An Analysis of the Impact of Fiscal Deficit on Private Investment in Nigeria: A Keynesian Perspective

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ABSTRACT: The paper examines the long run impact of fiscal deficit on private investment employing annual time series data covering the period of 1980 to 2014. A modeling approach that incorporates ADF and PP for unit root test, Johansen cointegration test and Error Correction Model (ECM) were employed. The unit root test revealed that both the series exhibit unit root at the level value and became stationary after differencing of order one that is I(1) while the result of Johansen suggest one cointegration vector at 5% significant level. The ECM result indicates that 38% numbers of errors have been corrected from short run adjustment to the long run. It further proves that a unit increase in fiscal deficit, government revenue and exchange rate crowd in private investment by 0.0003, 0.276 and 0.205 respectively while a unit increase in government expenditure crowd out private investment by -0.570 percent in the long run. The paper recommends that, government expenditure should be undertake in such a way that can improved critical infrastructure through the provisions road, electricity and other related inputs that can directly stimulate the level of investment while government planned expenditure should strictly have monitored to avoid leakages via corruption and public embezzlements.

Key Words: Fiscal Deficit, Private Investment, Keynesian, Perspectives, Cointegration, Error, Correction, Model.

I. INTRODUCTION

The history of fiscal deficit in Nigeria can be traced back to the era of development planning which was characterized by massive public sector investment in virtually all sectors of the economy (Oluranti, 1999). This happened as a result of massive revenue generated from oil exploration and exportation, and the need for infrastructure development. Such increase in revenue generated from the oil sector led to a corresponding increase in wages and salaries, imports as well as prices of goods and services (Bayo, 2006). The growing body of public expenditure and the oil boom led to ‘Dutch Disease’ effect as a result of constant oil price shocks that happen on frequent basis in 1970s and 1980s that push Nigeria into serious macroeconomic crisis. The crisis led to economic recession with attendant circumstances of fiscal deficits, debt crises, unemployment, low savings, low investment and negative growth among others (see Obadan, 1993 and Bayo, 2006).

The growing fiscal deficit over the years has been seen to have negatively affected macroeconomic stability. This negative effect is largely evidenced by persistent depreciation of the local currency (Naira), high rates of inflation and undue expansionary monetary and credit aggregates to most of the potential firms (Ekpo et al 2004). However, the era of 1970’s and 1980’s witnessed the oil glut in the world oil market which began to collapse. The resultant fall in oil exports and prices were reflected in government revenue. For example, crude oil prices which rose rapidly from US $20.94 per barrel in 1979 to US $36.95 in 1980 and US $40 in 1981 fell to US $29 in 1983 and as low as US $14.85 in 1986. With these effects, serious setbacks were witnessed in the fiscal position (annual budgets) of the country. Fiscal deficit stood at ₦1, 975.20 million in 1980 and in 1981 it rose to ₦3, 902.10 (CBN, 2013). Consequently, several macroeconomic policies were adopted to trim down over reliance on oil export and import habit of foreign goods with the aim of cutting government expenditure and over reliance on imports, reduction in public wages and salaries among others, little positive impact were actually achieved. The country continued to increase with the problems of unemployment, currency overvalued (Naira), capital flight, debt crisis, inflation and domestic absorption to be greater than her GDP. The level of external reserves became inadequate in terms of meeting local demand leading to massive external borrowing to keep up the country to undertake her developmental plans in order to maintain it consumption and investment. This implies that government expenditure was rising above her income (revenue). For instance, the deficit of 1981 stood at 6.6 percent to GDP ratio (CBN, 2013).

In terms of the living conditions, the crisis deepened living the household demand deteriorated, for instance as growth rate of national output fell by -5.3 percent in 1983 and -0.6 percent in 1985 and real GDP grew marginally by -1.8 in 1983. Around 1981 to 1986 inflation stood at 23 percent in 1983 to 40 percent in 1984 implying a fluctuation. The nation’s foreign reserve account dwindled from $4.5 billion in 1981 to $1.7 billion in 1983 and fell to 0.8 billion in 1987 (CBN, 2012). The inherent challenges (typical of fiscal deficit) led
to the introduction of Structural Adjustment Programs (SAP) in July 1986 with the principal aim of restructuring and diversifying the productive base of the economy. Under SAP there was massive depreciation of the local currency (Naira), fiscal deficit as percentage of GDP increased from 6 percent in 1986 to 11 percent in 1991, fiscal deficit for instance in 1990 to 1994 recorded the ratio of about 9.9 percent and worsened further the external debt ratio to GDP from 21.8 percent in 1985 to 114.8 percent in 1990. While per capita income on the other hand, fell from $800 in 1980 to $250 in 1996 and further to $238 in 1999 (CBN, 2011). By 1999, after the rebirth of democracy in Nigeria, crude oil price started appreciating again and as at 2004 it stood at about US $63 per barrel. Subsequently, external reserves began to gather momentum by rising from $175 million in 1970 to about $43 billion in 2007. In terms of the output by 2002, GDP still continued to grow marginally by 3.3 percent lower than the projected growth of 5 percent and also lower than the growth rate of 3.8 percent recorded in the previous fiscal year. External debt also remained the theme of focus in line with significant increase from $28 billion in 1999 to $32 billion in 2003. debt stock to GDP turned to 93.1 percent in 1999 (CBN, 2000). Considerable attention in the face of rising foreign exchange earnings due to increase in oil price in Nigeria is also associated with high exchange rate, as average exchange rate of ₦126 and ₦137 (against US Dollar) indicating relative exchange rate instability. Still policy of importations remains important aspect to look into by the government as fiscal deficits widened and efforts at containing the adverse developments created some other macroeconomics problems as economic activities continued to depress with implications for rising prices/inflation from 21 per cent in 1981 to 73 per cent in 1995, unemployement and persistent balance of payment deficits (Vincent and Clem, 2013). These created both internal and external imbalances hence, the shocks led to major deterioration in almost all macroeconomic variables with investment assuming greater prominence. Fiscal deficit remained uncontrolled between 1997 and 2009 amidst galloping inflation during the same period. Budget deficit rose from ₦10, 020.70 from 2009 to ₦1, 105,309.78 billion in 2010 while inflation rate fell from 27.8% in 2009 to 13.72% in 2010. Budget deficit attained its highest value of ₦1, 710,267.20 in 2012 coupled with a single digit inflation of 8.2%. The budget deficit figures represent a slight proportional increase of 25.4% relative to 23.4% change in budget deficit between 2010 and 2011 (CBN, 2012).

There is growing body of empirical studies on fiscal deficit and private investment in Nigeria (for instance see Isa, 2012. Fredrick and Okeke, 2013, Osaka and Achinihu, 2014 and Ogba, 2014) both of them constitutes in one way or the other a number of shortcomings ranges from the use of small sample size, silencing private investment among the variable employed, restriction of analysis of fiscal deficit on trade balance, used of OLS that cannot allow to examine trend variation of the series among others. In view of the foregoing identified gap in the literature, the study is conceived against the background to examine the impact of fiscal deficits on private investment in Nigeria. In order to achieved the stated objective, the paper is structured into five sections including this introduction as section one, section two review theoretical framework and related literature, section three consist of methodology, section four present results of the study while section five offer conclusion and recommendations.

II. THEORETICAL FRAMEWORK AND LITERATURE REVIEW
The study prioritizes the Keynesian hypothesis as the theory on which the study hinges due largely to a number of reasons considered more relevant to the research questions which the study intends to answer. To put differently, the research adopts the Keynesian philosophy due to its capacity to relate deficit and economic productivity (investment), employment and GDP growth in general as cyclical unemployment occurs due to underutilization of productive resources. The basic rational of the Keynesian theory was resulted from the fiscal history of the world that emerged in the early 1930s which roll into Great Depression. To Keynes, the federal authority (government) should increase aggregate demand by increasing deficit spending via some combination of more spending and lower taxes (Dwight, 2012). J. M. Keynes and his early followers believed that there was nothing fiscal irresponsibility about such policy formulation. While the budget deficit could not be possibly balanced on annual basis, it will be so over time, as budget deficit moderates’ recessions and certainly over a period of time, would be offset by budget surplus to restrain economic growth. Jack (2011) argued that Keynes social philosophy was articulated in the General Theory which is theoretical text, making reference to employment expansion and budget deficit. At the first instances, he tried to note how the endogenous consequences lead to unemployment in employment, government should “willingly or unwillingly” run into budget deficit to provide unemployment relief. Secondly, Keynes distinguished between two forms of government loan; net loan on capital budget (used to compliment and support capital expenditure) and net loan on current budgetary deficit. Toward solving the situation, two policies were endorsed: First, policies to redistribute income and avoid inequality caused by capitalist attitude through direct taxation and death duties. Second, Keynes advocated a long run policy of systematic reduction of the riskless real interest rate towards zero.

The central features of the Keynesian economic theory based on the discussion above, was that of, demand management through short run fiscal activism. Decentralized economic management leads to systematic
demand deficiency and therefore government intervention remained indisputable in directing resources allocation. Jack (2011) point out that, the conventional features of the Keynesian economic has three main themes:

i. First the advocacy of discretionary, counter cyclical fiscal policy: Counter cyclical fiscal policy is the deliberate action attempt to compensates for the changes in private demand;

ii. Deliberates creation of budget deficit: The common influences of the Keynesian policy advocate the role of budget deficit financed by public borrowing. In the event of recession, government should expand aggregate spending through debt financed government expenditure and;

iii. A believe that government expenditure does not crow-out private consumption expenditure (private investment).

There is a meaningful correlation in the history of the literature about Keynes core views on government expenditure and public finances, Keynes rationality however is clearly understood in respect of full employment policy that encourage the attainment of business peak and prevention of business cycle fluctuation through long term public investment programs. As noted by (Jamee, 1999) Keynes central ideology was the elimination of involuntary unemployment through stabilizations of investment, because part of the public investment could finance debt among other legitimate and noble expenditures. This can serve as the solution to counter cyclical budgetary policy and the short run fiscal stimulus. And, direct government intervention can move the economy closer to full employment by systematic increase in the capital stock and output. Henceforth, Keynes believes that output would be increased hence stabilizing the aggregate investment level and reducing the risk of interest rate. Output fluctuation was primarily caused by changes in the form of undesirable long term expectation and both output and employment occurred around the level of higher investment. Keynes several policies to raise the aggregate investment includes lowering the long term rate of interest through monetary authorities, elimination of the influence of speculation and volatility of expectation, and redistribution of income as a stimulus to average propensity to consume.

The major variation between Keynes hypothesis and neoclassical doctrine is that, some economic resources are unemployed and the existence of large number of myopic or liquidity constraint of the individual consumers is evident. This means aggregate consumption is sensitive to changes in disposable income. Indeed, the Keynesian thought gives much consideration to government intervention in correcting the level of employment and investment that can ensure the attainment of economic growth. He associates government deficit to be positively related to economic variables unlike the neoclassical that considers the relation to be negatively correlated.

**Fiscal consolidation:** The Keynesian economic theory believes that fiscal consolidation programs can be contractionary in the short term and expansionary in the long term as either reducing the government outlays or increasing its receipts hence influential on the real GDP growth rate in the short run. To Keynes these may be happen in two approaches:

1. With regard to spending reduction, Keynes holds the view that;
   i. Decreasing the number of government workers lowers consumption;
   ii. Decreasing government outlays for infrastructure lessens government investment and;
   iii. Decreasing transfer payment to individual households shrinks personal consumption
2. With regard to spending reduction, Keynes holds the view that;
   i. Higher taxes on households decreases personal consumption expenditure and;
   ii. Higher taxes on firms (corporate tax) decreases nonresidential fixed investment (Biggs et al 2010).

Biggs et’ al (2010) assert that Keynesians theory agrees that fiscal consolidation programs may boost economic growth in the long term. Fiscal consolidation programs decrease the government demand for funds in the credit market by reducing government debt. Ceteris paribus, a smaller demand for credit reduces it price and therefore, real interest rate will fall back. Over time however, lower interest rate will spur investment in productive assets and subsequently accelerate the real GDP growth.

**Economic Efficiency:** The efficiency of the economy is believed to lie on the successive consolidation programs. Keynes acknowledges that fiscal deficit as budget could scarcely balance at all the time; it will be so overtime by the future budget surplus if resources are fully employed. Presence of deficit allows the government to compensate private demand failure (counter cyclical changes in demand), which in turn increases private consumption, savings, investment and stimulate the economic growth in the long term. Government monetary policy of lower interest rate also relieves the corporate firms to increase savings and residential fixed investment, which beyond doubt further investment and the growth rate of the real GDP. Finally, government intervention remains significant in directing and controlling resources for better management as the capitalists deteriorate economy with the notion of “no government intervention” and mislead the economy.
A number of studies on fiscal deficit and private investment in the literature is found inevitable to be reviewed in order to gain inside of different findings across. To start with, Kibet (2013), investigated the effect of budget deficit and corruption on private investment in developing countries over the period of 1984 to 2010 using panel data across 70 nations. The methodology used was Generalized Moment Method (GMM) in addressing the endogeneity problem. The study found that interaction between budget deficit and corruption is associated with a lower level of private investment. In addition to the control variables in the model budget deficit demonstrates crowding-out effect while high level of corruption is associated with lower level of investment. On the other hand, Madni (2013) over luck the role of fiscal policy for private investment in Pakistan between 1979-2012 using ADF and ECM applied for the short run dynamic. The result revealed that fiscal deficit, rate of interest, inflation and external debt are negatively related to private investment while exchange rate and export are positively impacted on investment.

Albato (2012) in the same vein, examine the effect of government budget deficit on the crowding out of private sector investment in Saudi Arabia reveals that there is a crowding out of private investment by government budget deficit. The study further suggests that financing government budget deficits by borrowing from domestic markets reduces financial resources available to the private sector and discourages private sector investment. One important limitation of the report is that, it shows emphasis only on the domestic debt and fiscal deficit which mostly in developed countries did not considered as the major sources of financing budget deficit. Consequently, Antonio and Tovar (2011) assess the relevance of budgetary components for private and public investment using panel data for 95 countries for the period 1970 to 2008, and their findings show a positive effect attributed to total government expenditures and to public investment in promoting private investment, and negative effects of government expenditure on wages and government consumption spending on private investment. Interest payments and subsidies have a negative effect on both types of investment. Meanwhile, Emad and Abdullahif (2006) examine the relationship between public sector investment and private sector investment through government expenditures financed by government bonds in the Japanese economy. This study shows that deficit financing by bond issues does not crowd out private sector investment, and this financing technique may crowd-in. Thus the government increases bond issues and sells them in the domestic and international financial markets. This method does not affect interest rates because they are insensitive to government expenditures and they depend on interest rates levels in the international financial market more than in the domestic counter part because of globalization and integration among financial markets.

Fredrick and Okeke (2013) evaluate private investment and budget deficit by employing OLS and Granger Causality Test and authenticate that budget deficit crowd out private investment in Nigeria and that, the private investment Granger Cause fiscal deficit with feedback. And further suggest that stakeholders should reduce recurrent expenditure and increase capital expenditure in order to ensure friendly environment for private investment. Similar to this effort, Isa (2012) in his study on deficit financing and its implication on private investment in Nigeria examine the impact of government expenditure on private investment between the period of 1990 to 2007 and how deficit financing response to private investment. The findings suggest that deficit financing under the period reviewed crowd out private investment, the study recommends that government should redirect it fiscal policy toward private sector by discouraging high government expenditure and maintain low fiscal deficit so as to avoid crowding out effect. Arguing in the same vein, Vincent and Clem (2013) showed that, there exists long run positive relationship between fiscal deficit and investment and also with the real growth of the national economy after handing annual data for the periods of 36 years (1970 to 2006). The estimated results reveal that a 1 percent increase in fiscal deficit leads to 0.267 percent increase in private investment, Vincent and Clem (2013) suggest that emphasis of government expenditure should be infrastructures that help capital formation instead of recurrent expenditure and also government programs should be finance through bond market as fund/savings can be mobilized and channeled to specific projects. Thank God (2014) revealed that, budget deficit has a linear and positive impact on private investment; external debt has U-shape impact on private investment; and consumption expenditure as a percentage of GDP has a negative impact on private investment. The methodology employed was the Instrument Techniques of Estimation and Bootstrapping Techniques for the computation of normal based standard error with the sample size of 31 years (1981-2012). He recommends that, for the Nigeria to benefit from government external borrowing such funds should be large enough compare to her GDP and should be invested in productive undertaking.

III. METHODOLOGY

In trying to assess the impact of fiscal deficit on investment in Nigeria, the paper employed quantitative methodology using variables fiscal deficit and private investment along with other control variables such as government expenditure, government revenue, as well as exchange rate for the period of 1980 to 2014 and the data were sourced from CBN bulletin and World Bank data based. The following model were adopted and modified from the works of Vincent and Clem (2013) and Fredrick and Okeke (2013) as expressed in linear econometric equation:

\[ y_t = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \varepsilon_t \]
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\[ INV_t = \beta_0 + \beta_1 FD_t + \beta_2 GEXP_t + \beta_3 GREV_t + \beta_4 EXR_t + \epsilon_t \]  

(3.1)

Where: \( INV \) = Private Investment, \( FD \) = Fiscal Deficit, \( GEXP \) = Government Expenditure, \( GREV \) = Government Revenue, \( EXR \) = Exchange Rate, \( \beta_0 \) = An intercept or constant parameter, \( \beta_i - \beta_i \) = the coefficient of the parameters, \( \epsilon \) = Error term or stochastic disturbance, \( t \) = Time trend.

IV. ANALYSIS AND RESULTS

The analyses of the result were presented in three sub-sections namely: Unit root test, Johansen Cointegration test, and Error Correction Model (ECM).

Result of Unit Root Test

The precondition to be considered in time series analysis is the test for stationary or otherwise (unit root tests) of the data set. The result of unit root test is presented in table one. The table observes the null hypothesis of the unit root using ADF and PP tests (the null is the presence of the unit root). The null hypotheses were accepted at the level value because the absolute table value is greater than the absolute statistical value for both the ADF and PP. That is to say, the series have unit root at their level values. Based on the results therefore, the variables became stationary at their anticipated level that is, after placing the first difference. This revealed by inference that the series are integrated of order I(1).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Series</th>
<th>Level Value</th>
<th>First Difference</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINV</td>
<td>-1.160</td>
<td>-1.081</td>
<td>-4.793***</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>[3]</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>0.247</td>
<td>0.662</td>
<td>-4.918***</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>[3]</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>LGEXP</td>
<td>0.038</td>
<td>0.036</td>
<td>-7.347***</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>[3]</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>LGREX</td>
<td>-0.438</td>
<td>-0.047</td>
<td>-8.022***</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>[3]</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>LEXR</td>
<td>-1.869</td>
<td>-1.845</td>
<td>-4.917***</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>[3]</td>
<td>(2)</td>
<td></td>
</tr>
</tbody>
</table>

Note that *** indicate significant at 1% level and the figures in parenthesis and bracket represent maximum lag selection criteria based on SIC and Newey-West automatic were selected using Bartlett Kernel for the PP test. Source: Authors’ computation using E-Views Version 7

Result of Johansen Cointegration

Table 2 indicates that Johansen cointegration test, is applied to determine whether the variables of the series are cointegrated in the long run or not. The results were authenticated through Johansen and Julius trace test and Maximum Eigen value approach to provide the number of cointegrating vectors. This configuration provides the number of cointegrating equations and estimates of all cointegrating vectors in the multivariate circumstances.

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigen Value</th>
<th>Trace Test Statistics</th>
<th>0.05% Critical Value</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None*</td>
<td>0.715</td>
<td>84.523</td>
<td>69.819</td>
<td>0.0022***</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.473</td>
<td>43.140</td>
<td>47.856</td>
<td>0.1292</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.332</td>
<td>22.914</td>
<td>29.797</td>
<td>0.2977</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.176</td>
<td>8.7065</td>
<td>15.494</td>
<td>0.3932</td>
</tr>
<tr>
<td>At most 4</td>
<td>0.068</td>
<td>2.3187</td>
<td>3.8415</td>
<td>0.1278</td>
</tr>
</tbody>
</table>

Note that * and *** donate rejection of hypothesis at 5% significant and Mackinnon P-Value accordingly. Source: Authors’ computation using E-Views Version 7

The trace test and Maximum Eigen statistics (presented in table 2b) results revealed the presence of one cointegrating equation at 5% significance of level. In addition, the normalized cointegrating coefficients (shows in equation V.I with standard errors in parenthesis) that the variables in the equations are relatively important.
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The consistency in the test results confirms the existence of long run relationship among the dependent and independent variables in the model.

\[
LINV = 0.000412 - 1.363763 + 2.096507 + 0.184365
(0.00016) (0.38504) (0.29836) (0.09703) \quad (V.I)
\]

Where there is existence of the cointegration from the Johansen test, construction of ECM model becomes imperative for modeling the dynamic relationship and the speed of adjustment from short run equilibrium to the long run equilibrium. The greater the coefficient of the parameters the higher the speed of the model from short runs to the long run and vice versa. Table 3 presents the result of the parsimonious private investment model \((ECM_{1})\). The result suggests that the \(ECM_{1}\) is negative as require for the validity of equilibrium relationship among the variables and dynamic stability and statistically significant at 10%. It further revealed that, approximately 38\% number of errors in the short run have been corrected in the long run. Table 3 however suggests that one-unit increase in fiscal deficit (FD) lagged in year 1 private investment \((LINV)\) causes an increase in the current year by 0.000322 units. By inference there is positive relationship between fiscal deficits (FD) lagged in year 1 and private investment \((LINV)\) with negligible impact and statistically not significant.

### Table 3: Parsimonious Private Investment Model (ECM)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF(D(-1))</td>
<td>0.000322</td>
<td>0.000189</td>
<td>1.702046</td>
<td>0.1035</td>
</tr>
<tr>
<td>DLGEXP(-1)</td>
<td>-0.570132**</td>
<td>0.265814</td>
<td>-2.144854</td>
<td>0.0438</td>
</tr>
<tr>
<td>DLGREV(-1)</td>
<td>-0.149033</td>
<td>0.213145</td>
<td>-0.699212</td>
<td>0.4921</td>
</tr>
<tr>
<td>DLGREV(-2)</td>
<td>0.156810</td>
<td>0.124618</td>
<td>1.258323</td>
<td>0.2221</td>
</tr>
<tr>
<td>DLGREV(-3)</td>
<td>0.276088***</td>
<td>0.084322</td>
<td>3.274204</td>
<td>0.0036</td>
</tr>
<tr>
<td>DLEXR(-1)</td>
<td>0.205859**</td>
<td>0.108206</td>
<td>1.902480</td>
<td>0.0709</td>
</tr>
<tr>
<td>DLEXR(-2)</td>
<td>-0.067248</td>
<td>0.113106</td>
<td>-0.594553</td>
<td>0.5585</td>
</tr>
<tr>
<td>DLINV(-1)</td>
<td>0.566664***</td>
<td>0.197526</td>
<td>2.868810</td>
<td>0.0092</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.380336*</td>
<td>0.195560</td>
<td>-1.944854</td>
<td>0.0653</td>
</tr>
</tbody>
</table>

R² 0.64  Adjusted R² 0.488  F-statistics 4.179  Prob. (F-statistics) 0.003  D-W 1.72

Note that ***, ** * indicate significant at 1\%, 5\% and 10\% respectively.

Source: Authors’ computation using E-Views Version 7.

Nevertheless, on the controlled variables, there exist negative long run relationship between private investment and government expenditure \((LGEXP)\) lagged in year 1 and found to have decreased in the current year by -0.570132 and significant at 5\%. Consequently, the coefficient of government revenue \((LGREV)\) lagged in year 1 affects private investment in the long run negatively; as the unit increase reduces private investment by -0.149033 and considered to be not significant value. Again, the coefficient of LGREV lagged in year 2 and 3 increases LINV positively with the parameters values of 0.156810 and 0.276088 accordingly and revealed to have statistically significant at 10\% in lagged 3. Meanwhile, the coefficient value of exchange rate \((LEXR)\) lagged in year 1 have positive impact on LINV and significant at 10\% while in lagged 2 affect negatively with the coefficient value of -0.067248 and statistically not significant. The coefficient of determination R², account for 0.488 (48\%) of the variation of Private Investment \((LINV)\) between 1980 to 2014 are explained by the variables controlled in the model while the remaining 36\% percent are explained by other variables not captured by the model (not controlled in the model that is, error term). As a rule of thumb, if Durbin-Watson statistic is less than 2.0, there is an indication of autocorrelation among the variables, but higher value suggests that autocorrelation is not much severe. From the above table, the D-W statistic is 1.7 that is; less than the required value for D-W statistic (1.8 is less than 2.0). By implication, the successive error terms on average are close to one another in value and therefore, there exist (with negligible concerned) an element of autocorrelation in the series. Finally, the ECM parsimonious model result proves F-statistic significant at 1\%.

### V. CONCLUSION AND RECOMMENDATIONS

From the above results, the conclusion stems out from assessing the impact of fiscal deficit on private investment suggest that, there exist positive relationship between fiscal deficit and private investment in Nigeria but not significant, this means that the prolong deficit history in the country is not the cause of crowding in neither crowding out of private investment during the period under review as suggest by the Keynes perspective to be positively related. However, government revenue also appears to have positive significant relation with private investment, revealing that government revenue crowd in private investment.

Similarly, there exist negative significant relationship between government expenditure and private investment. This suggest that, government expenditure is sensitive to crow out private investment in the Nigeria during the period under review and is contrary to the theory as postulated by the Keynes economist that
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expect to be positively related. And that may be through in Nigeria as corruption and public treasury embezzlements that can institute as leakages in the implementations process in the country. While exchange rate affects private investment positively and significant revealing that, the level of exchange rate appreciation of Naira-Dollar crowd in private investment. The solution to private investment expansion in Nigeria lies at the purview of government revenue and exchange rate. Therefore, the paper recommends that, government should give emphasis on capital expenditure so as to improved critical infrastructure such as road, electricity, buildings, and other related inputs that can stimulate productivity.

REFERENCE