for the period 1970 to 2018.Results from their impulse response functions (IRF) analysis indicated considerable degree of ERPT to consumer prices in Nigeria, amounting to about 83 per cent in the long term. The study showed that the exchange rate was more important in explaining the rising inflation in Nigeria than money supply.

Ajao and Igbekoyi (2019) examined the determinants of exchange rate volatility in Nigeria from 1981 to 2017. The study revealed that

openness of the economy, government expenditures, interest rate movements as well as lagged exchange rate were among the major significant variables as well as lagged exchange rate that determine exchange rate volatility in Nigeria.

Dauda (2019), observed that huge debt-ridden countries like Nigeria began to have problem of debt service payments in the early 1980s. Difficulties in paying debt were primarily due to regional conflicts, adverse economic shocks, reduced export earnings, high interest rates, high imports and poor financial management by the national governments. Most of the indebted poor countries usually had low rates of foreign direct investment (FDI) and a limited source of exports. These factors imposed relatively small limits on the amount of foreign debt that the country could service. External debt became a particularly difficult burden for low income countries that were also grappling with poverty and development issues (Ajao & Igbekoyi, 2019). Many researchers conclude that for many countries in the region the stock of external debt has built up over recent decades to a level that is widely viewed as unsustainable.

**Theoretical Framework**

There are several schools of thought in respect to exchange rate, debt stock and general price level. In the context of this study, the purchasing power parity theory and the balance of payment theories are the theories that the work is anchored on.

**The purchasing power parity theory:**

The purchasing power parity (ppp) theory was propounded by Gavel Castel,(1920). It is applicable to prices of commodities. The purchasing power parity (PPP) theory echoed that there is a link between prices of commodities in two countries as well as exchange rate link between the currencies of both countries. The PPP theory has three postulations:

i.   There is no transportation cost for transporting a commodity from one country to another.

ii.  No cost of converting one currency to another (zero cost of currency conversion).

iii. There are no trade restrictions or quotas.

The absolute PPP theory emphasized the law of one price which states that barring other conditions, an identical product should have

the same price in two countries. According to the theory, the law of one price should operate for an identical commodity sold in two countries. Therefore the price of a product in country X and Y of identical product should be such that, the ratio of the prices is the exchange rate between the currencies of the two countries.

If P is the commodity's current price, and the expected inflation rate, the price of the commodity a year later ($P_1$) should be:

$P = P_0(1 + I)$

In country X-$P_{X1} = P_{xo}(1 + I_X)$

In country Y-$P_Y = P_{Y0}(1 + I_Y)$.

The ratio of prices one year later is: $[P_{X0}(1 + I_X)]/[P_{Y0}(1 + I_y)]$

This can be written as:

$S_{x/y}[(1 + I_y)/(1 + I_y)]$ as $P_{X0}/P_{Y0}$ is the current spot rate. $S_{x/y}$ is the expected Exchange rate one year later, $E(S_{X/Y})$, Is a ratio of the prices one year later, it is nothing but;

$E(S_{X/Y}) = S_{X/Y}[(1 + I_Y) + (1 + I_Y)]$ -------------------------------- (6)

Rearranging equation one:

$E(S_{X/Y})/S_{X/Y} = [(1 + I_X) + (1 + I_Y)$ ------------------------------------
(2)

The left hand side of the equation (2) can also be written as

$1 + \{[E(S_{X/Y}) - S_{X/Y}]/S_{X/Y}\}$

Where $\{[E(S_{X/Y}) - S_{X/Y}]/S_{X/Y}\}$ is the rate of change in the spot rate.

It can aslo be denoted by

'e' – $(1 + e) = [(1 + I_X)/(1 + I_Y)]$

Simplifying equation 3

$e = (I_X - I_Y)/(I + I_Y)$-----------------------------------------------(4)

ignoring the denominator on the right hand side $(1 + I_Y)$ then

$e \approx (I_X - I_Y)$--------------------------------------------------------------(5)

Equation (5) implies that 'e' is approximately equal to $(I_X - I_Y)$. The relative PPP theory version theory in summary states that the rate of change in the spot rate is approximately equal to the inflation differential and when the condition holds, the market is in equilibrium. The novelty of the relative purchasing power parity theory is that; it accommodates non- tradable goods, it equals talks about changes in prices.

**Balance of payment Theory:** Balance of payments theory is one of the modern and satisfying theory of determination of the exchange rate. It is also known as the demand and supply theory of exchange

rate. According to the theory, the rate of exchange in the foreign market is determined by the balance of payments in the sense of demand and supply of foreign exchange. Balance of payment leads to a fall or depreciation in the external balance. According to Euswort (l999), "If market forces are allowed to work unimpeded, the demand and supply of foreign exchange establish a rate of exchange that automatically clears the markets so that no actual or export payments deficit or surplus is permitted to respond fully to changing supply and demand conditions, the status of the balance of payments of country tends to determine the value of its currency relative to the currencies of other nations".

There is a close relation between the balance of payments and the demand and supply of foreign exchange. Balance of payment is a record of international payment made due to various international transactions, such as, imports, exports and investments. The balance of payment includes all payments made by foreigners to nationals as well as payments made by nationals to foreigners. The incoming payments are credit while the outgoing payments are debits. The credit in balance of payment of the exports items constituted the supply of foreign exchange; the supply of foreign exchange is made by the exporting country. On the other hand, the debits in the balance of payments or the import items constitute demand for foreign exchange; the demand for foreign exchange arises from the importing country. Any deficit or surplus in the balance of payments causes changes in the demand and supply of foreign exchange and this leads to fluctuations in the exchange rate. When there is deficit in the balance of payments, the debit (or the demand for foreign exchange) will exceed the credits (or the demand for foreign exchange) As a result, the rate of exchange will rise (or the exchange value of domestic currency in terms of foreign exchange), exceeding debits (or the demand for foreign exchange), which in turn, will lead to a fall in the rate of exchange (or arise in the external value of domestic currency).

**Methodology**
**Model Specification**
In building the model for this investigation, the ordinary least square method of Regression analysis of the form $Y=\beta o+ \beta iX1+\beta 2X2+ \beta 3X3 + \ldots\ldots.+\beta nXn$ is used where $\beta o$ -$\beta n$ are parameters to be estimated from the data and X1-Xn are the independent variable and

Y is the dependent variable for the study, multiple regression analysis will be used. On this Basis, the functional form of the model employed in this study is given as;

GPL = f (EXR, TDS, IMP) -------------------------------------- (1)

The mathematical form of the model is

$GPL = \beta_0 + \beta_1 EXR + \beta_2 INF + \beta_3 IMP$............................................. (2)

While the econometric form of the model in log form is stated further as:

$GPL = \beta_0 + \beta_1 EXR + \beta_2\ TDS + \beta_{3LOG} IMP + ECM(-1) + u$ ....................................... (3)

Where

GPL = General price level Index

EXR = Exchange rate

TDS= Total debt stock

IMP = Import of goods and services

$\beta 0$= Intercept of the regression line or plane

$\beta_1 – \beta_3$= Slopes of the regression line or plane

$\boldsymbol{\mu}$= Stochastic error term, representing other independent factors that affectsthe dependent variable

ECM(-1) = Error correction mechanism.

**Apriori expectation**

$\beta_1 – \beta_{3>0}$

**Data Presentation and Analysis**

**Table 4.1 Descriptive Statistics**

|  | GPL | EXCH | TDS | IMP |
|---|---|---|---|---|
| Mean | 2.765287 | 2.728213 | 4.650122 | 5.167173 |
| Median | 2.926830 | 2.801500 | 4.745128 | 5.285919 |
| Maximum | 4.106341 | 4.890752 | 4.663433 | 6.602711 |
| Minimum | 1.048830 | 0.367356 | 4.225611 | 3.474813 |
| Std. Dev. | 0.927101 | 0.910671 | 0.673125 | 1.081065 |
| Skewness | -0.291256 | -0.609465 | 0.52188 | -0.212106 |
| Kurtosis | 1.909326 | 3.605293 | 1.731538 | 1.573562 |
| Jarque-Bera | 2.420743 | 2.932599 | 2.564110 | 3.506576 |
| Sum | 105.0809 | 103.6721 | 151.30602 | 196.3526 |
| Sum Sq. Dev. | 31.80207 | 30.68492 | 3.440623 | 43.24194 |
| Observations | 35 | 35 | 35 | 35 |

**Source**: Author's computation, using E-views 10.0

IMP has the maximum standard deviation (deviation from the mean) as against GPL that has the least standard deviation (deviation from the mean).

theJarque-Bera tests presented in Table 4.1 shows that the null hypothesis is strongly accepted for all the distribution. Hence, the variables can be described to be normally distributed.

**Test for Unit Root**

Stationary The Augmented Dickey-Fuller test (ADF) test for unit root was conducted on the time series used in this work. The Augmented Dickey-Fuller (ADF) result with intercept, and with intercept and trends show that GPL, EXCH, TDS and IMP are integrated series of order I(1). The results are presented in table 4.2,

**Table 4.2**: **Augmented-Dickey Fuller (ADF) test- Trend and Intercept**

| Variables | Level t-Statistic | Prob* | 1st Difference t-Statistic | Prob* | Order of Integration |
|---|---|---|---|---|---|
| GPL | -1.609641 | 0.7693 | -5.003271 | 0.0014 | I(1) |
| EXCH | -2.562130 | 0.9412 | -6.45235 | 0.0102 | I(1) |
| TDS | -1.503995 | 0.8091 | -3.319501 | 0.0293 | I(1) |
| IMP | -1.208941 | 0.0313 | -5.002864 | 0. 0036 | I(1) |

**Source**: Author's computation, using E-views 10.0

**Cointegration Test Result**

The cointegrating test result of the variables indicates two cointegrating equations using trace tests and the maximum eigen value at the 5 percent significance level, this proved the existence of a long run relationship among the variables in the equation. The result is presented in Table 4.3:

Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.541360 | 83.71803 | 69.81889 | 0.0026 |
| At most 1 * | 0.388410 | 50.20000 | 47.85613 | 0.0296 |
| At most 2 | 0.311837 | 29.05717 | 29.79707 | 0.0607 |
| At most 3 | 0.258057 | 12.98679 | 15.49471 | 0.1153 |
| At most 4 | 0.003529 | 0.152037 | 3.841466 | 0.6966 |

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None | 0.541360 | 33.51803 | 33.87687 | 0.0551 |
| At most 1 | 0.388410 | 21.14284 | 27.58434 | 0.2677 |
| At most 2 | 0.311837 | 16.07037 | 21.13162 | 0.2208 |
| At most 3 | 0.258057 | 12.83476 | 14.26460 | 0.0831 |
| At most 4 | 0.003529 | 0.152037 | 3.841466 | 0.6966 |

Max-eigenvalue test indicates 1 cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: computation from E view 10.0

**Error Correction Mechanism Result of the model.**
The novelty of ECM is that it provides a framework for establishing the links between the long run and short run approaches to economic modeling. Therefore, adopting the general-to-specific framework, the study proceed to estimate an over-parameteterized error correction model from where a parsimonious error correction model was estimated. From the over parameterized model, the jointly significant variables are eliminated to obtained the parsimonious Error Correction Mechanism [ECM] estimate. The parsimonious results are as shown below.

Dependent Variable: DLOG(GPL)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.198573 | 0.151013 | 1.314938 | 0.0076 |
| D(EXCH) | 0.127653 | 0.128274 | 2.995162 | 0.0269 |
| D(TDS) | 0.417543 | 0.028918 | 4.37811 | 0.0220 |
| DLOG(IMP) | 0.178016 | 0.287014 | 2.202136 | 0.0411 |
| DLOG(IMP(-2)) | 0.167465 | 0.186193 | 5.899414 | 0.0049 |
| D(EXCH(-4)) | 0.228375 | 0.159137 | 5.435082 | 0.0207 |
| ECM(-1) | -0.592963 | 0.132682 | -2.961697 | 0.0056 |

| | | | |
|---|---|---|---|
| R-squared | 0.816458 | Mean dependent var | 0.148548 |
| Adjusted R-squared | 0.809450 | S.D. dependent var | 0.885789 |
| S.E. of regression | 0.835910 | Akaike info criterion | 2.637036 |
| Sum squared resid | 23.05858 | Schwarz criterion | 2.932590 |
| Log likelihood | 45.74071 | Hannan-Quinn criter. | 2.743899 |
| F-statistic | 1.798862 | Durbin-Watson stat | 2.411474 |
| Prob(F-statistic) | 0.000804 | | |

The parsimonious Error Correction Model shows that the error correction term is well specified and it is significant at 5 percent level of significance. Supporting the position that general price level; and its regressors are cointegrated. The speed of adjustment is the coefficient of the error correction term [ECM].It indicates how the movement from the short-run disequilibrium is corrected in the long-run equilibrium. The explanatory variables included in the model explained 80 percent of the total change in general price level.

The co-efficient of the ECM term is -0.59. The negative sign is an indication of the existence of long-run equilibrium relationship between general price level and the variables that influence its short-run movement which were used in the model. It addition prove a fast speed of adjustments (59 percent) between the short-run and the long-run equilibrium restoration of general price level (GPL) and its explanatory variables. Hence, it is a good fit. The F–statistics measuring the joint significance of all the regressors in the model is statistically significant, at 1 percent level. Also, the Durbin Watson statistic of 2.4 shows the absence of serial autocorrelation, hence the estimated coefficients are free of the consequences' of autocorrelation.

From the result, the effect of exchange rate on general price level (GPL) is positive, and significant at 1percent level of significance. This implies that as exchange rate increase by one percent, general price level respond by a 13 percent increase ceteris paribus. This tallies with the findings of Bassey and Ayara 2019. The result also revealed that a one percent increase in inflation has the capacity to induce a 21 percent increase in general price level, all things been equal. The finding correspond to the work of Obafemi 2018 and Edame 2020 similarly, as shown from the result, a one unit increase in import value, all things been equal could trigger a 17 percent

increase in general price level. This however contradicts the position of Akpan 2018 which established the inverse relationship between import and general price level. The contradiction could be determined by the nature of imports as import of raw materials according to Bello 2019 does cause price increase. Debt stock also could cause an increase in general price level, ceteris paribus. All these are in consonance with the earlier stated apriori expectations. The t- values of all the variables are more than 2.0 which implies that all the variables are significant, and jointly significance as established by the value of F- statistics and its probability value of less than 5%. The lagged values in the result also show the positive and proportionate relationship between general price level and its regressors.

## Post diagnostic Test
## Stability Diagnostics
## Cusum test

The study carried out stability test to examine the stability of the model. The CUSUM test is particularly good at detecting systematic departure of the coefficients, which from the figure it does not depart from the system. The result in the figure below shows that the model is stable as the green line lies within the border dotted red lines:
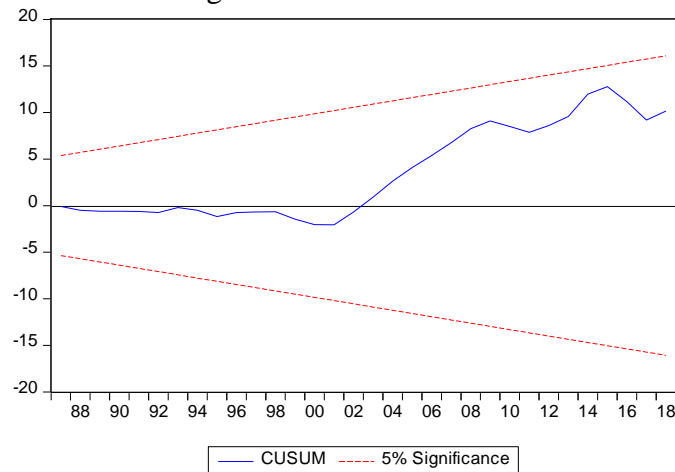


## Stability Test
## Ramsey Reset Test

The calculated F-statistic of 0.2009with a p-value of 0.895 indicates that the computed p-value exceeds the alpha which is 0.05. Therefore,

the study fail to reject the null hypothesis that the true specification in linear. This means that there is no misspecification error in the model.

**Ramsey RESET Test Result**

|  | Value | Df | Probability |
|---|---|---|---|
| F-statistic | 0.200942 | (3, 32) | 0.8950 |
| Likelihood ratio | 0.727860 | 3 | 0.8666 |

## Conclusion and Recommendations

The study employed econometric technique to investigate the impact of exchange rate, inflation on the general price level in Nigeria from 1985 – 2020. The study maximized econometrics and statistical apparatus in estimating the model specified for the study. The descriptive properties of the variables were determined, stationary test was conducted to determine the stationarity of the time series data used for analysis using the Augmented Dickey Fuller approach, cointegration test was equally conducted to determine the long run relationship of the variables. A dynamic error correction mechanism adopted as reliable method to estimate the parameters of the variables and determine the speed of adjustment from short run distortions to long run equilibrium. The signs and coefficients of the variables are indeed consistent with all underpinning theoretical propositions. In addition, all the variables used in this study were logged. The R-squared and adjusted R-square reveal a high influence of the independent variables on the dependent variable.

In addition, the study went further to examine the suitability and reliability of the model by carrying out different diagnostic tests of normality, stability using the Ramsey Reset test and the CUSUM test respectively). The results appeared reasonable for making sound policy. The study therefore recommends deliberate exchange rate policy measures should be well coordinated that the desired behavioural changes will be achieved, if possible fixed exchange rate regime policies adopted to control the undue rate of fluctuations that could cause increase in prices. Also, import substitution measures should be encourage to reduce the rate of import dependence, as it could reduce tremendously the cost of production and hence a fall in

general price level in the economy. Essentially, inflationary creating pressures that will cause price shocks should be avoided, through deliberate price controlled measures. For effectiveness, the sword approach of the supply and demand side approaches should be encouraged to ensure a balance between the two sides.

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