ASSESSING THE INFLUENCE OF MONETARY POLICY TOOLS ON EXTERNAL CREDIT - ECONOMIC GROWTH NEXUS IN NIGERIA

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Abstract

The Nigeria economy attracts abundance of foreign capital inflows and credit supply, as a result, an adverse external credit shock might bring a large decrease of external inflows due to global credit tightening, which may leave the domestic economy in deep recession. In this case, monetary policy tools may be preferred to stimulate investment. However, an important issue of concern in this study is, how does monetary policy mitigate the effect of external credit shocks on economic growth in Nigeria? Hence, in answering this question, it was imperative for the study to assess the influence of monetary policy on external credit and economic growth nexus in Nigeria. Using annual data covering thirty-six years for the period 1980-2015. The study adopted the neoclassical growth model and estimated the model using Autoregressive Distributed Lag (ARDL) approach. The study expressed that cash reserve requirement, which is credit policy easing is significant in growing the Nigerian economy, as compared to monetary policy rate. The implication of this is that, if credit policy easing is properly implemented, it could be efficient in offsetting adverse external credit shocks.

Keywords: Monetary Policy, Economic Growth, Capital Inflows, Credit Supply and Autoregressive Distributed Lag (ARDL).

1. INTRODUCTION

Financial sector plays a fundamental role in the growth and development of all economies of the world. Its effectiveness and efficiency in the performance of these roles depends largely on the level of development of the financial system, which intermediates between the surplus and the deficit units of the economy. As a result, financial sector is expected to bring the needed change in order to establish a modern financial

system that is capable of acting as a catalyst in allocating the economy`s savings in the most productive way among competing investment activities. An attempt at ensuring its soundness could have made the financial sector to be the likely most regulated and controlled sector of the Nigerian economy. Hence, like any other developing economy in Africa, financial sector in Nigeria has been faced with structural and institutional changes in form of different reforms and development measures. However, despite the fact that the sector has undergone series of reforms and other development actvities with the aim of strengthening the sector's ability to deliver efficient services, the sector is still facing certain issues: inefficiency in allocating enough funds to the real sector, lack of long-dated funding, decline in domestic credit by the banking sector to the private sector and a considerable liquidity mismatch in the Nigerian economy. Therefore, this sector which remains the major provider of the bulk of financial liabilities to the private sector is still vulnerable to credit supply shocks, which can be influenced by both domestic and external shocks.

In the same vein, sequel to the recent global economic and financial crisis, which had huge effects on several developing countries around the world. The deep domestic economic crises that have pervaded the African economies since early 1970s posed considerable challenges to policy makers and economists. At each turn of events, efforts are being made to design and implement appropriate policy response to these economic disequilibrium. No doubt, the Nigerian economy has witnessed periods of boom and also recessions. For instance, in the 1970s, the economy expanded due to large inflow of crude oil income and by the period 1981-1985, at the wake of the falling oil revenue, the economy declined, given way to a rapid deterioration of the living standard of Nigerians. The subsequent periods were not too different as the consequences of the preceding period dragged into the following periods. Various macroeconomic indicators point to the grave economic situations. In particular, there were sharp fluctuations in the gross domestic product (GDP), chronic fiscal deficit, remarkable fluctuations in inflation rates, unemployment rate, growing size and composition of government expenditure and slow growth of the domestic production.

According to Alege (2008), these outcomes can be traced to multiplicity of exogenous and endogenous factors (shocks) which in the case of Nigeria could have combined to generate economic fluctuations. Among these shocks are: crude oil price shock resulting in economic boom of the early 1970s, low crude oil demand shock that led to world recession following the 1979 increases in oil prices, stochastic shocks resulting from inappropriate policy response to observed economic trend, terms of trade shocks resulting from currency over-valuation; changes in economic structure, institutional shocks engendered by transition from state controlled economy to market-based economy and unanticipated foreign and domestic debt shocks which create financial short falls in the execution of socio-economic developmental programmes.

It is evident that managing an economy, plagued by a multitude of shocks requires effective management tools given the policy options available. Thus, attempts by successive governments in Nigeria to reverse the adverse economic outcomes on the welfare of the citizenry through various macroeconomic policies including: fiscal, monetary, trade and income. The objectives of these policies were laudable as they were directed at full employment, price stability, high and sustainable rate of economic growth and balance of payments equilibrium. However, short-run gains at the expense of long-run growth coupled with inaccurate and inadequate data base could have accelerated economic fluctuations in Nigeria. Therefore, efforts to correct these fluctuations by the successive federal authorities must have prompted them to adopt various economic policy measures including Stabilization Policy, 1981- 1983, Structural Adjustment Programme (SAP), 1986-1992; Medium Term Economic Strategy, 1993-1998; National Economic Empowerment and Development Strategy, 1999-2007 and other successive Economic Reforms, on the basis that such policy actions can promote economic growth in the long run. This was eventually the driving force behind various financial policy reforms of the financial sector in Nigeria.

While these developments are still going on, there is still negligence of a possible influence of structural changes of the external economy, potential dynamic and long run impact of monetary policy tools on Nigerian economy. This is because, credit policy easing through monetary policy tools could play a significant role which other policy measures may not play during a global credit crisis. For instance, with Nigeria attracting abundance of foreign capital inflows and credit supply, an adverse external credit shock might bring a large decrease of external inflows due to global credit tightening, which may leave the domestic economy in deep recession. In this case, monetary policy tools may be more preferred to stimulate investment. However, an important issue of concern in this study is, how does monetary policy mitigate the effect of external credit shocks on economic growth in Nigeria? Hence, in answering this question, it was imperative for the study to assess the influence of monetary policy on external credit and economic growth nexus in Nigeria.

In achieving this task, this paper is divided into six sections. Section one, form the introduction part of the

study, the second section is the brief literature review, the third section expresses the model specification, section four focuses on the estimation technique, section five focuses on the empirical results and discussion of findings, while section five centers around summary and the final section focuses on policy implications and conclusion.

2. BRIEF LITERATURE REVIEW

In the reviewed literature in Nigeria, although many studies assessed the relationship between credit shocks and economic growth, but different sample periods and choice of variables gave different results. Also, several of these studies did not account for the effect of the external credit shocks which has a major role to play in economic growth. For example, Akpansung and Babalola (2010) examines the relationship between banking sector credits and economic growth in Nigeria with the sample period of 1970 to 2008. Granger causality test and two-stage least squares techniques were employed to empirically examine this relationship. They find a unidirectional relationship between GDP and private sector credits as well as industrial production index and GDP. Their empirical results showed that private sector credit impacted positively on economic growth, while lending rate had a negative effect on growth. Even though the study suggests more credit to be allocated to the private sector with minimal interest rate to enhance economic growth, the study did not account for the fact that increase in money supply without effective policy initiative can trigger inflation.

Onuorah and Anayochukwu (2013) investigates the relationship between bank credit and economic growth between 1980 and 2011 using the VAR model and causality test. They find that all the variables are integrated of order one and that a long run relationship exists amongst the variables in the study. The study also shows that a unidirectional relationship exist amongst all the measures of bank credits and GDP with the direction of causality running from GDP to total production, bank credit, total general commerce bank credit, total services bank credit and other banks credit. The result shows that a short run relationship exists between measures of bank credits and GDP. Hence, the study recommends supervision of banks and the total over haul of the bank credit activities to encourage new investors and to stimulate economic growth. There are still controversies surrounding stationarity test when using VAR, while the study failed to demonstrate the impulse response function, basing their findings only on VAR which is atheoretic, might have biased the results.

Yakubu and Affoi (2013) analyze the impact of commercial banks credits on economic growth in Nigeria using Ordinary Least Square within the period 1992 to 2012. They discover that commercial bank credits had significant effect on economic growth in Nigeria and therefore, recommend that better and stronger credit culture be promoted and sustained, among others. Similarly, Balago (2014) examines the relationship between financial sector development and economic growth in Nigeria using time series data from 1990 to 2009 and various econometric techniques. He finds that development in financial sector variables like banking sector credits; total market capitalization and foreign direct investment positively affect economic growth. The sample period of less than 30 years as used by Yakubu and Affoi (2013) and Balago (2014) when not using ARDL co-integration approach might have biased their findings under valid econometrics assumptions.

Emecheta and Ibe (2014) investigates the impact of bank credits on economic growth in Nigeria between 1960 and 2011 using reduced form of vector autoregressive (VAR) technique. The results show that bank credits to the private sector and broad money were positively related with economic growth within the period of study and were also significant. According to the study, the behaviour of the other explanatory variables was relevant in forecasting the trend of economic growth, this means that bank consolidation and recapitalization exercise was a welcome development. Therefore, further steps should be taken to ensure the stability of the banking sector. Akujuobi and Chimaijemr (2012) investigates the effect of commercial bank credit to the sub-sectors of the production units on growth within the period 1960 to 2008. They find that there is a long run relationship amongst the variables. More so, the study revealed that credits to agriculture, forestry and fishery, manufacturing, as well as real estate and construction are inversely related with growth and also insignificant. Credit to the mining and quarrying sub-sector has significant positive effect on growth. According to their inferential results, there exist a weak and strong significant relationship between commercial bank and merchant bank lending on economic growth.

Akujuobi and Chimaijemr (2012) and Fapetu and Obalade (2015) made significant attempt to examine the impact of sectoral credits allocation on economic growth. While, the study by Akujuobi and Chimaijemr adopted co-integration approach and also considered the impact of merchant bank lending in their study within the period 1960 to 2008, Fapetu and Obalade (2015) segmented the impact of these credit periods of intensive regulation, deregulation and guided deregulation regimes between 1960-1985, 1986-1995 and

1996-2010 respectively, using Ordinary Least Square method. Against this background, this study adopts a multivariate model framework called Autoregressive Distributed Lag (ARDL) approach, as proposed in Pesaran, Shin and Smith (2001) to assess the influence of monetary policy on external credit and economic growth nexus in Nigeria.

3. MODEL SPECIFICATION

To achieve the objective of the study which is to assess the influence of monetary policy on external credit and economic growth nexus in Nigeria, using annual data covering thirty-six years for the period 1980-2015. The study adopts Autoregressive Distributed Lag (ARDL) approach. This approach is also called Bounds test as proposed in Pesaran *et al.* (2001). This cointegration test is more reliable as compared to Johansen and Juselius (1990), as it does not pose a strict classification of regressors to be of the same order of integration. Following Pesaran *et al.* (2001), the study characterized the production function for the general framework for the ARDL model as:

$$rgdp_t = f(kap_t, lfpr_t, mpr_t, crr_t, tsoc_t, tfoc_t) \quad (1)$$

where $rgdp$ represents the Nigerian real GDP growth rate, kap is capital input, $lfpr$ is labour force participation rate, which is labour input, mpr is monetary policy rate, crr is cash reserve requirement, $tsoc$ is total stock of external credit to Nigeria and $tfoc$ represents total flow of external credit to Nigeria. Although, analyzing the influence of some other variables including financial depth and institutional development could be interesting, but quality and reliable data from World Development Index and Nigerian Statistical Bulletin on the series of the variables used proved sufficient. Hence, from the above equation (1), the explicit form of the specification can be written as an Autoregressive Distributed Lagged, ARDL [p,q,r,s,v,w,x] model such as:

$$\Delta \ln rgdp_t = a_0 + \sum_{i=0}^{p} a_{1i} \Delta \ln rgdp_{t-i} + \sum_{i=0}^{q} a_{2i} \Delta \ln kap_{t-i} + \sum_{i=0}^{r} a_{3i} \Delta \ln lfpr_{t-i} + \sum_{i=0}^{s} a_{4i} \Delta \ln mpr_{t-i} + \sum_{i=0}^{v} a_{5i} \Delta \ln crr_{t-i} + \sum_{i=0}^{w} a_{6i} \Delta \ln tsoc_{t-i} +$$

$$\sum_{i=0}^{x} a_{7i} \Delta \ln tfoc_{t-i} + c_1 \ln rgdp_{t-i} + c_2 \ln kap_{t-i} + c_3 \ln lfpr_{t-i} + c_4 \ln mpr_{t-i} + c_5 \ln crr_{t-i} + c_6 \ln tsoc_{t-i} + c_7 \ln tfoc_{t-i} + \varepsilon_t \ldots (2)$$

where Δ is the first difference operator and $\ln$ is for the natural logarithm of the respective variables in the model. From equation (2), it was tested if $\ln rgdp$ is co-moving with the regressors. In the ARDL model, the study tested if real GDP growth rate is co-moving with the independent variables. To test for the absence of a long run relationship between $\ln rgdp$ and the regressors, the study restricted the coefficients of $c_1, c_2, c_3, c_4, c_5, c_6$ and c_7 to be zero against the alternative by conducting a restricted F-test. Therefore, the null and alternative hypotheses are expressed as follows:

$H_0 : c_1 = c_2 = c_3 = c_4 = c_5 = c_6 = c_7 = 0$ (no long run relationship between $\ln rgdp$ and the regressors)

$H_1 : c_1 \neq c_2 \neq c_3 \neq c_4 \neq c_5 \neq c_6 \neq c_7 \neq 0$ (there is long run relationship between $\ln rgdp$ and the regressors)

Drawing from Pesaran *et al.* (2001), the asymptotic distribution of the test statistics are non-standard irrespective of whether the variables are integrated of order (0) or integrated of order (1). As a result of this, they computed two sets of asymptotic critical values where the first sets assumes variables to be I(0) and the other I(1) which are regarded as lower bounds (LCB) and upper bounds (UCB) critical values respectively. Decisions on whether cointegration exists between $\ln rgdp$ and its regressors were then made based on the following criteria:

Computed F-statistics > UCB: Reject the null hypothesis

Computed F-statistics < LCB: Fail to reject the null hypothesis

Computed F-statistics value between LCB and UCB: Results are inconclusive

Once there is an evidence of cointegration among the variables, then $\ln rgdp$ and its regressors have a stable long-run relationship. As a result, the study used the two-step strategy of the ARDL approach as proposed in Pesaran and Shin (1997) to estimate the long and short run coefficients (elasticities) of the

specified model. Hence, the long run estimation follows this ARDL [p,q,r,s,v,ww,x] model:

$$\ln rgdp_t = a_0 + \sum_{i=0}^{p} a_{1i} \ln rgdp_{t-i} + \sum_{i=0}^{q} a_{2i} \ln kap_{t-i} + \sum_{i=0}^{r} a_{3i} \ln lfpr_{t-i} +$$

$$\sum_{i=0}^{s} a_{4i} \ln mpr_{t-i} + \sum_{i=0}^{v} a_{5i} \ln crr_{t-i} + \sum_{i=0}^{w} a_{6i} \ln tsoc_{t-i} + \sum_{i=0}^{x} a_{7i} \ln tfoc_{t-i} + \delta_t ...(3)$$

Constructing an Error Correction Mechanism (ECM) of the above equation to derive the short-run elasticities:

$$\Delta \ln rgdp_t = a_0 + \sum_{i=0}^{p} a_{1i} \Delta \ln rgdp_{t-i} + \sum_{i=0}^{q} a_{2i} \Delta \ln kap_{t-i} + \sum_{i=0}^{r} a_{3i} \Delta \ln lfpr_{t-i} + \sum_{i=0}^{s} a_{4i} \Delta \ln mpr_{t-i} +$$

$$\sum_{i=0}^{v} a_{5i} \Delta \ln crr_{t-i} + \sum_{i=0}^{w} a_{6i} \Delta \ln tsoc_{t-i} + \sum_{i=0}^{x} a_{7i} \Delta \ln tfoc_{t-i} + \psi ECM_{t-i} + \lambda_t ...(4)$$

Where the b`s are the elasticities relating to the short run dynamics of the convergence to equilibrium and ψ is the measure of the speed of adjustment. To estimate the model, the study used different lag length. To avoid the loss of degree of freedom, the maximum selection of lag did not exceed 3. The Akaike Information Criterion (AIC) was used to choose the appropriate lag length for the ARDL model.

4.1 Estimation Technique

As consistent with the literature, the application of Autoregressive Distributed Lagged (ARDL) requires absence of unit roots in variables (see Chandran and Krishnan, 2008). This assumption explains a position in standard regression analysis that all the variables being tested must be stationary. Hence, before regression analysis can be carried out on time series variables, test for stationarity must be done to avoid biased estimates and spurious results. On one hand, stationary series has a finite variance, transitory innovations from the mean and a tendency for the series to return to their mean value (Nkang, Abang, Akpan and Offem, 2006). That is a stationary series has a mean, variance and is constant over time.

On the other hand, a non-stationary series has a variance which is asymptotically infinite. That is, the series rarely crosses the mean and innovations to the series are permanent (Gujarati and Portal, 2009). Therefore, in order to check whether the variables are stationary or integrated of the same order, the Philip Peron (PP) was used, the test relies on rejecting a null hypothesis of unit root in favour of the alternative hypotheses of stationarity. Thus, if the null hypothesis of non-stationarity cannot be rejected, the variables are differenced until they become stationary. It is after this is done that we proceeded to test for co-integration. However, any variable in the equation that was not stationary at level was differenced once, in order for them to be stationary. The ability to difference series once in order to make them stationary means that co-integration is likely to exist among the variables. This study applies the Bounds test co-integration approach as proposed by Pesaran *et al.* (2001).

4.2 Cointegration Test

There are various estimation techniques identified in the macroeconomic literature that can be adopted to estimate co-integration relationship among variables. For instance, Engle and Granger (1987) is used for univariate co-integration analysis, while Johansen and Juselius (1990) and Johansen (1995) approaches can be used for multivariate cointegration analysis. However, this study adopted the ARDL-Bounds test approach popularized by Pesaran and Shin (1997) and Pesaran *et al.* (2001). The study used this methodology to estimate the specified models and empirically analysed the long run relationship and the dynamic interactions among the relevant variables. This approach, based on error correction model (ECM) technique involves estimating the ARDL model by Ordinary Least Square (OLS) in order to test for the existence of a long-run relationship among the relevant variables. This is done by estimating the ECM and testing whether the lagged levels of the variables in each equation are statistically significant or not.

This further explains, whether the null hypothesis of no long run relationship is accepted or rejected. To achieve this, a Wald test (which is related to F-statistics for Bounds-testing) for the joint significance of the lagged levels of the variables was performed, where the null hypothesis was tested against the alternative. According to Pesaran et al (2001) and Chandran and Krishnan (2008), if the F-statistics is above the upper critical value, the null hypothesis of no long-run can be rejected, irrespective of the integration order of the variables. Otherwise, if the statistics fall below the lower critical values, then the null hypothesis can be accepted. However, if the F-statistics falls between the lower and upper critical values, the result is

inconclusive. As a result of this, asymptotic distribution of the F-statistics is non-standard under the null hypothesis of no co-integration, whether the series are I(0) or I(1).

Once the long run relationship has been established, the next step is to estimate the long-run elasticities using an appropriate lag length. The common method used in practice when selecting an appropriate lag length is the information criteria. The three commonly used information criteria are: the Akaike information criterion (AIC), the Bayesian information criterion (BIC) and the Hannan-Quin information criterion (HQIC). This method involves sequentially increasing the lags from the smallest to the largest lag selected by the information criteria and using the lag-length that eliminates serial correlation in the residuals (Aziakpono, 2008). This assist in deriving the associated error correction in order to calculate the adjustment coefficients of the ECM. Therefore, the short-run effects of the ECM are captured by the coefficients of the first differenced variables in the ECM model.

5. EMPIRICAL RESULTS AND DISCUSSION OF FINDINGS

The estimation procedure began by conducting unit root test on the variables in the model. This enabled us to examine the time series property of the variables. There are several ways of testing for the presence of a unit root as proposed in macroeconomic literature. However, the study adopted the Phillips-Perron (PP) test. The PP test is sensitive to the structural change in the mean of a stationary variable which is captured in the test, in order to avoid bias in the usual unit root test towards non-rejection of the null of unit root (Phillips and Perron, 1988). Using the PP method, all the series became stationary at first difference I(1), as the series were not all stationary at level I(0). Table 5.1 below presents the summary of PP unit root test of the series.

Table 5.1: Unit Root @ 5 percent level of significance with constant

Variable	Log Level				Log First Difference			
	PP Observed Values	PP Critical Values	Order of Integration	Remark	PP Observed Values	PP Critical Values	Order of Integration	Remark
Lrgdp	-14.186	-12.500	**I(0)**	**Stationary**	26.571	-12.500	**Stationary**	**I(1)**
Ltsoc	-8.529	-12.820	I(0)	Non-Stat.	-24.989	-12.788	**Stationary**	**I(1)**
Lmpr	-11.367	-12.788	I(0)	Non-Stat.	-38.346	-12.756	**Stationary**	**I(1)**
Lcrr	-19.442	-12.820	**I(0)**	**Stationary**	-32.905	-12.788	**Stationary**	**I(1)**
Lrer	-2.0875	-2.9484	I(0)	Non-Stat.	-4.3122	-2.9511	**Stationary**	**I(1)**
Lkap	-3.569	-12.788	I(0)	Non-Stat.	-22.844	-12.756	**Stationary**	**I(1)**
Llfpr	-5.214	-12.788	I(0)	Non-Stat.	-24.100	-12.756	**Stationary**	**I(1)**

Note: The optimal lag length was chosen using Newey-West (1994) automatic lag selection, and Non-Stat. = Non-Stationary

Source: Authors computation using Stata 12.0

The results as indicated in the table 5.1 shows that, not all the variables were stationary at levels since the absolute values of the PP test did not exceed the critical value at 5 percent level of significance except for $ltfoc, lcrr$ and $lrgdp$, but same became stationary at first differencing, which is the main procedure for using Autoregressive Distributed Lag (ARDL).

5.1. Cointegration test using bounds test approach

Having conducted the unit root test as indicated in the previous sub-section, the study rests on the assumption that the variables are I(0) and I(1) as indicated in table 5.2. Hence, to estimate the bounds test model, appropriate maximum lag length of 2 was chosen to avoid loss of degree of freedom. The lag length was chosen using Akaike Information Criterion (AIC). Based on the bounds test result in table 5.2, the

computed F-statistic of 7.22 exceeds the upper-bound critical value of 3.61 at 5 percent significance level. This indicates the rejection of the null hypothesis of no cointegration between $lrgdp$ and the regressors. This established the fact that there is a strong indication that $lkap, llfpr, lmpr, lcrr, ltsoc$ and $ltfoc$ serves as the long run forcing variables in explaining the growth of the Nigerian economy.

Table 5.2: Cointegration test based on bounds test

Test Statistic	Value	K		
F-statistic	7.221392	6		
Critical Value Bounds				
Significance	I0 Bound	I1 Bound		
10%	2.12	3.23		
5%	2.45	3.61		
2.5%	2.75	3.99		
1%	3.15	4.43		

Source: Author`s computation using E-views 9

5.2 Estimated Long run coefficients using ARDL approach

Table 5.3 shows the estimated long-run coefficients for Autoregressive Distributed Lag (ARDL) model. In the long run, capital input (KAP) at 10.33 t-Statistic value, was found to have a positive value on the economic output of Nigeria. This higher contribution of capital is not surprising given that both the government and the private sectors are now investing in modern technology and infrastructure to improve productivity. In the same vein, labour force participation rate (LFPR) which is used to measure labour input has a significant negative impact on the economic output with a value of -3.70 at 5 percent level of significance. Monetary policy rate (MPR), was found to be positively related to economic growth, but is not statistically significant. While, cash reserve requirement (CRR) is positively and statistically significant at 1.97. The contribution of total stock of credit (TSOC) towards economic growth is positive and statistically significant at 5 percent level of significance. This is unlike total flow of credit (TFOC), which has a negative impact on economic output, but was statistically significant. This could be as a result of the inability of the economy to channel credit inflow to productive sector, while much additional credit inflow may not benefit the economy in the long run.

Table 5.3 : Estimated Long Run Coefficients @ 5 percent level of significance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(KAP)	1.117323	0.108196	10.326848	0.0000
LOG(LFPR)	-64.719322	17.450040	-3.708835	0.0100
LOG(LMPR)	0.078795	0.883909	0.089144	0.9319
LOG(CRR)	0.591486	0.315713	1.973493	0.1001
LOG(TSOC)	0.975861	0.360047	2.710374	0.0351
LOG(TFOC)	-0.490972	0.155810	-3.151087	0.0198
C	224.159264	65.074763	3.444642	0.0137

Source: Author`s computation using E-views 9

In table 5.4, the statistically significance of the ECM at -0. 13, confirms the presence of long run equilibrium between economic growth and the independent variables namely KAP, LFPR, LMPR, CRR, TSOC and TFOC. This also confirms the previous ARDL cointegration analysis results. It is found out that the ECM value is between 0 and -1 and is statistically significant at 5 percent level of significance. This implies that, error correction mechanism converges to the equilibrium path slowly.

Table 4: Autoregressive Distributed Lag (ARDL) – ECM

Variable	***Coefficient***	***Std. Error***	***t-Statistic***	***Prob.***
DLOG(RGDP(-1))	-0.529857	0.223132	-2.374637	0.0552
DLOG(RGDP(-2))	-0.389578	0.179828	-2.166392	0.0734
DLOG(KAP)	0.077508	0.041338	1.874994	0.1099
DLOG(KAP(-1))	0.046005	0.033796	1.361257	0.2223
DLOG(KAP(-2))	-0.111478	0.042964	-2.594678	0.0410
DLOG(LFPR)	3.299557	1.296022	2.545912	0.0437
DLOG(LFPR(-1))	4.556530	2.015643	2.260584	0.0645
DLOG(LMPR)	-0.017426	0.049759	-0.350205	0.7382
DLOG(LMPR(-1))	0.125397	0.064866	1.933163	0.1014
DLOG(LMPR(-2))	-0.128049	0.052638	-2.432619	0.0510
DLOG(CRR)	-0.120602	0.042981	-2.805908	0.0309
DLOG(CRR(-1))	-0.054696	0.024652	-2.218691	0.0683
DLOG(CRR(-2))	0.049811	0.022764	2.188153	0.0713
DLOG(TSOC)	0.127117	0.027112	4.688589	0.0034
DLOG(TSOC(-1))	0.055343	0.035268	1.569213	0.1676
DLOG(TFOC)	-0.013196	0.003019	-4.370914	0.0047
DLOG(TFOC(-1))	0.014597	0.005797	2.517872	0.0454
DLOG(TFOC(-2))	0.014740	0.005642	2.612487	0.0400
Ecm_{t-1}	-0.131089	0.038895	-3.370314	0.0150
Ecm_{t-1} = LOG(RGDP) - (1.1173*LOG(KAP) -64.7193*LOG(LFPR) + 0.0788 *LOG(LMPR) -0.5915*LOG(CRR) + 0.9759*LOG(TSOC) -0.4910 *LOG(TFOC) + 224.1593)				

R-squared	0.967320	Mean dependent var	0.050193
Adjusted R-squared	0.831152	S.D. dependent var	0.035574
S.E. of regression	0.014618	Akaike info criterion	-5.662151
Sum squared resid	0.001282	Schwarz criterion	-4.471240
Log likelihood	116.5944	Hannan-Quinn criter.	-5.267398
F-statistic	7.103872	Durbin-Watson stat	2.248597
Prob(F-statistic)	0.010728		

6. POLICY IMPLICATIONS AND CONCLUSION

As expressed in the introduction part, credit policy refers to the direct increase of the quantity of domestic bank credit through cash reserve requirement. This is different from conventional monetary policy rate. While credit policies have the tendency of increasing the quantity of credit and stimulate investment in the economy, they might as well cause liquidity problem for financial institutions with low excess reserves, which could trigger a problem of moral hazard and increases non-performing loans. Although, western Central Banks rarely alter the required reserve ratio due to liquidity problem (Elekdag and Han, 2015), this method is popularly used by the Nigerian monetary authority to check inflationary tendencies, due to varying degree of deposits held by the Commercial banks. As a result, credit policy easing could play an important role, as compared to monetary policy rate during a global economic crisis.

The Nigerian economy like any other emerging economy, attracts abundant foreign investments: including portfolio and foreign direct investment. In the case of an adverse credit shock emanating from their foreign trade and financial partners, there could be a sudden stop or huge reduction of foreign investments in an economy (see Calvo, Izquierdo and Mejia, 2004) or large capital outflows due to global credit tightening, which may leave the host economy in recession, as experienced by many economies during the last global

financial crisis. As a result of this, interest rate policies might not work well, simply because, if the monetary authority tries to stimulate investment by lowering monetary policy rates, there could be larger capital outflows. On the other hand, if the monetary authority eases the credit policy through cash reserve requirement, this can reduce credit constraint and expand domestic credit supply. These would make up for the decreased external capital and stimulates investment, leaving the domestic economy less affected. Likewise, when the economy is overheating, the monetary authority could restrict quantity of credit quantity supplied.

As clearly shown in the analysis, cash reserve requirement, which is credit policy easing is significant in growing the Nigerian economy, as compared to monetary policy rate. However, stakeholders should be rather cautious in implementing the suggested credit policy easing. Directly increasing the quantity of credit, might be associated with the problem of moral hazard. For instance, Nigeria commercial banks are often accused of having large amount of non-performing loans. Hence, it would be imperative for the regulatory authority to concentrate more on their oversight functions, so as to help financial institutions improve their management and risk evaluation. Nevertheless, in the period of economic crises, if credit policy easing is properly implemented, it could be effective to offset adverse external credit shocks.

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