Original Article   **Open Access**

Monetary Policy and Balance of Payment: An Empirical Evidence in Nigeria

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Abstract: Monetary policy is an approach which the central bank of any nation uses to direct the supply of money stock in order to attain general macroeconomic goals. This makes it important to conduct a study of the monetary policy-balance of payment relationship in Nigeria. The objectives of the study was to examine the impact of monetary policy on balance of payment in Nigeria. The study used annual time series data on balance of payment being the dependent variable while monetary policy rate, exchange rate, inflation rate, money supply and bank credit to private sector were the independent variables. Autoregressive distributed lag (ARDL) model was used to achieve the objective. The study revealed that all the monetary policy variables such as monetary policy rate, exchange rate, inflation rate, money supply, bank credit to private sector had significant negative impact on balance of payment in Nigeria. The study concluded, based on the findings, that increasing monetary policy rate in the Nigeria economy implies decline in balance of payment. Government of Nigeria should ensure that amount of monetary policy rate is reduced to maintain short term monetary policy rate in order to achieve favaourble balance of payment in Nigeria economy.

Key Words: Monetary Policy, Balance of Payment, Exchange Rate, Bank Credit to Private Sector.

1. Introduction

Monetary policy is a method which the central bank of any country utilizes to channel the supply of money stock in order to reach broad macroeconomic goals such as balance of payments (BOPs) equilibrium. Over the years, the goals of monetary policy had remained the want for realization of internal and external balance (that is stability in the balance of payments). Nevertheless, stress on modus operandi/mechanism to concurrently realize internal balance and stability in the balance of payments has distorted over the years. There have been two key phases in the search of monetary policy in Nigeria prior to and after 1986. The first phase placed weight on direct monetary controls, while the second relies on market mechanisms. An evaluation of Nigeria's monetary policy feat before 1986 shows that the economic setting that guided monetary policy was characterized by the control of the oil sector and over-reliance on the external sector in order to sustain price stability and a healthy balance of payments position.

The monetary administration authority depended on the use of direct monetary instruments such as credit ceilings, selective credit controls, administered interest and exchange rates, as well as the recommendation of cash reserve requirements and special deposits. The use of market-based instruments was not realistic at this point because of the weak nature of the financial markets and the intentional control on interest rate. The most popular instrument of monetary policy then was the issuance of credit rationing procedure which mainly set the rates of exchange for the component and aggregate commercial bank loans and advances to the sector (Iyoha, 1996).

The subsequent phase depicts monetary policies meant at stir up the materialization of a market-oriented financial system for effective draft of financial savings and efficient resource allocation. The instrument of the market based structure is the open market operations complemented by set aside requirements and discount window operations. In order to recover macroeconomic stability, efforts were directed at the administration of surplus liquidity. Also in use from August 1990 was the exercise of stabilization securities for the purpose of dropping the full size of excess liquidity. The reintroduction of the Dutch Auction System (DAS) of foreign exchange management in 2002 engendered relative steadiness and stemmed the exhaustion of reserves in the second half of 2002. Finally, in December, 2006, the CBN in its effort to react to the ever varying economic and financial setting, introduced a monetary

framework tagged "monetary policy rate" (MPR), with the vital purpose of achieving firmness in the value of the domestic currency through the stability in short term interest rates around the "operating target". The monetary policy rate (MPR) serves as an gauge rate for dealings in inter-bank money market as well as other deposit money banks' (DMBs) interest rate towards achieving the preferred balance of payment stability in Nigeria. This study hence investigates the role of monetary policy in the attainment of BOP in Nigeria.

One of the major macroeconomic goals of stabilization policy in any country of the world is to uphold a well balance of payment point in order to secure the external value of the national currency. Numerous emerging countries like Nigeria over the years had experienced persistent deficit on the balance of payment account and face many difficulties in monetary actions as Nigeria recorded balance of payment of; -2507.683 NGN million and -2854.340 NGN million in 2018 and 2019 respectively.

Most research studies are centered on monetary approach to balance of payments in Nigeria. This approach has been condemn many times because it considers monetary variables without bank credit to the private sector which is an central monetary variable that determines the demand and supply of money to private sector which have a spillover effect on Balance of Payment. Furthermore, Alawode (1997) maintained that the Monetary Approaches to Balance of Payment does not work in short term; it is only consistent in long run case. Hence, this study would add to existing literature by incorporating bank credit to private sector as one of the monetary policy variables with regard to its impact on balance of payment. Furthermore, this study will find out both the short and long run effect of monetary policy on balance of payment in Nigeria.

Nigeria has in the modern times been experiencing continual unsteadiness on her general balance of payment and this has provoked severe worry and question on the possible causes of this disparity. Nigeria, similar to any other country, aims at maintaining a steady equilibrium in the balance of payments as one of the objectives of macroeconomic policy (Soludo, 2003). Organizations such as the International Monetary Fund (IMF), and the World Bank, have aimed at a vast deal of interest to secure balance of payments situations in a given economy as the ideal situation. Due to the situation of Nigeria's export and import, there existed a relentless balance of payments deficit in the economy. Invariably, Nigeria has paid more to foreign countries than she receives. Thus, the attendant result affects the economy, leading to gross reduction of Nigeria's foreign reserves. It has also attracted decline in the country's productive capacities and persistent inflationary pressures. Sequel to the above, articulated efforts have been made by monetary authorities particularly, Central Bank of Nigeria (CBN), on how to significantly lessen the balance of payments deficits in the economy. This is typically done through the formulation and realization of suitable monetary policy measures.

The Central Bank of Nigeria in her attempt to react to the always changing economic and financial environment, introduced a monetary framework tagged "Monetary policy rate"(MPR) with the critical ambition of achieving stability in the value of the domestic currency through the stability in short term interest rates around the "operating target". The monetary policy rate (MPR) serve as an indicator rates for transactions in inter-bank money market as well as other deposit money banks' (DMBs) interest rate to reach desired balance of payment equilibrium in Nigeria by cheering great scale financial investment. The abovementioned forms an indication of how Nigeria's monetary system have been experimenting with diverse policy measures to guarantee internal stability and equilibrium in the balance of payments. However, in spite of the policy measures, Nigeria external sector feat mostly the balance of payments had remained unfortunate. It is on the basis on this that the current study intends to examine the impact of monetary policy on balance of payment in Nigeria.

2. Literature Review
2.1. Conceptual Framework
2.1.1. Concept of Monetary Policy

Monetary policy as a practice of economic management to bring about Sustainable economic growth and development has been the quest of nations and formal expression of how money affects economic summative dates back to the time of Adams Smith and later championed by the monetary economists (Loto, 2012). Since the show of the function of monetary policy in influencing macroeconomic aim like economic growth, price stability, equilibrium in balance of payments and multitude of other objectives, monetary authorities are load with the duty of using monetary policy to develop their economies. The Central Bank of Nigeria (CBN) was recognized in 1959 with the conventional role of modifying the stock of money in such a way as to support full-employment equilibrium, rapid economic growth, price stability, and balance of payment. Fasanya *et al.* (2013)

stressed that the key two goals of monetary policy are inflation targeting and exchange rate policy with the postulation that these are fundamental tools of achieving macroeconomic firmness.

According to central Bank of Nigeria (CBN) surplus supply of money will result in an excess demand for goods and services which in twist raises prices and shrinks balance of payment. On the other hand, insufficient supply of money impedes growth and development. Monetary policy submit to a mixture of measures designed to normalize the value, supply and cost of money in an economy in line with the anticipated level of economic activity.

2.1.2. Concept of Balance of Payment

The balance of payments is a logical evidence of economic and financial dealings for a specified period of time, say one year, among populace of an economy and non inhabitants of the world. This transaction entail the terms and receipts of valid resources goods, services and income and changes in claims on and liabilities to the rest of the world (Tijani, 2014). In particular, the balance of payments records transaction in goods, services and income, changes in possession and other changes in an economy's holdings of monetary gold, Special Drawing Rights (SDRs) and claims on and liabilities to the rest of the world (Udude, 2015). It also records unreturned or one-sided transmit of the provision or receipts of an economic value without the acceptance or relinquishing of something of alike value. Usually, transactions involving payments to a country by non-resident are known as credit entries. Those involving payments by country to non-residents are debt entries.

Essentially, the balance of payments is divided into the current and capital account. The capital account is made up of portfolio and direct investment, either long or short term capital and capital transfers. While the current account records all current transactions, which are transactions that include either the export or import of goods and services. They include merchandise and services. The capital account also refers to charges in financial assets and liabilities, portfolio investment, external loan drawings and paying back and charges in short-term capital movements. Nevertheless, it should be noted that development in the other sectors real, monetary and public has implications for the balance of payments (Osisanwo *et al.*, 2015).

Fig 2.1. Relationship between monetary policy and balance of payment in Nigeria.
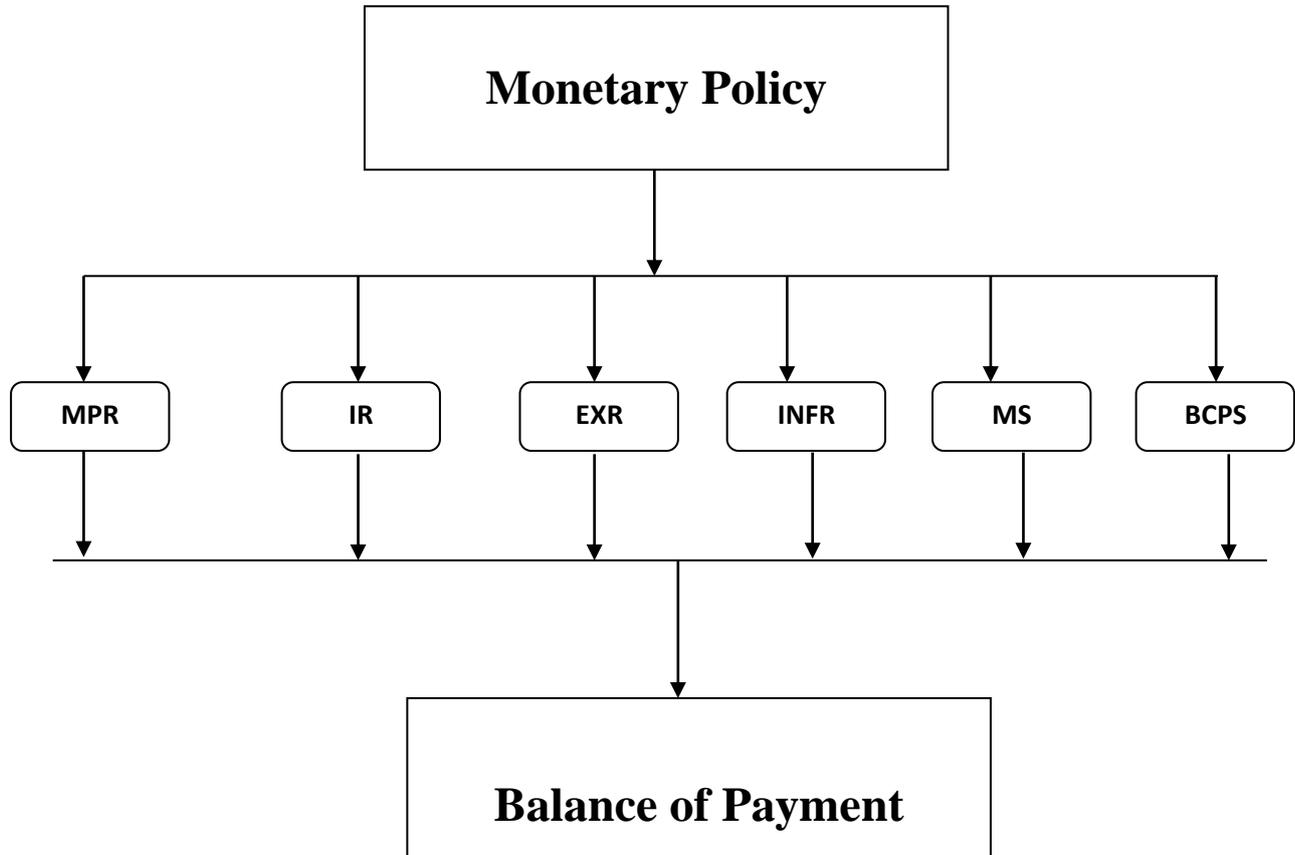
Source: Author's Conceptualization

Figure 2.1 presents a conceptual framework for understanding monetary policy indicators that establish balance of payment. As showed on fig. 2.1, monetary policy influences balance of payment through indicators such as Monetary Policy Rate (MPR), interest Rate (IR), Exchange Rate (EXR), Inflation Rate (INFR), Money Supply (MS) and Bank Credit to Private Sector (BCPS).

2.2. Empirical Literature

Unaimikogbo and Enoma (2011) assessed the effect of monetary policy instrument on balance of payments in Nigeria with a simulation equation model for the period 1986-1997 using ordinary least square estimation technique of data analysis, the study established that monetary policy contributed notably to balance of payment. The study concluded that monetary variable is more effective and reliable than fiscal variable in affecting changes in economic activities.

Ditimi *et al.* (2011) appraised the effect of monetary policy instrument on balance of payments in Nigeria over the timeframe of 1986-2009. The study adopted ordinary least square technique. The study review that monetary policy have impressed the realization of various policy initiatives and has thus experienced sustained development over the years. They noted that the proposition of their finding is that monetary policy has important control in maintaining price stability and favourable balance of payment within Nigerian economy and concluded that for monetary policy to progress its performance there is the need to reduce excessive expenditure of the government and align fiscal policy along with monetary policy measure.

Udude (2015) investigated empirically the impact of monetary policy on Nigerian balance of payment. The research was conducted using Ordinary Least Squares (OLS) technique of multiple regression models using statistical time series data from 1980-2010. Secondary data on Balance of Payments (BOP) was used as the dependent variable; broad money supply (M2), interest rate (INT), exchange rate (EXCR) and gross domestic product (GDP) which represented the explanatory variables. The data were first tested for the presence of unit root using the Augmented Dicey Fuller test while Johansen co integration test was used to test for long run relationship between the dependent and independent variables. The ADF results shows that all the variables were stationary after first difference at 5 and 1 percent level of significance and the Johansen co integration test revealed the existence of a long run relationship among the variables. Ordinary least square (OLS) technique was engaged to estimate the individual parameters and the result indicated that the coefficients of M2 and EXCR were positive while those of INT and GDP were negative. Nonetheless, all the parameter coefficients except interest rate were statistically significant. The study hence concluded that monetary policy instruments affect significantly balance of payment and recommended inter alia that Central Bank of Nigeria (CBN) should strengthen the process of regular monitoring of the operation of deposit money banks to guarantee compliance with sensible guidelines and encourage precision in the banking operations.

Onuchuku *et al.* (2018) evaluated the effect of monetary policy on Nigeria's balance of payments between 1980 and 2016. The study employed descriptive statistics and the Dynamic Ordinary Least Square (DOLS) proposed by Stock and Watson (1993). Based on the estimated results, the coefficients of all the regressors- Broad Money Supply (M2), Interest Rate (ITR), Exchange Rate (EXR) and Gross Domestic Product (GDP) - conformed to apriori expectations. In addition, the result of the analysis shows that all the variables were statistically significant at 5 percent level. The study concluded that there is need for a steady macroeconomic environment to decrease BOPs deficits in Nigeria and recommends that monetary policy measures should target adequate broad money supply, stable interest rate and exchange rate in order to encourage sound economic activities to stem the tide of Balance of payments deficits.

Osisanwo *et al.* (2015) explored the impact of Balance of Payments deficit and monetary policy on the economic growth of Nigeria from 1980 – 2013 employing the dynamic econometric model. The result showed a long-run relationship between Balance of Payments and monetary policy and Nigeria. It recommended that the central power should take on a policy of export promotion and flexible rate regime.

Imoughele and Ismaila (2015) examined the monetary policy impact on the Balance of payments (BOP) in Nigeria from 1986 -2013, based on the error correction model (ECM) technique and result showed that long- run relationship exists among the monetary policy variables and balance of payments. The result of the investigation also specify that monetary policy variables such as exchange rate, broad money supply and credit loaned to the private sectors comprise the major monetary factors that impact critically on balance of payments in Nigeria.

Udude (2015) assessed empirically the impact of monetary policy on Nigeria's Balance of payments using Ordinary Least Squares (OLS) technique of multiple regression model, Augmented Dickey- Fuller test and Johansen Co-integration test from 1980-2010. From the result, it was concluded that there exist a

positive and a statistically significant relationship between monetary policy, exchange rate and Balance of payments.

Onwe (2014) explored the effects of monetary policy variables on the balance of payments using time series data covering the periods 1986 –2012 in Nigeria by adopting co-integration approach of econometric analysis and the empirical result from the co-integration assessment indicated that there is a positive association existing between the monetary policy variables such as money supply, interest rate, gross domestic product and exchange rate on the balance of payment as a dependent variable in the model. Nevertheless, the result further pointed out that only interest rate and money supply were significant but exchange rate was found to be insignificantly related with balance of payments.

looking at the existing literature reviewed, most of the studies such as Unaimikogbo and Enoma (2011) , Ditimi *et al.* (2011), Udude (2015), Onuchuku *et al.* (2018) analyzed the impact of monetary policy on balance of payment in Nigeria using Ordinary Least Squares method of regression analysis; hence, this study shall attempt to add to the existing literatures in this area of study by investigating empirically the impact of monetary policy on balance of payment in Nigeria using ARDL model estimation technique, which allows the variables to be I(0), I(1) or mutually co-integrated. Most of the previous studies in this area of study did not consider both the long run a relationship between monetary policy and balance of payment in Nigeria. Hence, this study intends to fill this gap by employing ARDL bound test to examine the long run relationship between monetary policy and balance of payment in Nigeria.

Finally, most of the previous studies in this area of research interest, disregarded the role of credits to private sector in the monetary policy-balance of payment relationship. Hence, the bid to fill this gap also motivates this study to include credit to private sector in the model for this study.

2.3. Theoretical Framework

Nevertheless, the theoretical framework of this study will be based on the Keynesian theory of monetary policy. Contrasting other theories of monetary policy, the Keynesian theory postulated that changes in money supply affect aggregate expenditure, output and balance of payment through the changes in the interest rate through indirect mechanism.

Keynesians believed that expansionary monetary policy increases the supply of loanable funds available through banking system, causing interest rates to fall. With lower interest rate, aggregate expenditures on investment, real output and balance of payment tend to increase, but not at proportionate rate with the level of national income. Hence, monetary policy affects balance of payment through the mechanism of interest rate.

This indirect effect of monetary policy through interest rate (monetary policy rate) on balance of payment in Nigeria is represented by Equation 2.1 and 2.2 respectively.

$$BOP = \lambda_0 + \lambda_1 r \dots\dots\dots\dots\dots\dots\dots\dots\dots 2.1$$

Equation 2.1 is disaggregated to form equation 2.2

$$BOP = \lambda_1 + \lambda_2 MPR + \lambda_3 rs \dots\dots\dots\dots\dots\dots\dots 2.2$$

Where; BOP is balance of payment, r is interest rate and MPR is monetary policy rate.

3. Methodology
3.1. Model Specification

This study adopts the Autoregressive distributive lag (ARDL) model; this is because it is a least squares regression approach involving the lag of both the dependent and independent variables. The ARDL models are usually represented by the notation ARDL (p1 q1, q2, q3, …….qk), where p is the number of lags of the dependent variables, q1 is the number of the lags of the first independent variable, and qk is the lags of the kth independent variable.

In building the Autoregressive Distributed Lag Model (ARDL) for this study, the functional, mathematical and stochastic forms of the model are presented in Equation 3.3

$$BOP = F(MPR, , EXR, INFR, MS, BCPS)\dots\dots\dots\dots\dots\dots 3.3$$

The Long-run elasticity of the model will be estimated based on ARDL model in equation 3.4 to examine the impact of monetary policy on balance of payment in Nigeria

$$
\Delta LBOP_t = \alpha_0 + \sum_{i=1}^{p} \delta_i \, \Delta LBOP_{t-i} + \sum_{i=1}^{p} \beta_k \, \Delta LMPR_{t-i} + \sum_{i=1}^{p} \gamma_l \, \Delta EXR_{t-i} + \sum_{i=1}^{p} \varphi_m \, \Delta LINFR_{t-i}
$$
$$
+ \sum_{i=1}^{p} \Psi_n \, \Delta LMS_{t-i} + \sum_{i=1}^{p} \varrho_o \, \Delta LBCPS_{t-i} + \lambda_1 LBOP_{t-1} + \lambda_2 LMPR_{t-1} + \lambda_4 EXR_{t-1}
$$
$$
+ \lambda_5 INFR_{t-1} + \lambda_6 MS_{t-1} + \lambda_7 BCPS_{t-1} + \mu_t - - - - - - - - - - - - - - - - - -
$$
$$
- - - - 3.4
$$

Where α_0 and μ_t represent the drift component and the white noise respectively. The terms with the summation signs in the equation represents the error correction, while their parameter coefficients shows the short run effects and the lambda (λ) represents the corresponding long run relationship. Balance of Payment (BOP) is the dependent variable while Monetary Policy Rate (MPR), Exchange Rate (EXR), Inflation Rate (INFR), Money Supply (MS) and Bank Credit to Private Sector (BCPS) are the independent variables.

3.2. Justification of the Model

The Autoregressive Distributed Lag Model (ARDL) is adopted for this study because of its wide usage by modern researchers now and partially because it yields valid result notwithstanding the order of integration of the underlying variables. Also, the long and short run parameters of the ARDL model are estimated simultaneously and you do not need to be burdened with establishing the order of integration amongst the variables (Saibu and Apanisile, 2013). Again, the ARDL bound testing approach to co-integration has been institute to be more robust and performs better in finite samples than other co-integration techniques.

4. Presentation of Results
4.1. Unit Root Test Results

Table 4.1. Unit Root Test Results for Nigeria

Variables	ADF Statistic at level	ADF Statistic at first difference	Critical values of 5% at level	Critical values of 5% at first difference	P-values at level	P-values at first difference	Order of integration
BOP	-6.227	-	-2.861	-	0.000	-	I(0)
MPR	2.321	-5.605	-2.861	-2.764	0.068	0.000	I(1)
EXR	-2.025	-5.236	2.861	-2.764	0.374	0.000	I(1)
INFR	-1.587	-4.155	-2.861	-2.764	0.617	0.000	I(1)
MS	-2.184	-5.098	-2.861	-2.764	0.315	0.003	I(1)
BCPS	-1.676	-7.429	-2.861	-2.764	0.532	0.000	I(1)

Source: Researcher's Computation, 2021

To ascertain the order of integration of the variables, this test was carried out to account for the presence of unit roots (that is whether the variables are stationary or not) using the Augmented Dickey Fuller (ADF) test. The unit root test results in Table 4.1 revealed that most of all the variables were not stationary at level, because their Augmented Dickey Fuller (ADF) statistic values were less than the critical values at 5% level of significance. The variables were all stationary at first difference as their Augmented Dickey Fuller (ADF) statistic values were greater than their critical values at 5% level of significance. Since the variables are either I(0) or I(1), it is easily seen that the variables can used in the ARDL model. However, since most of the variables are I(1), there is need for co-integration test.

4.2. ARDL Bound Co-integration Test

Table 4.2. Bound Co-integration Test on Monetary Policy and Balance of Payment Relationship in Nigeria

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	5.744	10%	1.78	3.21
K	5	5%	3.11	3.55
		1%	2.56	3.43

Source: Researcher's Computation, 2021

In Table 4.2, since the calculated F-statistic (5.744) is greater than all the lower bound and upper bound critical values at 1%, 5% and 10% level of significance, the null hypothesis of no long-run relationship among the variables of the selected ARDL (1, 1, 2, 0, 2, 2, 2) is to be rejected. Thus, the variables employed in this study are co-integrated.

4.3. Estimated Results of Short Run and Long-Run Models

Table 4.3. Estimated ARDL Model for Objectives

Dependent Variable: D(LNBOP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.541	1.486	0.364	0.721
Short Run Relationship form of ARDL D(LNBOP(-1))	0.211	0.023	9.092	0.000
D(LNMPR(-1))	-0.482	0.079	-6.093	0.004
D(LNEXR(-1))	-0.348	0.054	-6.407	0.000
D(LNINFR(-1))	-0.374	0.080	-4.651	0.009
D(LNMS(-1))	-0.097	0.056	-1.728	0.107
D(LNBCPS(-1))	-0.536	0.631	-0.850	0.410
ECT(-1)	-0.732	0.322	-2.273	0.032
Long Run Relationship form of ARDL LNBOP	0.236	0.251	0.938	0.365
LNMPR	-0.568	0.088	-6.447	0.001
LNEXR	-0.710	0.098	-7.211	0.000
LNINFR	-0.541	0.066	-8.092	0.000
LNMS	-0.454	0.079	-5.722	0.009
LNBCPS	-0.366	0.087	-4.200	0.002
R-squared	0.815	Durbin-Watson stat		1.727
Adjusted R-squared	0.795			
F-statistic	42.354			
Prob(F-statistic)	0.000			

Source: Researcher's Computation, 2021

The result of the short run and the long run models in table 4.3 revealed that the independent variables (Monetary Policy Rate (MPR), Exchange Rate (EXR), Inflation Rate (INFR), Money Supply (MS) and Bank Credit to Private Sector (BCPS) explained about 82% of the total variations in Balance of Payment growth while the remaining 18% unexplained is captured by the error term. Considering the prob (F-statistic) of 0.000, the entire model is robust. The short run model accounts for the speed of adjustment to long run equilibrium of the variables employed. Hence, the speed of adjustment of the model to long run equilibrium is measured by the coefficient of the first lag of the error correction term (ECT (-1)). The error correction term (-0.73) has the right a priori sign and it is statistically significant. Hence, the result of the ECT (-1) showed that 73% of the deviation of the variables in the short run will be restored in the long run within one year. The Durbin Watson statistic of 1.72 is approximately equal to 2, hence based on the rule of thumb, the study concluded there is no autocorrelation or serial correlation in the model.

The study based on the long run relationship form of the ARDL model revealed that 1% increase in monetary policy variables such as; monetary policy rate, exchange rate, inflation rate, money supply and

bank credit to private sector led to 57%, 71%, 54%, 45% and 37% decrease in balance of payment in Nigeria. This implied that an increase in monetary policy rate led to decline in BOP in Nigeria. An increase in exchange rate led to decline in BOP in Nigeria. The increase in inflation rate resulted to decline in BOP in Nigeria. Also, the increase in money supply brought about decrease in BOP. Finally, the rise in bank credit to private sector also resulted to fall in BOP in Nigeria within the study period.

4.4. Diagnostic Test for the Long Run Model

Table 4.4.1. Ramsey RESET Test

	Value	Df	Probability
t-statistic	1.549	13	0.145
F-statistic	2.401	(1, 13)	0.145
Likelihood ratio	5.085	1	0.024

Source: Researcher's Computation, 2021

From table 4.4.1, since the probability value of the Ramsey RESET test is greater than 0.05, we accept the null hypothesis and reject the alternative hypothesis and conclude that there is no specification error in the long run model for objective one and two in Nigeria.

Table 4.5. Serial Correlation Test

F-statistic	9.300	Prob. F(2,12)	0.089
Obs*R-squared	12.524	Prob. Chi-Square(2)	0.061

Source: Researcher's Computation, 2021

From table 4.5, since the probability value of the serial correlation LM test which is (0.0619), is greater than 0.05, we accept the null hypothesis and reject the alternative hypothesis and conclude that there is no serial correlation in the long run model for objective one and two in Nigeria.

Table 4.6. Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.874	Prob. F(15,14)	0.601
Obs*R-squared	14.508	Prob. Chi-Square(15)	0.487
Scaled explained SS	6.468	Prob. Chi-Square(15)	0.970

Source: Researcher's Computation, 2021

From Table 4.6, since the probability value of the heteroskedasticity test which is 0.4874 is greater than 0.05, we accept the null hypothesis and reject the alternative hypothesis and conclude that there is no heteroskedasticity in the long run model for objective one and two in Nigeria. For the observed collinearity, this study adopts the solution offered by Gujarati (2009) to do nothing.

5.1. Conclusion

The study empirically examined monetary policy and balance of payment in Nigeria. Based on the findings, the study concluded that an increase in monetary policy variables such as; monetary policy rate, exchange rate, inflation rate, money supply and bank credit to private sector had significant negative impact on balance of payment in Nigeria. This implied that increase in monetary policy variables such as; monetary policy rate, exchange rate, inflation rate, money supply and bank credit to private sector led to decrease in balance of payment in Nigeria within the study period. Based on the findings, the study concluded that monetary policy rate as one of the monetary policy variables had significant negative effect on balance of payment in Nigeria.

5.2. Policy Implications of the Findings and Policy Recommendations

The results of the study have some policy implications which when adopted would go a long way in increasing the growth rate of Nigerian. The result shows that: Increasing monetary policy rate in the Nigerian economy implies decline in Balance of payment. The policy implication of the finding is that a contractionary monetary policy through increase in monetary policy rate would worsen the balance of payments. This in turn causes disequilibrium in the balance of payment as contractionary policy does not maintain short-term monetary policy rate lower than usual rate. The study thus recommended that government of Nigerian should ensure that the amount of Contractionary monetary policy is reduced to

maintain short-term monetary policy rate than usual rate towards achieving favourable balance of payment in the Nigerian economy.

References

Alawode, A. A. (1997). Some Criticisms of the Monetary Approach to the Balance of Payments. *Economia Internazionale/International Economics Camera di Commercio Industria Artigianato Agricoltura di Genova, 50(1): 13-25.*

Ditimi, A., Wosa, P. I. and Olaiya, S. A. (2011). An Appraisal of Monetary Policy and Its Effect on Macroeconomic Stabilization In Nigeria. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS), 2(3): 232-37.*

Fasanya, I. O., Onakoya, A. B. and Agboluaje, M. A. (2013). Does Monetary Policy Influence Economic Growth in Nigeria? *Asian Economic and Financial Review Journal, 3(5): 635-46.*

Gujarati, D. N. (2009). *Basic Econometrics.* New Delhi: Tata McGraw-Hill Education.

Imoughele, L. E. and Ismaila, M. (2015). Monetary Policy and Balance of Payments Stability in Nigeria. *International Journal of Academic Research in Public Policy and Governance, 2(1): 1-15.*

Iyoha, M. A. (1996). *Macroeconomics Theory and Policy.* Benin City: March Publishers.

Loto, M. A. (2012). Global Economic Downturn and the Manufacturing Sector Performance in the Nigerian Economy. *Journal of Emerging Trends in Economics and Management Sciences, 3(1): 38-45.*

Onuchuku, O., Chukueggu, C. C., Nenbee, S. G. and Wosu, C. (2018). 'Monetary policy and Nigeria's balance of payments', *Proceedings of ISER 128th International Conference, 16th-17th May 2018* (New York, USA).

Onwe, G. E. (2014). Monetary Policy and Balance of Payments In Nigeria: A Co-Integration Approach (1986-2012). *International Journal of Social Sciences and Humanities Reviews, 4(4): 175-84.*

Osisanwo, B. G., Maku, O. E., Ajkike, E. O. and Egwuonwu, E. (2015). Growth Effect of Balance of Payments and Monetary Policy In Nigeria, 1980 – 2013: A Time Series Analysis. *Global Journal of Management and Business Research; Administration and Management, 15(8): 36-46.*

Saibu, O. M. and Apanisile, O. (2013). A Bound Test Analysis of the Effects of Global Economic Shocks on Nigerian Economy: The Role of Fiscal and Monetary Policies (1960-2011). *Australian Journal of Business and Management Research, 2(12): 58-68.*

Soludo, C. C. (2003). Macroeconomic Adjustment, Trade and Growth: Policy Analysis Using A Macroeconomic Model of Nigeria. *AERC Research*:

Stock, J. H. and Watson, M. W. (1993). A Simple Estimator of Cointegrating Vectors in Higher Order Integrated System. *Economometrica, 61: 783-820.*

Tijani, J. O. (2014). Empirical Analysis of Balance of Payment Adjustment Mechanisms: Monetary Channel In Nigeria, 1970-2010. *Mediterranean Journal of Social Sciences, 5(14): 67-76.*

Udude, C. C. (2015). Monetary Policy and Balance of Payments In Nigeria, 1981- 2012. *Journal of Policy and Development Studies, 9(2): 14-26.*

Unaimikogbo, I. B. and Enoma, A. (2011). Exchange Rate Depreciation and Inflation in Nigeria (1986–2008). *Journal of Economic and Business, 28(1)*: