



Balance of Payments: Nigerian Experience: 1960-2012

I. M. Shuaib^{1*}, O. Ekeria Augustine² and A. Ogedengbe Frank²

¹Department of Business Administration and Management, School of Business Studies, Federal Polytechnic, Auchi, Edo State, Nigeria.

²Department of Business Administration and Management, Federal Polytechnic, Auchi, Edo State, Nigeria.

Authors' contributions

This work was carried out in collaboration between all authors. Author OEA designed the study, wrote the introductory part of the paper, and the literature review. Author AOF designed the theoretical framework of this paper upon we designed the model for the paper, and IMS designed the variables that formed the model for the study, tested the formulated model by using the RGDP as the dependent variable and BOP, EDR, INFL, EXCH, FTD as the independent variables. To run the econometric analysis, review 7.2 statistical windows was employed, which enabled us to draw summary and recommendations from the result findings. All authors read and approved the final manuscript.

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ABSTRACT

The paper examined balance of payments: Nigerian Experience: 1960-2012 using time series data from 1960-2012. The study explored secondary data from the Central Bank Statistical Bulletin for the period of 1960 to 2012 and used various econometric analyses and/or statistical analytical (E-view 7.2) method to examine the relationship between balance of payments and economic growth. The paper tested the stationary—through Group unit root test. The co-integration technique employed in this study is [19] approach in assessing the co-integrating properties of variables, especially in a multivariate context to determine the long-run relationship among the variables examined. Further effort was made to check the causality relationship that exists between the two variables by employing the Pairwise-Granger causality at one lag period. From the result of

*Corresponding author: E-mail: almuhalim@yahoo.com, mallamidris2@yahoo.com, franklaba@yahoo.com;

empirical findings, it was discovered that in Table 3 there was unidirectional from RGDP to BOP, EXCH, EDR, and from EDR to FTD and bidirectional causality only between EDR to EXCH. The paper however recommended that among others the government should encourage the exportation of non-oil goods into world market, that the revenue from the oil is diversified into other viable aspect of the economy, that policies (such as monetary or fiscal) are put in place to check balance-of-payment deficits, inflation rate should be maintained at single-digit level to enable the private investors to have a conducive atmosphere for production of goods for export, and also reduce the external borrowing tendencies, even when borrowed should be utilized on mega or capital projects that have multiplier effect in the economy.

Keywords: Balance of payments; exchange rate; inflation rate; economic development.

1. INTRODUCTION

Balance of Payments is one of the objectives of macroeconomics and/or has a significant role to play in the economic development of any nation (both developed and developing). In the current economic dispensation, economy of the world is linked; in other words, globalization and trade liberalization have made possible the production of goods and services and subsequently sold in the world market. So long as international trade place and money flows, then recording of the transactions is done in the balance-of-payments accounts. The recording takes the normal accounting principles of debit and credit entries or positive and negative sign. This balance-of-payments account is subdivided into: current account; capital account; and official financing and when added arrives at zero. In this account, the balance may be surplus, deficit and balanced. Surplus is when the debit side (exporting of goods and services + net current transfers) is greater than the credit side (the value of imported goods and services). The deficit occurred when the debit side (exporting of goods and services + net current transfers) is less than the credit side (the value of imported goods and services). Balanced ensues when both the debit and credit are equal. The capital account records both the borrowing and lending of funds abroad by domestic residents and companies. It records the sale by domestic residents to foreigners of financial and real assets and vice versa. The sum of the balance on current and capital accounts is equal to the balance for official settlements or total currency flow. The balance for official financing (BOF) or total currency flow is a record of the difference between the demand and supply of Naira by traders and investors in the foreign exchange market over some period of time, usually one year. It is equal to the cumulative sum of the Central Bank of Nigeria's intervention in the foreign exchange market through purchases and sales of Naira over the time period. A deficit on

the BOF measures excess supply of Naira on the foreign exchange market by traders and investors over the world in question [1-3].

Nigerian balance of payments in recent times is deficit. Unlike in the early 50s and late 60s, where the structure of Nigerian economy was predominantly agrarian (agriculture) and its share to the Gross Domestic product (GDP) was relatively high, in other words, about 60% while other sectors accounted for the 40%. The balance of payments was surplus [4]. Nigerian economy started capsizing in the early 70s immediately after the oil glut. This sector that could hardly contribute 0.6% to the GDP suddenly has about 60% accounted for in GDP. Since these periods the Nigerian balance of payments had witnessed deficit [5,6].

In the early 1980s, the oil market weakened, substantial external and fiscal imbalances emerged. These were financed by public sector borrowing, depleting international reserves and large accumulation on payment arrears on external trade credits and as such created problems in our Balance of payments. In 1984, austerity measures were introduced to redress the lagging deficits in the country's balance of payments, these included; slashing of budgetary expenditures, administrative control for import licenses, increase and upward review of tariffs. This led to the adoption of the Structural Adjustment Programme (SAP) in 1986, which has amongst other things, combined exchange rates and trade policy reforms to promote economic efficiency and long term growth in the stabilization policies designed to restore balance of payments equilibrium and price stability [6].

The Current Account (C_tA) and capital Account (C_cA) imbalance in the balance of payments has been the major bane to economic development in Nigeria. This bane is resulting from the high external and internal debt ratio, inflation, interest rate, macroeconomic variables instability, etc.

The banes have been attempted to be solved by the government for Nigeria through fiscal and monetary policies, Structural Adjustment programmes, Stabilization policy, etc, [4,7].

Most of these policies were introduced by World Bank and International Monetary Fund (IMF).

Nigerian structural economy is predominantly non-oil export (NOE) and/or oil export (OE). In most recent times the contribution of NOE sectors on the one hand to the GDP has been dwindling and/or while on the other; the OE sector has been contributing significantly to the GDP. Foreign trade (or international trade) of comprised of export and import (export minus import). However, the balance of trade is equal to export minus import. Sometimes, export will be greater than import or import greater than export or both may be zero. The latter is the case of Nigeria, the reason is not far-fetched because our importations are consumable goods and luxuries (ostensible) instead of industrial machineries, etc. engaging on industrial machines will not ameliorate job scarcity and poverty but also help in curtailing exogenous (or excess unit price of exchange rate) spending [5].

In this paper we shall discover how these policies have helped in correcting the imbalance of balance of payments which has resulted to the poor state of Nigerian economy today.

2. LITERATURE REVIEW

The Nigerian economic development is facing imbalance (or deficit) of balance of payments for over decades which had resulted to poor state of the economy. In this regard, [8] asserted that Nigeria fundamentally rich, self-sufficient in energy, a semi-literate population and adequate level of wealth among less developed countries (LDCs). But the country have suffered from considerable mismanagement leading to erratic economic growth, slow GDP growth rate, high inflation, high unemployment rate, balance of payments crisis and reduced economic activity. Other vulnerabilities are reliance on a single export commodity, a weak political structure, regional and religious tension [6]. In the aspect of controlling inflation that could result to imbalance of balance of payments. Contractionary monetary policies were followed whenever inflationary forces seemed to get out of hand, [9]. Fiscal policies and budget deficits have a significant bearing on the aggregate demand, inflation level, composition of economic activity and the external economic balance, [10]. The lack of a credible

fiscal policy can trigger capital flight, leading external balance to plunge into the red. The entire major external policy instrument like tariffs subsidies and flexible exchange rates have important fiscal policy implications [11].

[6] examined the trends in Nigeria's Balance of Payments position from 1970-2010 using an econometric analysis. He adopted log linear multiple regression (OLS) for his analysis because it gives a better result than the linear multiple regression (OLS). From the findings, it was observed that the explanatory variables appeared with the right signs and thus conforming to economic theory. However, it was discovered that out of the explanatory variables, only Inflation rate was not statistically significant at 5% level of significance.

[12] posited that budget deficits have been a recurrent fiscal feature of the economy arising directly or through off-budget activities. [13] Asserted that the financial sector comprises of monetary institutions, specialized financial institutions and non-bank financial intermediaries. The Central bank of Nigeria, which is the apex regulator of the financial sector, was established in 1958, and started its operations in April, 1959, and has virtually not been independent. Financial repressions, direct controls and monetary policies have been sources of distortion to the banking system [14].

[15], it is a malign condition that eats accumulated wealth and diverts the energies of the economy. Countries report by the International Monetary Fund (IMF), shows that the cause of Nigeria's inflation is: increase in money supply despite decrease in foreign exchange reserves (a decrease in foreign exchange reserve has the effect of decreasing money supply). Budget deficit is also stated to be a contributory factor. Faced with increasing population and the need to improve the standard of living, the Nigerian government has embarked on various programmes to accelerate the rate of economic growth and provide government services, thereby increasing expenditure within a limited scope of public borrowing leading to fiscal deficits [3].

In terms of Structural Theory, it is argued that balance of payments disequilibrium abates due to an inherently inefficient or imbalanced economy [16]. Three specifications of structural problems that affect the Nigerian economy are: (i) Weakness in fiscal system; (ii) High External Debt Burden; and (iii) Structural inadequacies of

Nigeria arose mainly from the flowing sources [11].

[6] opined that until the time of this study, that Nigerian economy is a typical low-income developing country with an abundance of unskilled and underemployed labour and inadequate industrial capital stock. The economy was stagnant and its structure has a strong agrarian base, savings and investments are at low level and the growth rate of the economy is at an abysmal rate lower than the population growth rate. This macro-economic policy structure is as confusing and inimical as that of many African countries and non-oil exports was still negligible. The result is that development dynamics are conspicuously missing. In terms of per capital income, Nigeria is at the button of poverty league [14].

The government is preparing Nigeria's Vision 2020 which focuses on diversification of the economy away from oil.

3. THEORETICAL FRAMEWORK

The early Keynesian approach to the balance of payments was concerned with the determination of the current account in situations with involuntary unemployment, excess domestic productive capacity, price rigidity and constant production costs in both domestic and foreign economies. This approach also assumed that the central bank could sterilize any surplus or deficit on the balance for official financing and prevent the balance of payments from having any effect on the domestic money supply. Later extension dealt with the impact of economic growth on the balance of payments and extended the model in an *ad hoc* way to deal with capital. However, Keynesian and neo-Keynesian analyses of the balance of payments have primarily focused on the current account.

Let us assume that we are dealing with a small open economy in the sense that changes in its domestic income, imports and exports have an insignificant effect on the rest of the World's income. This is a crucial simplifying assumption and one that applies reasonably well to the United Kingdom. Not all the results derived from the small open economy case will hold in a large open economy. However, the results we stress are robust enough to hold in a large open economy when realistic parameter values are assumed for the consumption and import demand functions in both the domestic and foreign economies.

Our small open economy is assumed to have involuntary unemployment, excess capacity and a horizontal supply curve for current domestic output. The same assumption holds for foreign economies. An additional simplifying assumption, commonly found in Keynesian open-economy models, is that imported goods are distinct from domestic production and the country is specialized in the production of its export goods, so that it has some market power in its export market. Given these assumptions, we can think of the demand for the country's exports, X , as being a function of foreign income y^* and the relative prices of domestic and foreign goods, where exports increase with an increase in y^* and decrease with a currency appreciation (i.e., a rise in e). Therefore, we can write:

$$X = X\left(y^*, \frac{Pf}{epd}\right) \quad (1)$$

Such that $\frac{\partial X}{\partial y^*} > 0$, and $\frac{\partial X}{\partial e} < 0$.

Here X is the value of exports in domestic currency, e is the foreign exchange rate in terms of units of foreign currency per unit of domestic currency, Pd is the price level for domestic goods in domestic currency and Pf is the price level of foreign goods in foreign currency. As we are dealing with a small-economy model, foreign income, y^* is exogenous. Also Pd and Pf are small constant due to the assumption of constant production costs and horizontal aggregate supply functions both at home and abroad. Therefore, we can rewrite equation (1) as:

$$X = X(e)$$

Where

$$\frac{\partial X}{\partial e} < 0. \quad (2)$$

If we measure imports, F , in import prices, then the demand for imports is a function of domestic income, y , and relative prices. F increases as domestic income, y , increases, as part of any increase in domestic income is spent on imported goods. F will also increase as the exchange rate, e , rises, as with unchanged foreign price levels for import goods an exchange appreciation of the domestic currency will lower the domestic price of imports and increase quantity of imports demanded. Therefore, we can write:

$$F = F\left(y \cdot \frac{Pf}{epd}\right) \tag{3}$$

Where, $\frac{\partial F}{\partial y} > 0$, and $\frac{\partial F}{\partial e} > 0$. as Pd and Pf are constant in terms of their respective currencies we can rewrite this in the simplified functional form:

$$F = F(y, e)$$

We can simplify this expression further if we assume that, with unchanged relative prices, total domestic expenditure on imports is a simple linear function of domestic income. Then, measuring imports in terms of domestic currency, we get:

$$\frac{1}{e} F = \frac{1}{e} \phi(e)y \tag{4}$$

If we set $\left(\frac{1}{e}\right)\phi(e) = f$, where f is the marginal propensity of the domestic economy to import foreign goods at the constant exchange rate e , then:

$$\frac{1}{e} F = fy$$

The Keynesian and neo-Keynesian assumptions of balance of payments were centered upon the small open economies and later extended to large open economies of the world. Besides, they made references to exports, imports, domestic incomes and/or both domestic and foreign currencies which are signal for exchange prices. These are parameters that could measure balance of payments [1].

3.1 Model Specification

The econometric model of multiple regression analysis of [6] with inclusion of few variables were adapted for this study to test the relationship between the dependent and independent variables. This functional relationship is represented as thus:

$$RGDP = f(BOP, EDR, INFL, EXR, FTD) \tag{1}$$

Mathematically, this functional relationship can be specified in linear form as thus:

$$RGDP = \beta_0 a_0 + \beta_1 BOP \pm \beta_2 EDR \pm \beta_3 INFL \pm \beta_4 EXCH \pm \beta_5 FTD + \mu \tag{2}$$

Where: RGDP = Real gross domestic product proxied for economic growth; BOP = Balance of Payments (all transactions of resident country— other countries' transactions); EDR = External debt ratio; INFL = Inflation; EXCH = Exchange Rate; FTD = Foreign trade (imports + exports); μ = Error term

The model is transformed into log-linear form. Which is expressed as:

$$\text{LogRGDP} = \beta_0 + \beta_1 \text{logBOP} \pm \beta_2 \text{logEDR} \pm \beta_3 \text{logINFL} \pm \beta_4 \text{logEXCH} \pm \beta_5 \text{logFTD} + \mu \tag{3}$$

Where: Log (RGDP) = Log of Real gross domestic product; Log (BOP) = Log of Balance of Payments; Log (EDR) = Log of External debt ratio; Log (INFL) = Log of Inflation; Log (EXCH) = Log of Exchange Rate; Log (FTD) = Log of Foreign trade; μ = white noise error term

The a priori expectations are as follows:

$$\beta_0 > 0, \beta_1 > 0, \beta_2 > 1, \beta_3 < 0, \beta_4 < 0, \beta_5 > 0.$$

Where:

β_0 = Intercept, β_1 = Coefficient of Balance of payment, β_2 = Coefficient of external debt ratio, β_3 = Coefficient of inflation rate, β_4 = Coefficient of exchange rate, β_5 = Coefficient of foreign trade, and μ = white noise error term.

The contribution of this study to knowledge is in terms of the estimation techniques employed and the data used which is extended to 2012. An attempt will be made to empirically investigate the relationship between the impact of balance of payment on the growth of the Nigerian Economy for the period 1960 – 2012 regression analysis. The equation was estimated using a variety of analytical tools, including group unit root tests, co-integration tests, and Granger Causality Analysis. The results are discussed below. The data used for the study covers the period 1960 and 2012. The study employed secondary data which are derived from various issues of [17,18].

4. MODEL SUMMARY

Table 1 shows the summary of the Group unit root test using summary test (.i.e. Levin, Lin & Chu t^* ; Im, Breitung t -stat, Pesaran and Shin W -stat; ADF-Fisher Chi-square; PP-Fisher Chi-square) with the lag length selection based on AIC: 0 to 1 of the variables used for the empirical study. The group unit root test shows that; Real Gross Domestic Product (RGDP); Balance of Payment (BOP); External Debt Ratio (EDR);

Exchange Rate (EXCH); Foreign Trade (FTD); and Inflation rate (INFL) were stationary at first differenced at 5 percent level of significance respectively.

The top of the output indicates the type of test, exogenous variables and test equation options. If we were instead estimating a Group unit test, a list of the series used in the test would also be depicted. The lower part of the summary output gives the main test results, organized both by null hypothesis as well as the maintained hypothesis concerning the type of the unit root process.

All of the results indicate the presence of a unit root, as the LLC, IPS, and both Fisher tests fail to reject the null of a unit root at level. While all of the results indicate the absence of a unit root, as LLC, IPS and both Fisher test accept the null of a unit root.

4.1 Cointegration Test Results

Co-integration test is carried out in order to determine the long-run relationship between the dependent and independent variables when one or all of the variables is/are non-stationary at level which means they have number of stochastic trends in asymptotic distribution. Co-integration tests are conducted by using the reduced procedure developed by [19]. They noted that a linear combination of two or more 1(1) series may be stationary, or 1(0), on which case we say the series are cointegrated. Such

linear combination defines a cointegrating equation with cointegrating vector of weights characterizing the long-run relationship between the variables. The [19] test results are divided into three distinct sections. *First* portion display the test specification and settings, along with the test values and corresponding *p*-values. *Second* (or the middle) section of the output displays the estimated coefficients, standard error, t-statistics, and *p*-value for the constant, even though they are not strictly speaking valid or intermediate results used in constructing the test statistic that may be of interest. The summary statistics portion is relatively familiar but does require a bit comment [20]. Most entries are self-explanatory, though a few deserve a bit of discussion-such as RHO S.E. and Residual Variance are the (possibly) d.f. corrected coefficient standard error of the regression. The long-run residual variance is the estimate of the long-run of the residual based on the estimated parametric model. The number of stochastic trends entry reports the value used to obtain the *p*-value.

Engle and Granger procedure is used to determine the linear combination of two or more series and/or to identify a long-run relationship. The cointegration tests in Table 2 include Real Gross Domestic Product (RGDP); Balance of Payment (BOP); External Debt Ratio (EDR); Foreign Trade (FTD); and Inflation (INFL). Which includes additional Regressor deterministics @TREND and Automatic lag specification (lag = 0 based on Schwarz Info Criterion, maxlag = 0).

Table 1. Group unit root test

Group unit root test: Summary				
Series: LOG_RGDP_, LOG_BOP_, LOG_EDR_, LOG_EXCH_, LOG_FTD_, LOG_INFL_				
Date: 01/23/14 Time: 22:21				
Sample: 1960 2012				
Exogenous variables: Individual effects, individual linear trends				
Automatic selection of maximum lags				
Automatic lag length selection based on AIC: 0 to 1				
Andrews automatic bandwidth selection and Quadratic Spectral kernel				
Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.97813	0.0000	6	233
Breitung t-stat	-7.53217	0.0000	6	227
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.26356	0.0000	6	233
ADF - Fisher Chi-square	112.253	0.0000	6	233
PP - Fisher Chi-square	111.261	0.0000	6	235

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality

Table 2. Engle-granger cointegration test

Date: 01/23/14 Time: 22:25						
Series: LOG_RGDP_ LOG_BOP_ LOG_EDR_ LOG_EXCH_ LOG_FTD_ LOG_INFL_						
Sample (adjusted): 1966 2003						
Included observations: 10 after adjustments						
Null hypothesis: Series are not cointegrated						
Cointegrating equation deterministics: C						
Additional regressor deterministics: @TREND						
Automatic lags specification based on Schwarz criterion (maxlag=0)						
Dependent	tau-statistic	Prob.*	z-statistic	Prob.*		
LOG_RGDP_	-1.407909	0.9944	-4.415115	0.8590		
LOG_BOP_	-2.855929	0.9004	-7.301387	0.8810		
LOG_EDR_	-1.267551	0.9944	-4.192838	0.8537		
LOG_EXCH_	-1.556494	0.9944	-4.825737	0.8603		
LOG_FTD_	-1.727146	0.9944	-4.774015	0.8601		
LOG_INFL_	-2.811446	0.8861	-3.641814	0.8542		
<i>*MacKinnon (1996) p-values.</i>						
Warning: p-values may not be accurate for fewer than 20 observations.						
Intermediate Results:						
	LOG_RGDP	LOG_BOP	LOG_EDR	LOG_EXCH	LOG_FTD	LOG_INFL
Rho - 1	-1.103779	-1.825347	-1.048209	-1.206434	-1.193504	-0.910453
Rho S.E.	0.783985	0.639143	0.826957	0.775097	0.691027	0.323838
Residual variance	0.012631	0.097245	0.023491	0.008869	0.243028	0.014716
Long-run residual variance	0.012631	0.097245	0.023491	0.008869	0.243028	0.014716
Number of lags	0	0	0	0	0	0
Number of observations	4	4	4	4	4	4
Number of stochastic trends**	5	5	5	5	5	5

***Number of stochastic trends in asymptotic distribution*

4.2 Pairwise Granger Causality Test

Pairwise Granger Causality test between real gross domestic product proxied as economic growth, balance of payment, External debt ratio, exchange rate, foreign trade and inflation rate are examined in Table 3. The Pairwise Granger causality tests were inconclusive at 5% level of significance. The results alternated between bi-directional, no causality and uni-directional, depending on the lag length allowed. The outcome in respect one two-lag length is presented in Table 3. The Table reveals that we do reject the hypothesis that BOP Granger causes RGDP, but we cannot reject the hypothesis that RGDP does not Granger cause BOP. We do reject the hypothesis that EDR does not Granger cause RGDP, but we cannot reject the hypothesis that RGDP does not Granger cause EDR. We do reject the hypothesis that EXCH does not Granger cause RGDP, but we cannot reject the hypothesis that RGDP does not Granger cause EXCH. We cannot reject the hypothesis that EXCH does not Granger cause EDR, but we cannot reject the hypothesis that EDR does not Granger cause EXCH. We do reject the hypothesis that FTD does not Granger

cause EDR, but we cannot reject the hypothesis that EDR does not Granger cause FTD. Therefore it appears that Granger causality runs one-way from RGDP to BOP, RGDP to EDR, RGDP to EXCH, EDR to FTD and EXCH to EDR, EDR to EXCH.

4.3 Orthonormal Loadings Biplot

The component scores are displayed as circles and the variables loadings and displayed from the origin with variable labels. The Biplot in Diagram 1 clearly shows us that the first component has positive loadings for all the six variables (i.e., general inflation interpretations). Second, component has positive loadings for interest rate and negative loadings for RGDP, BOP, EDR and EXCH. If BOP does well relative to EXCH and EDR, the second specific component will be positive, and vice versa.

A boxplot, also known as a box and whisker diagram is shown in Diagram 2, summarizes the distribution of set of data by displaying the centering and spread of the data using few primary elements [21].

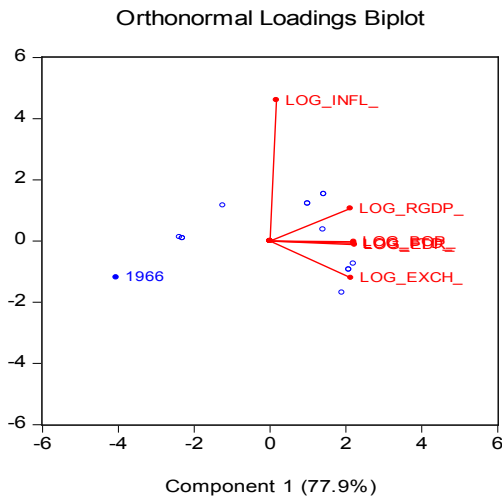


Diagram 1. Orthonormal loadings biplot

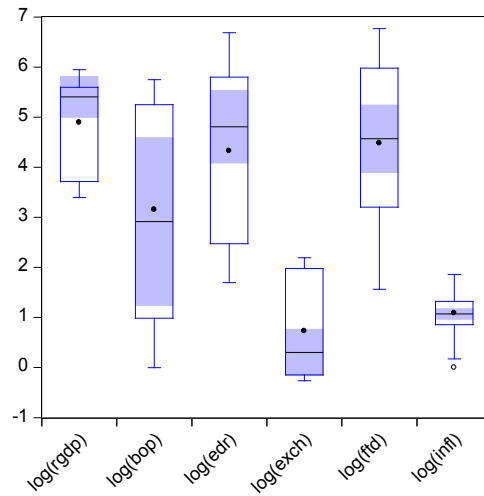


Diagram 2. Boxplot graph

Table 3. Pairwise granger causality test

Pairwise granger causality tests			
Date: 01/23/14 time: 22:30			
Sample: 1960 2012			
Lags: 1			
Null hypothesis:	Obs	F-statistic	Prob.
LOG_BOP_ does not Granger Cause LOG_RGDP_	10	0.53710	0.4874
LOG_RGDP_ does not Granger Cause LOG_BOP_		20.6078	0.0027
LOG_EDR_ does not Granger Cause LOG_RGDP_	51	0.01048	0.9189
LOG_RGDP_ does not Granger Cause LOG_EDR_		10.7353	0.0020
LOG_EXCH_ does not Granger Cause LOG_RGDP_	52	0.45389	0.5037
LOG_RGDP_ does not Granger Cause LOG_EXCH_		8.76047	0.0047
LOG_FTD_ does not Granger Cause LOG_RGDP_	38	2.55178	0.1192
LOG_RGDP_ does not Granger Cause LOG_FTD_		1.25910	0.2695
LOG_INFL_ does not Granger Cause LOG_RGDP_	47	0.01582	0.9005
LOG_RGDP_ does not Granger Cause LOG_INFL_		0.14485	0.7053
LOG_EDR_ does not Granger Cause LOG_BOP_	10	0.36043	0.5672
LOG_BOP_ does not Granger Cause LOG_EDR_		1.31474	0.2892
LOG_EXCH_ does not Granger Cause LOG_BOP_	10	0.00145	0.9707
LOG_BOP_ does not Granger Cause LOG_EXCH_		0.33713	0.5797
LOG_FTD_ does not Granger Cause LOG_BOP_	4	0.16778	0.7525
LOG_BOP_ does not Granger Cause LOG_FTD_		0.10795	0.7979
LOG_INFL_ does not Granger Cause LOG_BOP_	8	2.33370	0.1871
LOG_BOP_ does not Granger Cause LOG_INFL_		0.77433	0.4192
LOG_EXCH_ does not Granger Cause LOG_EDR_	51	5.79940	0.0199
LOG_EDR_ does not Granger Cause LOG_EXCH_		11.5179	0.0014
LOG_FTD_ does not Granger Cause LOG_EDR_	38	3.84858	0.0578
LOG_EDR_ does not Granger Cause LOG_FTD_		5.38643	0.0262
LOG_INFL_ does not Granger Cause LOG_EDR_	47	0.05321	0.8186
LOG_EDR_ does not Granger Cause LOG_INFL_		0.27095	0.6053
LOG_FTD_ does not Granger Cause LOG_EXCH_	38	0.82641	0.3695
LOG_EXCH_ does not Granger Cause LOG_FTD_		3.89869	0.0563
LOG_INFL_ does not Granger Cause LOG_EXCH_	47	0.10467	0.7478
LOG_EXCH_ does not Granger Cause LOG_INFL_		0.00011	0.9915
LOG_INFL_ does not Granger Cause LOG_FTD_	36	0.00573	0.9401
LOG_FTD_ does not Granger Cause LOG_INFL_		0.04557	0.8323

Box plots are often drawn so that the widths of the boxes are uniform. Alternatively, the box widths can be varied as a measure of the sample size for each box, with widths drawn proportional to N, or proportional to the square root of N.

5. SUMMARY

The paper empirically examines the impact of the balance of payment on the economic development of the Nigerian economy, using annual time series data from 1960 to 2012. The model developed by [6] was used for the study. The paper employs stochastic characteristics of each time series data by testing their stationarity using Group unit root tests, including Cointegration tests and Pairwise Granger Causality Test.

The null hypothesis being that there is presence of a Group unit root (.i.e. Levin, Lin & Chu t^* ; Breitung t -stat; Im, Pesaran and Shin W -stat; ADF-Fisher Chi-square; PP-Fisher Chi-square) was accepted at first differenced implying that the variables were found stationary at 5% level of significance.

We used co-integration technique by [19] approach in assessing the co-integrating properties of variables, especially in a multivariate context. The result of the test showed that for the periods, 1960-2012, there was no co-integrating relationship between Inflation and economic growth for Nigeria data. Thus, all the variables have both short and long run relationship with each other as revealed by Cointegration tests. Besides the non-existence of cointegration existing between economic growth and BOP, EDR, INFL, EXCH and FTD, further effort was made to check the causality relationship that exist between the six variables by employing the Pairwise -Granger causality at two lag periods as could be seen in Table 3. The results showed the same at different lags.

The first test was conducted using lag one (1) and in the result in Table 3 both unidirectional from RGDP to BOP, EDR, EXCH, and EDR to FTD and bi-directional causality only between EXCH to EDR. It should be borne in mind that the study did not consider if the relationship between inflation and growth was negative or positive; however, various studies as reviewed in the literature has come out with the result that balance of payment deficit is and has never been favourable to economic development. Hence it will be good to maintain the fact that the causality

does not run from BOP to RGDP and RGDP to BOP is an indication of insignificant relationship showing that BOP indeed has an inverse impact on growth.

6. CONCLUSION

The result of the econometrics on the Balance of payments: Nigerian Experience, the paper discovered that RGDP causes no effect on BOP, EDR, EXCH and only EXCH causes effect on EDR and EDR on EXCH. This is an indication of insignificant relationship showing that BOP indeed has an inverse impact on economic growth. This means that the transactions of the developing countries—such as: Nigeria are raw materials (or intermediate goods), which means the demand for the products is inelastic and supply of the products is inelastic.

7. RECOMMENDATIONS

From the econometric study of the impact of balance of payment on the development of the Nigerian Economy from 1960-2012, the following recommendations are stated below:

- Government should encourage the exportation of non-oil goods into the world market, since this sector has fallen sharply on its contribution to the GDP.
- Government should ensure that the revenue from the Oil sector is diversified into other viable aspect of the economy.
- Government should ensure that policies (such as monetary or fiscal) are put in place to check balance-of-payment deficits.
- Government should ensure that inflation rate is maintained at single-digit level to enable the private investors to have a conducive atmosphere for production of goods for export.
- Government should reduce the external borrowing tendencies, even when borrowed should be utilized on mega or capital projects that have multiplier effect in the economy.
- Government should stabilize the foreign exchange market-where the foreign currencies are trade in. Thus, however, determines the quantity goods and services to be bought and sold.
- Government should ensure that the policies of import substitutions, export encouragement, etc are formulated and implemented to enable quota of goods and

services from Nigeria to World market being increased.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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