

Private Domestic Investment, Domestic Credit To The Private Sector And Economic Performance: Nigeria In Perspective.

Adelegan Abiodun Edward

Department of Economics & Development Studies, Faculty of Social Sciences, Federal University, Otuoke, Nigeria.

Corresponding Author: Abiodun Edward Adelegan

Abstract: *This study examines the dynamic linkages between domestic investment, domestic credit to the private sector and gross domestic product (GDP) in Nigeria over the period of 1970 to 2015. The main objective of the study is to provide an empirical framework for understanding the interactions between private domestic investment, domestic credit to the private sector and their impacts on the real sector. The Vector Autoregressive (VAR) model and its accessories of impulse response functions (IRFs) and variance decomposition composition (VDC) were applied to analyse the annual data.*

Having confirmed the long run relationship among the specified variables with Johansen co-integration test, the underlying theoretical expectations were used to identify the parameters and shocks of the structural model. On the basis of batteries of tests carried out, empirical findings indicate that the relationship between growth and domestic credit to the private sector is positive and insignificant. Also, our results show that increase in PLR reduces output for the period under study, but this was not statistically significant. In addition, the relationship between PDI and PDI is positive but statistically insignificant. Finally, the negative relationship between exchange rate and private domestic investment suggests that the appreciation of the real exchange rate discourages domestic private investment. On the basis of the above findings, the following recommendations are made. The macroeconomic management policies should be enhanced and better coordinated. Specifically the foreign exchange market should be stabilized. The wide disparity between the official and parallel market is damaging the economy and sending wrong signals to both private and local investors. The government should not leave the foreign exchange market to the vagaries demand and supply. The government should periodically intervene in the market when things are getting out of hand as it is present. Monetary and fiscal policies should be better coordinated to ensure that macroeconomic fundamentals are moving in the right direction.

Keywords: *Causality, Domestic Credit to Private Sector; Private domestic investment and economic growth.*

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I Introduction

At independence in 1960, the Nigerian economy took off with a large public sector led growth model however, when the strategic importance of crude oil came to the fore the private sector began to emerge gradually from the 1970s after the surge in crude prices as a result of the blockage mounted on the flow of oil to Western Europe and America by Arabs as a follow out from the Israel- Arab war of 1973. The development plans of 1970-1974 and 1975-1980 really supported the emergence of vibrant private sector in Nigeria. Between 1960 and 1985, the Nigerian economy was on a regulatory mode regime and from 1986 till now, on the one hand the economy has been deregulated and in accordance with the Smithsonian doctrine of less government and more private sector. The economy has been running on auto pilot spirit in the context of neoclassical economics. Presently, the Economic Growth and Recovery plan of the present administration is couched on the neoclassical ideology of private sector led economy. The plan addresses many issues including domestic investment. A look at the trend of Gross Domestic Product (GDP) is an evidence of private sector's contribution to the economy. The resource gap between savings and domestic investment is steadily increasing for instance, private investment declined from 12.3% of GDP in 1991 to 8.3% of GDP in 1992. It increased to 12.3% in 1993 and to 16% in 1994. It later fell to 8.9% in 1996. Between 2001 and 2005, the ratio averaged 13%; it peaked at 16.2% in 2002 and fell again to 12% in 2005 CBN (2015). Undeniable evidence that proves that developed countries attained their heights through among other indices, a vibrant and dynamic private sector abounds for instance, Igweike (2006) stated that the private sector accounts for '80% of the total workforce' in the United States of America.

On the other hand, the role of finance in economic development has been an ongoing debate since the works of Schumpeter (1911) who advocated for finance-led growth. The financial sector performs the intermediation role of channeling savings into productive investment. The works of Uremadu (2006), Adegbite

and Owualla (2007) supported the idea of that developing countries should rely on domestic investment rather than on foreign direct investment (FDI) in growing the economy. The government has put in place a plethora of trade and other macroeconomic reforms to promote domestic private investment yet stellar performance has not been recorded thus far. From the foregoing analysis, it has become imperative and expedient to shed more light on the relationship between private domestic investment, credit to the private sector and economic growth. Against this background, the objective of the study is to examine the impact of private domestic investment, credit to the private sector on economic growth in Nigeria. For us to provide answers to the following questions; has increase in private domestic investment increased economic growth in Nigeria? What is the relationship between credit to the private sector and economic growth? It is in answering the aforesaid questions that necessitated this study. Following this section, the rest of the paper is divided into four sections. Section 2 contains conceptual framework and empirical literature; section 3 highlights empirical methodology and estimating techniques, section 4 presents empirical results based on VAR analysis, while section 5 concludes the study.

II Conceptual Framework And Literature Review.

In this section, we shall briefly but clearly define and examine the basic concepts that are germane to the study. In addition, a review of extant literature shall be undertaken. Olowofeso, Adeleke and Udoji (2015) defined credit to the private sector as financial resources provided to the private sector, such as loans and advances, purchases of non-equity securities, trade credits and other accounts receivable, which establish a claim for repayment. From this perspective, credit can be viewed from two point view; trade or commercial credit and banking system credit. Freear (1980) opines that trade credit refers to transactions which involve the supplier handing over goods or performing a services without receiving immediate payment. In this study, our funds is on banking system credit to the private sector which is essentially about direct provisioning of loans and overdrafts to the private sector by institutions, such as deposit money banks, non-interest banks and merchant banks in Nigeria. Economic growth according to Olowofeso, Adeleke and Udoji (2015) is the endless improvement in the capacity to satisfy the demand for goods and services, resulting from increased production sale and in prove productivity which is usually measured over a certain period of time. Long term growth is driven mainly by productivity. According to Krugman (1994), “productivity isn’t everything, but in the long run it is almost everything”.

Fawehinmi (2013) empirically examined the economic implication of interest rate policy on private domestic investments in Nigeria using time series data which spanned 1980 to 2010. The study, which used an error correction mechanism, precipitated results which are in tandem with the findings of existing literature that private investments has a stronger and more favourable effect on growth than public investments. The findings of Fawehinmi’s study support the need for the government to reduce the interest rate within the economy so as to give a boost to private sector participation in domestic investments. Rama (1990) cited in Fawehinmi (2013) carried out an empirical investigation of the theoretical and empirical determinant of private investments in developing countries. Rama (1990) identified “macroeconomic and institutional factors such as financial repression, foreign exchange shortage, lack of infrastructure and economic instability as important variables that explain private investments”.

Tan and Tang (2011) examined the dynamic relationship between private domestic investments (PDI), the user cost of capital, and economic growth in Malaysia over the period of 1970 to 2009. Their study found out that there is a bidirectional causal relationship between economic growth and the user cost of capital in the long run. Meanwhile, there is a strong evidence of bidirectional causality between PDI, economic growth, and the user cost of capital in the short run. Finally, the impulse response function confirmed that a shock in the user cost capital exerts a negative effect on PDI and economic growth in Malaysia.

Mushim and Eric (2000) analyzed financial development and economic growth in Turkey. Their study found that when bank deposit, private sector credit or domestic credit ratios are alternatively used as proxies for financial development: causality runs from economic growth to financial development. They concluded that growth seems to lead financial sector development.

Hiang (2007) employed the Generalized Method of Moment (GMM) technique to empirically examine the relationship between banking sector, development and economic growth in 29 Chinese provinces over the period 1990-2001. Empirical results showed that, without an effective and well-developed legal system, banking sector development only partially contributed to China’s economic growth.

Prakash (2009) studies the finance and economic growth nexus in India using co-integration, the study found the presence of long-run equilibrium relationship between financial development and economic growth. In the same work, using of Granger causality test, an existence of bi-directional relationship between bank credit and economic growth was found.

Eataz and Malik (2009) examined the role of financial sector development in economic growth; the study reported that domestic credit to the private sector is instrumental in increasing per worker output and

hence promoting economic growth in the long run. The works of Levine (2004), Franklin and Wura (2004) also lend credence to the presence of long-run relationship between bank credit and economic growth. Odedokun (1989) tested the causality between financial variables and economic development, the study found a rather weak unidirectional causality from the GDP to the broader money when Sims's procedures were used and contrary estimates for Granger causality.

Akpanung and Babalola (2012) employed Granger causality and a two-stage least squares (TSLS) estimation technique to examine the relationship between banking sector and economic growth in Nigeria over a period of 1970-2008. The results reported that private sector credit impacts positively on economic growth over the period of coverage in the study. The paper recommended the need for more financial market development that favours more credit to the private sector in order to stimulate economic growth. In summary, the above review of related studies indicated mixed results and conclusions. Therefore, the causal relationship between private domestic investment, financial availability from the banks to the private sector and economic growth is still undergoing debates in literature. This study seeks to contribute to the debate using available data from the Nigerian economy.

THEORETICAL FRAMEWORK AND METHOD OF STUDY

Economic literature on investment growth theories such as Harold-Domar and Neo-classical theory treated investment as a major determinant of economic growth. This study adopts the classical tradition in the context of the Cobb-Douglas model by introducing the private domestic investment variable in the equation instead of capital stock to investigate the effect of investment on economic growth.

Capital, labour and technology are fully recognized by the classical theory as sources of growth and the proportion of each variable can be identified through the Cobb-Douglas production function given below;

$$Y = AK^\alpha L^{1-\alpha} \text{-----(4.1)}$$

Where α is the share of capital and $(1-\alpha)$ is the share of labour. This equation can be rewritten as:

$$\frac{\delta y}{Y} = \frac{\delta A}{A} + \alpha \frac{\delta K}{K} + (1 - \alpha) \frac{\delta L}{L}$$

That is to say, the rate of growth in GDP can be determined by the rate of growth in A, K and L. Equation (4.2) can be stated as follows:

$$\frac{\delta y}{Y} = \frac{\delta A}{A} + \frac{\alpha 1}{Y} + \frac{(1 - \alpha)}{L}$$

Given that $\frac{\delta A}{A}$ reflects the residual part of the basic equation, the equation becomes;

$$\text{GDP growth rate} = \frac{\alpha 1}{Y} + \alpha_2 L + e \text{-----(4.3)}$$

Where: α_1 is the capital value of production
 α_2 is the share of the value of production and
 e is the error term.

III Method Of Analysis

4.1 Data and Methodology

The model for this study was adapted from Tanoiri (2010) as well as Kalu and Mgemena (2015) with slight modification by the inclusion of two variables on monetary and fiscal policy respectively. The model of our study is specified below:

$$\ln \text{RGDP} = \beta_0 + \beta_1 \ln \text{PDI} + \beta_2 \ln \text{CPS} + \beta_3 \ln \text{PEX} + \beta_4 \ln \text{EXR} + \beta_5 \ln \text{PLR}$$

Where RGDP = Real GDP

PDI = Private Domestic Investment

CPS = Credit to the Private Sector

PEX = Public Expenditure and

EXR = Exchange Rate

PLR = Prime Lending Rate

$\beta_1, \beta_2, \beta_3$ are expected to have positive signs while β_4 is expected to be negative

The data for these variables were sourced from the Central Bank of Nigeria Statistical and Nigerian Bureau of Statistics. We assume that the logarithmic linear relationship of equation can be transformed to interpret the coefficients of the explanatory variables as elasticity or semi elasticity. The study employs the VAR model and OLS is the estimation technique using annual time series data from 1970 to 2015. The series

comprise annual observations from the period of 1981 to 2015 in Nigeria. The variable of economic growth is measured by the gross domestic product (GDP), domestic credit to the private sector (DCPS) and Private Domestic Investments (PDI) {which was derived from the extraction of FDI and public investments from the gross fixed capital formation (GFCF) in Nigeria}. All the data are extracted from the Central Bank of Nigeria Statistical Bulletin and the International Monetary Fund (IMF).

From the theoretical background of the study, Valaukhani et al (2001), and using the autoregressive framework developed by Sims (1980), we specify a VAR model of order P. The general form of a VAR model is given by the following unrestricted (reduced) system.

$$Z_t = \alpha + \sum_{i=1}^P \beta_i Z_{t-i} + \mu_t \dots\dots\dots (1)$$

Equation (1) specifies a VAR (P) process, where Z_t is a vector of stationary endogenous variable, α is an $N \times 1$ vector of constraints, b is an $n \times n$ matrix of confidence. P is the number of lags, U is an $n \times n$ vector of error term. In addition, U_t is independently and identically distributed with zero mean, $E(\mu_t) = 0$ and $E(\mu_{tk} * \mu_{tk}) = 0$ for $(t = s)$. The disturbance term, U_r also has a covariance.

More specifically, the model which also incorporates the above direct and indirect linkages is presented as follows with credit availability and bank lending rate being the major determinants of output in the real sector in a disaggregated form with other variables as supportive regressors.

$$\Delta GDP_t = \alpha_1 + \sum_{i=1}^{n-1} \Delta \lambda PDI_{t-i} + \sum_{i=1}^{n-1} \Delta \mu CPS_{t-i} + \sum_{i=1}^{n-1} \Delta \beta PEX_{t-i} + \sum_{i=1}^{n-1} \Delta EXR_{t-i} + \psi_1 EC_{t-1} \varepsilon_{1t} \quad (3)$$

$$\Delta CPS_t = \alpha_2 + \sum_{i=1}^{n-1} \Delta \lambda PDI_{t-i} + \sum_{i=1}^{n-1} \Delta \mu PDI_{t-i} + \sum_{i=1}^{n-1} \Delta \beta PDI_{t-i} + \sum_{i=1}^{n-1} \Delta PDI_{t-i} + \psi_1 PDI_{t-1} \varepsilon_{1t} \quad (3)$$

$$\begin{aligned} PDI &= \alpha_{1t} + \dots\dots\dots + U_{2t} \\ CPS &= \alpha_{1t} + \dots\dots\dots + U_{3t} \\ PEX &= \alpha_{1t} + \dots\dots\dots + U_{4t} \\ EXR &= \alpha_{1t} + \dots\dots\dots + U_{5t} \\ PLR &= \alpha_{1t} + \dots\dots\dots + U_{5t} \end{aligned}$$

Where $\lambda, \mu, \beta, \psi, \alpha$ are the unknown parameters, α is the constant or intercept, U is the stochastic error term, n is the number of lags

Where: $\lambda, \beta, \psi, \alpha$ and σ are the unknown pentameters, α is the constant or intercept, U is the Stochastic error

term, n is number of lags. The variables under consideration are private domestic investment, credit to the private sector, public expenditure, and exchange rate respectively. The data are yearly time series figures obtained from CBN and NBS bulletins from 1996 to 2010. The conceptual form of our SVAR model of equations (2) to (8) is presented thus:

$$B^* y_t = r_0 + r_1^* y_{t-1} + r_2^* y_{t-2} + e_t \dots\dots\dots (9)$$

The reduced form of the model can be written as

$$Y_t = B^{-1} r_0 + B^{-1} r_1^* y_{t-1} + B^{-1} r_2^* y_{t-2} + B^{-1} e_t \dots\dots\dots (10)$$

$$Y_1 = A_0 + A_1 y_{1-1} + A_5 v_{1.2}$$

Where: y_t is a vector of eight endogenous variables $Y_t = (PDI, CPS, PEX, EXR, PLR)$. e_t is a vector of residuals used to estimate the Structural restrictions. A_0 is a vector of constants and A_1 and A_2 are vectors of coefficients to be estimated.

We can further simplify the notations in equation (10) by the following definitions: $A_0 = B^{-1}r_0$, $A_1 = B^{-1}r_1$, $A_2 = B^{-1}r_2$ and $e_t = B^{-1}\Sigma_t$. Where: e_t is the vector of residual. Hence, the simplified form of our model is

$$Y_t = A_0 + A_1y_{t-1} + A_2y_{t-2} + e_t \dots \dots \dots (11)$$

Where: y_t is a vector of eight endogenous variables $y_t = (PDI, CPS, PEX, EXR, PLR)$, e_t is a vector of residuals used to estimate the structural restrictions. A_0 is a vector of constants and A_1 and A_2 are vector of coefficients to be estimated.

The unit root test was carried out to test the stationarity or non-stationarity of the variables. Unit roots test and co-integration test are used to circumvent the inherent limitations of traditional models so as to avoid spurious regressions Hendry, (1986). To this end, the Augmented Dickey Fuller method is used to ensure having unbiased estimates. The results are displayed and explained below.

The result of the Augmented Dickey Fuller unit root test is shown below

Table 1: Summary of Augmented Dickey Fuller Unit Root Test Result

| Variables | Level Data | First Difference | Order of Integration |
|-----------|------------|------------------|----------------------|
| PEX | 0.57 | -5.64* | I(1) |
| PDI | 1.68 | 3.96* | I(1) |
| DCP | 0.56 | -4.72* | I(1) |
| GDP | 0.46 | -4.43* | I(1) |
| PLR | 0.32 | -5.23* | I(1) |

NB: * indicates significant at the 1 percent level.

The result of the Augmented Dickey Fuller unit root test result indicates that all the variables were stationary after the first difference was taken. They are all stationary at the 1 percent level.

Cointegration Result

| Hypothesized | Trace | | | 0.05 |
|--------------|------------|-----------|----------------|---------|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None * | 0.666340 | 74.15090 | 69.81889 | 0.0216 |
| At most 1 | 0.558127 | 42.31954 | 47.85613 | 0.1500 |
| At most 2 | 0.372462 | 18.63432 | 29.79709 | 0.5194 |
| At most 3 | 0.149514 | 5.121761 | 15.49471 | 0.7958 |
| At most 4 | 0.014558 | 0.425277 | 3.841466 | 0.5143 |

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

* denotes rejection of the hypothesis at the 0.05 level

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

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized | Max-Eigen | | | 0.05 |
|--------------|------------|-----------|----------------|---------|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None | 0.666340 | 31.83136 | 33.87687 | 0.0860 |
| At most 1 | 0.558127 | 23.68522 | 27.58434 | 0.1461 |
| At most 2 | 0.372462 | 13.51256 | 21.13162 | 0.4063 |
| At most 3 | 0.149514 | 4.696484 | 14.26460 | 0.7795 |
| At most 4 | 0.014558 | 0.425277 | 3.841466 | 0.5143 |

Max-eigenvalues test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

** Mackinnon-Haug-Michelis (1999) p-value

[The results of the VAR estimates are shown in appendix 2. The result of GDP equation showed significant and positive relationship between GDP and second long of LPDI but shows significant and negative relationship

between second lag of LPEX. The result of LDCP equation showed significant and positive relationship between LDCP and first lag of LDCP but shows significant and negative relationship between LDCP and second lag of LPEX. The result of the LPDI, LPEX and LPLR indicated positive and significant relationship between LPDI and first lag of LPDI, while LPDX also had the same positive and significant relationship with first lag of LPEX. The same relationship also goes for LPLR and second lag of LPLR. The entire remaining variables have insignificant coefficients. LDCP had the highest R^2 with 99.8%, LGDP with 99.7% and LPHR with 76.2% respectively. To have a clearer picture of the nature of these relationships, the impulse response function and variance decomposition generated from the VAR equations is imperative.

Impulse Response Function Result

The result of the impulse response is shown in appendix 3

We observe a response of LGDP to its shocks to be positive up to 2nd period and dropped to 3rd period but remain steady from the 4th period to the 10th period. While the response of LGDP to LCPS and PDI is negative in almost the periods but it is positive for the response of LGDP to LPLR. In addition, the response of LPDI to is positive and the response of LPDI to its own shock is positive. However, the response of LPDI to LCPS, LPEX and LPLR is negative for all the periods. Shocks of LPLR to LGDP and its own shocks are positive for all the periods.

16 could be observed that from IRF that it takes up to 1st period for GDP to respond to exchange rate shocks. This has implication for policy makers to be act immediately and think short term when tinkering with policy variables. Variation in public expenditure is explained mainly by public expenditure shock both in the short and long run. Variations in the domestic credit to the private sector account for 4% in the 1st period and increases to 7% in the 10th period. The result shows that both in the short and long runs credit to the private sector was not matter for public expenditure.

Finally, fluctuations in prime lending rate are explained mainly by prime lending rate shocks. Prime lending rate accounts for 95% in the 1st period. Its proportion declines gradually until it reaches 35%. The result shows that in the short run prime lending rate shock account for the major variation in prime lending rate.

Variance Decomposition

The result of the variance decomposition is shown below in Appendix 1

A look at the table revealed that the fluctuations of RGDP are explained by mainly RGDP shocks in the short run. RGDP accounts for 100% in the 1st period. Its proportion decreases continually until it reaches 3.33%, 11% in the 20th period. Exchange rate shocks accounts for less than 1% in the first year. Its proportion increases our time and reaches 81% in the 20th period. The result shows that variations in public expenditure is explained mainly by public expenditure shocks both in the short and long run. Variations in domestic credit to the private sector account for 4% in the 1st period and increases to 7% in the 10th period. The result shows that in the long run, exchange rate shocks accounts for the major variation in real GDP.

Also, the fluctuations in domestic credit to the public sector is accounted for its own shocks of 90% in the first period and decreased to 12% in the 10th in the first period. Its proportion increased to 30% in the 10th period. The result shows that in the long run, prime lending rate shock accounts for the major variation in domestic credit to the private sector. Furthermore, the fluctuations in private domestic investment is accounted for by its own shock of 65% in the first period and decreased to 19% in the 10th period. Exchange rate accounts for less than 1% in the first period. The proportion of exchange rate increased to 33% in the long run. This shows that in the long run exchange rate variation does not matter for private domestic investment. In addition, we observe that variation in exchange rate is accounted for by its own shocks of 93% in the first period to 83% in the 10th period. This indicates that variation in public expenditure is explained mainly by public expenditure shocks both in the short and long run. Variations in the domestic credit to the private sector account for 4% in the 1st period and increases to 7% in the 10th period. The result indicate that credit to the private sector does not matter for public expenditure.

Finally, fluctuations in prime lending rate are explained mainly by prime lending rate shocks. Prime lending rate accounts for 98% in the 1st period. Its proportion declines gradually until it reaches 35%. The result shows that in the short run prime lending rate shocks account for the major variation in prime lending rate. The variance decomposition analysis revealed that variation in real GDP was mainly affected by exchange rate shocks in Nigeria. Although the response was basically observed to be in the long run. The spread of the effects in real GDP also witnessed low impact in the short run.

IV Implications For Policy, Conclusion And Recommendations.

The study aims to provide an empirical framework for understanding domestic credit to the private sector, private domestic investment and their impacts on the real sector. Vector autoregressive (VAR) model, its

accessories of impulse response functions (IRFs) and variance decomposition composition (VDC) were applied to annual data from 1970 to 2015. This is to identify credit and investment shocks as well as evaluate its impact on a system of equations.

Having confirmed the long run relationship among the specified variables with Johansen co-integration tests, the underlying theoretical expectations were used to identify the parameters and shocks of the structural model. On the basis of batteries of tests carried out, empirical findings indicate that the relationship between growth and domestic credit to the private sector is positive and insignificant. This result reinforces earlier studies with same finding. Private domestic investment positively influences economic growth but not statistically significant for the period under study. The failure of private domestic investment to have an impact on growth is in consonance with studies correct out by Ntegha (2012), Fadare (2010), as well as Imoisi, Abuo and Sogules (2015). This portends implication for financial sector deepening and ensuring constant surveillance of the banking sector to enhancing the health status of banks so they can optimally performed their traditional role of intermediation. Also, our results show that increase in PLR reduces output for the period under study, but this was not statistically significant. The implication of this in that monetary authority should keep on pursuing the policy of gradual reduction of interest rates. In addition, the relationship between PDI and CPS is positive but statistically insignificant. The government should put incentives in place to encourage PDI in Nigeria. Furthermore the relationship between domestic credits to the private sector and GDP is positive but also insignificant. The implication of this is that government should pursue policies that will enable the banks to channel more fund to the private sector for investment purposes. Finally, the negative relationship between exchange rate and private domestic investment suggests that the appreciation of the real exchange rate discourages domestic private investment. The government should intervene in the foreign exchange market and not leave the market to the vagaries of demand and supply strictly.

Presently, the Nigerian banking system is yet to recover from loans given to local investors in the oil and gas sector. Due to price volatility, and disinvestment by the oil majors, investors in the oil and gas are finding it difficult to meet their financial obligations. The Treasury Single Account policy of the Nigerian government is making liability generation increasingly difficult for banks. Asset creation is contingent upon liability generation. The policy is helping to block leakages through corruption in the system but it is seriously hampering financial intermediation by the banks.

On the basis of the above findings, the following recommendations are made.

1. The macroeconomic management policies should be enhanced and better coordinated. Specifically the foreign exchange market should be stabilized. The wide disparity between the official and parallel market is damaging the economy and sending wrong signals to both private and local investors. The government should not leave the foreign exchange market to the vagaries demand and supply. The government should periodically intervene in the market when things are getting out of hand as it is presently.
2. The economy should be made to earn foreign exchange through various channels to reduce over dependence on oil revenues. Diversification of the economy has become imperative.
3. Monetary and fiscal policies should be better coordinated to ensure that macroeconomic fundamentals are moving in the right direction.
4. The cost of credit is too high, therefore, within the context of monetary policy, lending rates should be better managed in order to reduce the cost of doing business.
5. Monetary authorities should try to implement its policies, programs and projects with minimum delay. Lags in implementing policies have debilitating consequences for the economy with its attendant implications to potential investors.
6. Private domestic investment enhancing policies should be pursued and enhanced. Focusing attention on macroeconomic variables such as interest rate, inflation rate and exchange rate to ensure they move in the right direction.

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Appendix 2:VAR Result

| | LGDP | LDCP | LPDI | LPEX | LPLR |
|----------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| LGDP(-1) | 0.773422 (0.20707) [3.73515] | 0.525584 (0.18690) [2.81214] | -0.053401 (0.12936) [-0.41280] | 0.538292 (0.56476) [0.95313] | 0.530783 (0.22103) [2.40141] |
| LGDP(-2) | -0.261390 (0.20541) [-1.27256] | -0.009553 (0.18540) [-0.05153] | 0.032596 (0.12833) [0.25401] | -0.203191 (0.56023) [-0.36269] | -0.492811 (0.21926) [-2.24764] |
| LDCP(-1) | -0.159821 (0.24862) [2.46907] | 0.658729 (0.22441) [0.08074] | -0.208973 (0.15533) [1.77745] | 0.638011 (0.67811) [-0.94947] | 0.289448 (0.26539) [1.09065] |
| LDCP(-2) | 0.586193 (0.23741) [2.46907] | 0.017302 (0.21429) [0.08074] | 0.263641 (0.14833) [1.77745] | -0.614817 (0.64754) [-0.94947] | -0.287684 (0.25343) [-1.13518] |
| LPDI(-1) | -0.582550 (0.34924) [-1.66807] | -0.139809 (0.31522) [-0.44353] | 1.054319 (0.21819) [4.83221] | 0.549821 (0.95253) [0.57722] | 0.442518 (0.37279) [1.18705] |
| LPDI(2) | 0.198840 (0.43847) [0.45348] | 0.649027 (0.39577) [1.63992] | -0.125425 (0.27394) [-0.45786] | -0.825797 (1.19592) [-0.69051] | -0.442187 (0.46804) [-0.94476] |
| LPEX(-1) | 0.245192 (0.07903) [3.10268] | 0.056123 (0.07133) [0.78682] | 0.049191 (0.04937) [0.99634] | 0.677989 (0.21554) [3.14553] | -0.227282 (0.08436) [-2.69433] |
| LPEX(-2) | -0.196757 | -0.219296 | -0.073408 | -0.109541 | 0.169341 |

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|---------------|------------|------------|------------|------------|-----------|
| | (0.10018) | (0.09042) | (0.06259) | 0.27323 | (0.10694) |
| | [-1.96405] | [-2.42525] | [-1.17290] | [-0.40091] | [1.58358] |
| LPLR(-1) | -0.032036 | -0.139558 | -0.137968 | 0.741081 | 0.249872 |
| | (0.17568) | (0.15857) | (0.10976) | (0.47917) | (0.18753) |
| | [-0.18235] | [-0.88009] | [-1.25701] | [1.54659] | [1.33243] |
| LPLR(-2) | -0.277545 | -0.303193 | -0.196773 | -1.037137 | 0.481143 |
| | (0.18319) | (0.16535) | (0.11445) | (0.49964) | (0.19554) |
| | [-1.51508] | [-1.83369] | [-1.71934] | [-2.07577] | [2.46055] |
| C | 3.74019 | -1.792606 | 1.218041 | 2.068782 | 0.736774 |
| | (1.18322) | (1.06798) | (0.73922) | (3.22720) | (1.26302) |
| | [3.16146] | [-1.67850] | [1.64774] | [0.64105] | [0.58334] |
| R-squared | 0.997389 | 0.997967 | 0.942997 | 0.973990 | 0.761824 |
| Adj.R-squared | 0.996084 | 0.996950 | 0.914495 | 0.960984 | 0.642737 |
| Sum sq.resids | 0.425969 | 0.347033 | 0.166262 | 3.168796 | 0.155782 |
| S.E.equation | 0.145940 | 0.131726 | 0.091176 | 0.398045 | 0.155782 |

Appendix: Cholesky Variance Decomposition result

Variance Decomposition of LGDP

| Period | S.E | LGDP | LDCP | LPDI | LPEX | LPLR | |
|--------|----------|----------|------|----------|----------|----------|----------|
| 1. | 0.151236 | 100.0000 | | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| 2. | 0.250871 | 74.40150 | | 1.467154 | 1.148330 | 22.76022 | 0.222795 |
| 3. | 0.323740 | 52.95642 | | 0.971491 | 1.440301 | 44.44517 | 0.186617 |
| 4. | 0.431886 | 34.01477 | | 0.557632 | 3.835979 | 61.38539 | 0.206232 |
| 5. | 0.548983 | 23.66203 | | 0.646663 | 3.865717 | 71.69533 | 0.130256 |
| 6. | 0.666236 | 18.24717 | | 1.292578 | 3.891182 | 76.47712 | 0.091948 |
| 7. | 0.762632 | 15.40603 | | 1.555499 | 4.377209 | 78.58978 | 0.071476 |
| 8. | 0.840529 | 13.91336 | | 1.527196 | 5.033522 | 79.46493 | 0.060986 |
| 9. | 0.916398 | 12.47819 | | 1.475745 | 5.572508 | 80.41678 | 0.056770 |
| 10. | 0.989828 | 11.14866 | | 1.361855 | 5.908785 | 81.47880 | 0.101898 |

Variance Decomposition of LDCP

| Period | S.E | LGDP | LDCP | LPDI | LPEX | LPLR | |
|--------|----------|----------|------|----------|----------|----------|----------|
| 1. | 0.099482 | 10.40869 | | 89.59131 | 0.000000 | 0.000000 | 0.000000 |
| 2. | 0.140950 | 6.472107 | | 82.49158 | 3.438897 | 6.441479 | 1.155938 |
| 3. | 0.206122 | 5.532858 | | 38.59063 | 2.141530 | 45.01699 | 8.717998 |
| 4. | 0.258556 | 8.545064 | | 26.29279 | 1.577774 | 53.59116 | 9.993206 |
| 5. | 0.295908 | 16.00293 | | 20.66834 | 1.261639 | 45.57409 | 16.49299 |
| 6. | 0.332776 | 21.53136 | | 16.71590 | 1.076181 | 36.62185 | 24.05470 |
| 7. | 0.356714 | 24.84477 | | 14.67247 | 0.988537 | 32.17755 | 27.31668 |
| 8. | 0.374352 | 27.51260 | | 13.41331 | 0.973299 | 29.27749 | 28.82329 |
| 9. | 0.390908 | 28.96308 | | 12.49136 | 0.959996 | 27.31280 | 30.27277 |
| 10. | 0.405857 | 28.29639 | | 11.65607 | 0.912769 | 27.19995 | 30.93482 |

Variance Decomposition of LPDI

| Period | S.E | LGDP | LDCP | LPDI | LPEX | LPLR | |
|--------|----------|----------|------|----------|----------|----------|----------|
| 1. | 0.092301 | 17.47097 | | 17.60033 | 64.92870 | 0.000000 | 0.000000 |
| 2. | 0.169742 | 32.12250 | | 24.52883 | 41.80417 | 0.004962 | 1.539536 |
| 3. | 0.239097 | 33.09969 | | 19.66166 | 35.37319 | 6.322091 | 5.543369 |
| 4. | 0.319494 | 33.77022 | | 15.20531 | 27.55742 | 14.26523 | 9.201821 |
| 5. | 0.397790 | 33.49243 | | 13.23434 | 23.76672 | 19.65480 | 9.851715 |
| 6. | 0.477771 | 32.89156 | | 11.02930 | 21.34538 | 24.81121 | 9.922551 |
| 7. | 0.549383 | 32.32552 | | 9.430179 | 19.75284 | 28.57324 | 9.918225 |
| 8. | 0.612698 | 31.63152 | | 8.275453 | 19.09156 | 31.13514 | 9.866319 |
| 9. | 0.669781 | 31.35959 | | 7.542058 | 18.74916 | 32.54731 | 9.801886 |
| 10. | 0.723396 | 31.22141 | | 7.091656 | 18.59698 | 33.27953 | 9.810428 |

Variance Decomposition of LPEX

| Period | S.E | LGDP | LDCP | LPDI | LPEX | LPLR |
|--------|----------|----------|----------|----------|----------|----------|
| 1. | 0.469408 | 2.028564 | 4.271148 | | 0.314158 | 93.38613 |
| 2. | 0.734089 | 5.188379 | 3.089710 | | 0.914066 | 89.76578 |
| 3. | 1.066735 | 6.171776 | 4.537716 | | 0.752209 | 85.82315 |
| 4. | 1.390973 | 5.012258 | 6.745131 | | 1.064842 | 85.22671 |
| 5. | 1.622447 | 5.417205 | 7.340811 | | 1.501212 | 83.93002 |
| 6. | 1.821336 | 6.055955 | 7.728425 | | 2.151792 | 82.05289 |
| 7. | 2.004992 | 5.757169 | 7.798661 | | 2.528405 | 81.99860 |
| 8. | 2.169384 | 5.379072 | 7.392649 | | 2.990422 | 82.56034 |
| 9. | 2.339575 | 4.930899 | 6.91887 | 3.349166 | 83.32556 | 1.475488 |
| 10. | 2.524013 | 4.394157 | 6.559086 | | 3.495524 | 84.26856 |

Variance Decomposition of LPLR

| Period | S.E | LGDP | LDCP | LPDI | LPEX | LPLR |
|--------|----------|----------|----------|------|----------|----------|
| 1 | 0.158556 | 0.415267 | 0.094043 | | 1.482952 | 0.134198 |
| 2. | 0.210002 | 15.67911 | 3.379900 | | 4.322478 | 18.64348 |
| 3. | 0.221055 | 17.44285 | 3.559303 | | 4.483051 | 16.96273 |
| 4. | 0.244256 | 14.62797 | 4.078471 | | 6.250155 | 14.96025 |
| 5. | 0.265867 | 20.82046 | 3.881949 | | 5.710784 | 16.04306 |
| 6. | 0.279248 | 23.64600 | 4.174694 | | 7.297338 | 15.01408 |
| 7. | 0.297248 | 23.64600 | 4.174694 | | 7.297338 | 15.01408 |
| 8. | 0.321959 | 28.52680 | 3.241332 | | 7.761064 | 19.43770 |
| 9. | 0.343085 | 29.98204 | 2.859404 | | 8.027240 | 22.36066 |
| 10. | 0.361113 | 30.75944 | 2.583023 | | 8.301848 | 23.71439 |

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