EFFECT OF DEFICIT FINANCING ON UNEMPLOYMENT RATE IN NIGERIA: AN ERROR CORRECTION MODEL

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ABSTRACT: Deficit Financing plays an extraordinary and growing role in achieving full employment in Nigeria sustainable economic growth, price stability and poverty reduction. Theoretically, both Keynesian and neoclassical economists provided tools for government’s intervention, particularly with regard to government budget deficit financing. This study is aimed at examining the effect of deficit financing on unemployment rate in Nigeria. The study adopted the ex-post facto research design. Annual time series data for 44 years were collected from Central Bank of Nigeria Statistical Bulletin, Federal Office of Statistics and World Bank Handbook of Statistics for the period of 1970-2013. The study indicates that the validity of long run equilibrium relationship between unemployment (UNP) and the explanatory variables (external source of deficit financing (EXF), ways and means source of deficit financing (WM), banking system source of deficit financing (BSF), non-banking public source of deficit financing (NBPF), interest rate (INTR) and exchange rate (EXR)). More so, it is concluded that the Error Correction Model (ECM) is not a spurious model as the computed $R^2$ value of 0.913214 is lower than 1.334885 (Durbin Watson Statistics). However, the $R^2$ shows that 91.32% of the total variations in unemployment rate (UNP) is accounted for, by the explanatory variables (external financing (EXF), ways and means (WM), banking system financing (BSF), non-banking public financing (NBPF), interest rate (INTR) and exchange rate (EXR)). The result also indicates that external source of deficit financing (EXF), ways and means source of deficit financing (WM) and interest rate (INTR) has negative and insignificant implications on economic stability through unemployment level in Nigeria while banking system source of deficit financing (BSF), non-banking public source of deficit financing (NBPF), and exchange rate (EXR) has positive and significant implication on economic stability in Nigeria except non-banking system financing which indicates insignificant. The implications of this result is that deficit financing through external source of deficit financing (EXF) and ways and means source of deficit financing (WM) reduces the level of unemployed individuals in Nigeria which maintain economic stability in the short and long run. The result also revealed that deficit financing through banking sector source of deficit financing and non-banking public source of deficit financing increases unemployment and thereby causing instability in the economy. Unemployment rate (UNP) stands high in 1980 and dropped in 1981. The number of unemployed has been fluctuating from 1970 to 1987, the unemployment rate has continuously witnessed an increase with the highest level of unemployment registered from 1988 to 2013. In conclusion, deficit financing is positively related to unemployment rate indicating that sound policies are needed to achieve economic stability in Nigeria through reduction of the level of unemployment rate in Nigeria.

KEYWORDS: Deficit Financing, Unemployment Rate, ECM, External Financing, Ways and Means
INTRODUCTION

In Nigeria, budget deficit has been blamed for causing much economic crises, high inflation, poor investment performance and growth (Appah and Chigbu, 2013). One of the most important objectives of fiscal policy is to reduce national debt and to check the interest payment on such debt from rising so as to prevent high deficit in the future. However, Nigerian government budget deficit witnessed an increase in the past decades. For instance, from 1981, deficits increased from N3.9billion to N8.2billion in 1986 and it further increased to N15.1billion in 1989. From 1990, the rising trend of budget deficit continued except in 1995 when the budget witnessed or registered a surplus of N1billion. In 1998, an overall deficit jumped to N133.3billion and in 2002, it increased up to N301.4billion. Starting from 2003, government budget deficit declined from N202.7billion to N188.2billion, N150.6billion and N101.3billion in 2003, 2004, 2005 and 2006 respectively. Another increase was witnessed from 2007 at N107billion to N1.5trillion in 2013 (CBN, 2014).

Meanwhile, the value of deficits as a percentage of Gross Domestic Product (GDP) declined to -0.1 percent in 1999. The share of deficits in total GDP has been declining from -2.0 percent in 2003 to -1.1 percent in 2005 and -0.6 percent in 2006. Nigeria recorded budget deficit equal to 1.80 percent of the country’s GDP in 2013 (Nigerian Budget Office, 2014). The Nigerian government budget averaged 2.10 percent of the GDP from 2006 up till 2013, reaching an all-high 4.60 percent of GDP in 2008 and also recorded low of -6.6 percent of GDP in 2009 (Nigerian Budget Office, 2014).

Furthermore, the implication of deficit financing on economic stability through growth, stable inflation and unemployment rate has been one of the subjects of a long standing debate in macroeconomics. Three views emerged from the literature revealing the relationship between budget deficit and macroeconomic variables. Keynesian economics supports the ideas that budget deficit has, by the working of the multiplier, a positive effect on the macroeconomic activities (Appah and Chigbu, 2013). Neoclassical economist argues that budget deficit has negative effects on economic stability as much as Ricardian equivalence approach supports the view of neoclassical economist (Appah and Chigbu, 2013). These three contrasting views show that a large budget deficit is a source of economic instability. Ojong and Hycent (2013) further observed that deficit financing in Nigeria is characterized by poor policy implementation, inconsistence of government macroeconomic policies, low growth of private investment, decline growth in real sector and high level of indiscipline in public sector.

Based on the forgoing relationship between deficit financing and economic stability, a study such as this is necessary. This study, therefore, is designed to investigate the implications of deficit financing on economic stability in Nigeria.

Statement of the Problem

The issue of deficit financing certainly is not new but the level of economic stability of the last decades has brought about more interest in fiscal policy issues that will encourage growth. The government expenditure has been increasing each year because of government spending activities. An increase in government revenue is not sufficient to finance increased government expenditure which leads to deficit. Government revenue has not been ever efficient and it causes large difference between expenditure and revenue. Government always borrows from both internal and external sources to finance such large difference. Therefore,
increasing revenue gap is the characteristic phenomenon of Nigerian budget every year so as to ensure economic stability. The implications of deficit financing on economic stability have not been as positive as can be necessarily expected. Both variables (deficit financing and economic stability) are considered to be very significant for economic growth, but study about their relationship has research gap, as little attention has been paid to the implications of deficit financing on economic stability, particularly in Nigeria. Despite huge government spending to ensure economic stability in Nigeria, a lot of challenges appear to have persisted. Among these challenges are: financing budget deficit and persistent macroeconomic instability in Nigeria (Ojong and Hycenth, 2013), corruption and ineffective economic policies (Gbosi, 2007), ineffective implementation of economic policies (Ayanwenu, 2007), inadequate consensus on the effectiveness of government budget in achieving macroeconomic stability (Appah and Chigbu, 2013), inadequate integration of macroeconomic plans and gross mismanagement and misappropriations of public funds (Okemini and Uranta, 2008), as well as high level of inflation, current account deficit, excessive volatility in exchange rate, high level of unemployment rate and high indebted economy (Karl, 2013). Despite the emphasis placed on government budget deficit financing in the management of the economy, the Nigerian economy is yet to come on the path of sound growth and development. This situation has largely been circulated to the entire sectors of the economy. Statistics has also shown that government deficits financing has been on the rise since 1980 from ₦1.9billion to ₦161.4billion in 2005 before reducing to ₦47.3billion in 2010, accounting for over 20 percent of its gross domestic product from 1980 to 2010 (CBN, 2013).

However, the inability of the government to match revenue and expenditure as a part of the key drivers of growth in Nigeria may be responsible for the lack of congruence between growth and the wellbeing of Nigerians. Hence, the major policy questions generated by this research are, whether government’s budget deficits financing through foreign borrowing are actually aiding growth and economic stability in Nigeria? This is because foreign source of deficit financing causes high exchange rate which in turn causes economic instability; is economic stability associated with keeping deficit financing? Is it that the regulatory authorities failed to use sources of deficit financing such as ways and means to achieve economic stability as a proxy of real gross domestic product, stable inflation and achieving full employment or that ways and means sources of deficit financing is not necessarily a policy measure in achieving economic stability? This is because ways and means source of deficit financing reduces inflation rate thereby causing economic stability. Therefore, if banking system source of deficit financing is desirable for ensuring high level of employment, maintaining low or stable inflation and sustainable economic growth, then to what extent should banking sector source of deficit financing be carried out in other to maintain economic stability? This is because deficit financing through banking system crowded out private sector borrowing and investment and increases the level of unemployment which is an indication of economic instability. Does it mean that non-banking system of financing should be adopted for increasing economic stability by achieving stable economy, maintain low or stable inflation rate and achieving full employment? This is because non-banking sector source of financing is where government borrows from the general public which brings savings and investment to the economy and thereby causing economic stability. However, a lot of empirical studies (Abu and Achegbulu (2012); Isa (2012), Ojong and Hycent (2013), Hassan and Okoroafor (2013); and Oyeleke and Ajilore (2014)) has found that macroeconomic stability is measured with one variable (GDP) but we decomposed economic stability into three variables (GDP growth rate, inflation rate and unemployment...
rate). This is necessary because economic stability is refers to the absence of excessive fluctuations in the macroeconomy and an economy is considered economically stable when there is constant growth in the economy, low or stable inflation and low unemployment rate. These are the major issues that form the thrust of this study, which attempts to investigate the implications of deficit financing on economic stability in Nigeria.

**REVIEW OF RELATED LITERATURE**

*Concept and Nature of Deficit Financing*

James (1982) states that deficit financing is destabilizing in a flexible price mode because instability results from debt growth increasing the interest rate which reduces investment and prohibiting the growth of aggregate supply required to restore equilibrium. In Nigeria like other countries of the world, government is the major player in social sector where there is absolute need to raise expenditure over and above projected revenue, deficit will arise. This may be as a result of natural disaster such as floods, earthquake and farming. Other reasons such as poverty alleviation, health and education programmes may also put pressure on government leading to financing of fiscal deficit. Bello (2004) and Agundu (2003) reveal that deficit financing has not shown any improvement in economic infrastructure and activities. It has also been observed that instead of committing the additional funds arising from deficit financing into productive investment to increase capital formulation political leaders in Nigeria use the money for their personal use such as birthday party, etc. Stevan (2010) explains that the conventional perception is that the big and sustainable deficit financing raises the real interest rate under a given level of savings and thereby crowd out the private investment.

Deficit financing for developmental purpose is resorted to mainly because, when the government in a developing country like Nigeria takes up the responsibility of promoting economic growth, it has to compensate for the lack of private investment through expansion of public sector. But, due to paucity of current resources at its disposal, it normally finds it difficult to finance the huge public outlay necessary for accelerating the tempo of growth. Thus, a country resorting to planning for development finds it easier to obtain additional resources for the plans through deficit financing. In Nigeria, for instance, deficit financing constitutes an important source of obtaining financial resources for the plans. CBN (2013) defines deficit financing as a practice in which government spends more than it receives as revenue and the difference being made up by borrowing more money into the economy than it takes out by taxation with the expectation that increased business activities will bring enough additional revenue to cover the shortfall. Deficit financing, however, may also result from government inefficiency, reflecting widespread tax evasion or wasteful spending rather than the operation of a planned countercyclical policy.

**The Implications of Fiscal Deficit**

1. **Debt Trap:** Fiscal deficit indicates the total borrowing requirements of the government. Borrowings not only involve repayment of principal amount, but also require payment of interest. Interest payments increase the revenue expenditure, which leads to revenue deficit. It creates a vicious circle of fiscal deficit and revenue deficit, wherein government takes more loans to repay the earlier loans. As a result, country is caught in a debt trap.
2. **Inflation:** Government mainly borrows from Central Bank of Nigeria (CBN) to meet its fiscal deficit. CBN prints new currency to meet the deficit requirements. It increases the money supply in the economy and creates inflationary pressure.

3. **Foreign Dependence:** Government also borrows from rest of the world, which raises its dependence on other countries.

4. **Hampers the future growth:** Borrowings increase the financial burden for future generations. It adversely affects the future growth and development prospects of the country.

**Unemployment Rate (UNP)**

Unemployment rate was proxied as one of the measures of economic stability in Nigeria. This is because high unemployment rate in Nigeria has become a major problem for policymakers and thereby causing economic instability in Nigeria. Unemployment is one of the fundamental developmental challenges facing Nigeria at the moment. It is among the biggest threats to economic and social stability in many countries including Nigeria. Unemployment rate measures the percentage of employable people in a country's workforce who are over the age of 16 and who have either lost their jobs or have unsuccessfully sought jobs in the last month and are still actively seeking work. Keynesian theory states that deficit financing by government to boost employment and increase in aggregate total demand will reduce the level of unemployment. Kemi and Dayo (2014) see unemployment in different ways in Nigeria such as structural unemployment, cyclical unemployment, frictional unemployment and classical unemployment. They state that structural unemployment occurs due to globalization and technology advancement which replaces workers with machinery that causes layoff of employed people. Cyclical unemployment occurs when the aggregate demand of the economy is not sufficient to give the type of jobs everybody wants to do. This is because aggregate demand discourages the production and reduces the workers strength. Frictional unemployment occurs when the skills of the works are mismatched with the underlying jobs. It ahs short run effect on the economic stability. Classical unemployment occurs when the government set the salary wage rate above the equilibrium prices that causes unemployed persons to rush for the job in the labour market which exceeds the number of people needed for the job. Bamidiro (2003) submit that minimum wages, job security regulations and social security are the major factor that causes unemployment in Nigeria. He also states that unemployment in Nigeria has become a major problem for policymakers and thereby causing economic instability. Unemployment is the involuntary idleness of a person willing to work at the prevailing rate of pay but unable to find work (Jhingan, 2008). Unemployment has been one of the most persistent and unmanageable problems facing all industrial countries of the world. Keynesian theory states that deficit financing by government to boost employment and increase in aggregate total demand will reduce the level of unemployment.
The graph above shows that Nigeria’s unemployment rate has been fluctuating since 1970 and increased to 24.0 percent in 2013 compared with 21.1 percent in 2010 and 19.7 percent in 2009. NBS (2014) states that unemployment rate is higher in rural areas than in the urban areas due to increased number of school graduates with no matching job opportunities, a freeze on employment in many public and private sector institutions as well as mismanagement of capital budget by the government. Kemi and Dayo (2014) suggest that there is need to incorporate fiscal measures and increase the attraction of foreign direct investment (FDI) to reduce the high rate of unemployment in the country and ensure economic stability through sustainable economic growth.

**Relationship between Deficit Financing and Unemployment in Nigeria.**

Government policies on expenditure framework and fiscal policy strategy provide the basis for annual budget planning. They consist of a macroeconomic framework that indicates fiscal targets and estimates revenue and expenditure including government financial obligations in other to improve the growth of the economy. Budget deficit was projected to rise marginally to about 1.9% of GDP in the 2014 budget compared to 1.85% in 2013 due to its inability to improve growth in the economy (World Bank, 2014). The 1.9% is clearly within the 3% of GDP threshold stipulated in the Fiscal Responsibility Act of 2007 (NBO, 2014).

Deficit financing can be defined as the type of budgetary system has been undertaken by many developing countries like Nigeria as a means of achieving some macro-economic objectives such as economic stability in an economy. Deficit financing can also be seen as a policy strategy which is mostly undertaken to address macroeconomic problem like low output on growth. It is also a strategy that has tendency of mounting pressure on prices thereby causing inflation (CBN, 2013).
Government spending can be financed by government borrowing or taxes. Keynes (1936) was one of the first economists to advocate government deficit spending (increased government spending financed by borrowing) as part of the fiscal policy response to an economic stability through growth. According to Keynesian theory, increased government spending raises aggregate demand and increases consumption, which leads to increased production and enhanced growth in economy.

Emmanuel (2000) opines that the growth of advance countries deficit has called for re-examination of the effect of fiscal deficit on economic development. In less developed countries like Nigeria, budget deficit has been attributed to the level of economic crisis that started since 1980s; over indebtedness and debt crisis, high inflation, poor investment and poor economic growth. Attempt to regain stability in the economy through deficit financing proved abortive (Vincent, Ioraver, and Wilson, 2012). This is because, the recent size of the deficit has been a cause of concern to many people including the policy makers, academician and investors and its effect on economy. High interest rate, real exchange rate and inflation increased public spending.

Deficit financing has been the major factor that impact on economic stability through growth and development in Nigeria (Bakare, Adesanya, and Bolarinwa, 2014). Omoke and Oruta (2010) explain that Nigeria’s policy formulation has been focused on how to put budget deficit under control so that it can contribute to the growth of the economy by reducing the level of unemployment rate in Nigeria.

THEORETICAL FRAMEWORK

There are many theories (Keynesian economics theory, neoclassical economics theory, Ricardian equivalence approach, Fiscal Theory of Price Level and Musgrave Theory of Public Expenditure) which seek to explain the implications of deficit financing on the performance of economic stability around the world. These theories are of relevance to this study as they serve as building blocks to this study. For the purpose of this study, the theoretical frameworks that were considered relevant is neoclassical economics.

Keynesian Economic Theory

Keynesian Economic Theory was developed by British Economist John Maynard Keynes (1936) and was used by Ali (2014); Bakare, Adesanya and Bolarinwa, (2014); Muhhammad, Sofia, Syed and Abbas, (2014); Okelo, Momanyi, Lucas and Alia, (2013); Okoro, (2013); Ojong and Hycenth (2013) in their studies. Keynesian theory states that public expenditures can contribute positively to economic growth by increasing government consumption through increase in employment, profitability and investment. The theory also states that government can reverse economic downturns by borrowing money from the private sector and returning the money to private sector through various spending. This theory believes that active government intervention in the market place through deficit financing was the only method for ensuring growth and stability by ensuring efficiency in resources allocation, regulation of markets, stabilization of the economy and harmonization of social conflicts. Keynes states that in the short run, economic growth through economic stability is strongly influenced by total spending in the economy. This theory regards the economy as being inherently unstable and required active government intervention through spending to achieve economic stability.
Parkim (1990) opines that Keynesian assign a low degree of importance to monetary policy and high degree of importance to fiscal policy. Bowden (1982) in Ojong and Hycenth (2013) states that Keynesian economics believes that our ability to understand what determines the level of spending will help us to know what determine the level of employment, production of output and income in the economy. Keho (2010) states that budget deficit has a positive effect on macroeconomic activity and thereby stimulating savings and capital formation. Deficit financing whether through domestic resources or foreign borrowings involves the absorption of real resources by the public sector that otherwise would be available to the private sector (Okelo, Momanyi, Lucas and Alia, 2013). Keynesian theory stimulates the economy, reduces unemployment and makes households feel wealthier using government spending (Usher, 1998). In another view, Okpanachi and Abimiku (2007) opine that budget deficit stimulates economic activities in the short run by making households feel wealthier and hence, raising total private and public consumption expenditure. This means that Keynesian theory causes money demand to rise and interest rate will also increase which will make investment to decline. Keynesian economists often argue that private sector decisions sometimes lead to inefficient macroeconomic outcomes which require active policy responses by the public sector, in particular, monetary policy actions by the Central Bank of Nigeria and fiscal policy actions by the federal Ministry of Finance, in order to stabilize output over the economy.

**Empirical Review**

Isa (2012) deployed regression analysis, co-integration test and vector error correction model to investigate the implication of deficit financing on private sector investment in Nigeria. The findings show that there is a negative relationship between deficit financing and investment in the period under review. This means that deficit finance in Nigeria crowds out private investment. However, the study was of the opinion that government should redirect its fiscal policy that would favor the private sector by discouraging high government expenditure and maintaining low fiscal deficit. It was recommended that to avoid crowding out effect, deficit should be financed through the capital market.

Oluseyi and Elegbede (2012) investigated the causes of unemployment in Nigeria and implication of graduate unemployment in Nigeria. The study used descriptive survey as well as primary and secondary source of data. It was discovered that economic meltdown, government policy, employment of expatriates and trade union wage demand, increases the rate of unemployment and thereby causing instability in the economy. The study also revealed that rural-urban migration, lack of information and imposition of minimum wage brings about unemployment in Nigeria. The study recommends that there is the need for re-evaluation since the planning of human resource use in Nigeria has been based on guess work.

Ezie (2012) examined the relationship between Youth unemployment and its socio economic implications in Nigeria using ordinary least square (OLS). The study found that there is long run relationship between youth unemployment and socio economic growth in Nigeria.

Johnson (2013) examined the relationship between tax policy, inflation and unemployment in Nigeria spanning from 1970 to 2008 using ordinary least square (OLS) method and co-integration. The study indicates that taxes have a negative effect on inflation rate in line with the theory but with insignificant coefficient. The result also shows that a negative relationship between taxes and unemployment but insignificant which is contrary to the economic theory.
This means that tax policy was not effective in controlling inflation and tackling unemployment problem in Nigeria during the period under study because of its inconsistency in the use of tax measures.

Kemi and Dayo (2014) examined the impact of unemployment on economic growth in Nigeria, using Johansen co-integration test and error correction model (ECM) to determine both the short and long run impact of the two variables. It was found that there is long run relationship between unemployment rate and economic growth output in Nigeria. The study also indicates that development programmes and policies introduced by the government of Nigeria which does not aim at declining unemployment rates but increasing growth rate. This is because the graph presented in their work shows that while unemployment rate was increasing, the economy was as well increasing due to over dependence on oil as a major source of revenue to the nation. The study recommends that activities by the government in promoting economic growth in Nigeria should be focused towards promoting employment for the people.

Asaju, Arome and Anyio (2014) investigated the rising rate of unemployment in Nigeria: the socio-economic and political implications using descriptive survey and content analysis. It was discovered that corruption, lack of good governance, inadequate infrastructural facilities, lack of human capacity development, ineffective educational system, neglect of Agriculture, the effect of globalization process, among other factors were responsible for high level or rate of unemployment in Nigeria.

Kemi and Dayo (2014) used Johasen co-integration and error correction model (ECM) to investigate the relationship between unemployment and economic growth in Nigeria. Johasen co-integration and error correction model (ECM) were employed to determine both the short run and long run relationship among variables in the study. The result shows that there is both short and long run relationship between unemployment rate and economic growth. The study recommended that there is need to incorporate fiscal policy measures and increase the attraction of foreign direct investment (FDI) to reduce the high rate of unemployment in Nigeria.

METHODOLOGY

This study made use of the Ex-post facto research design. Onwumere (2009) states that ex-post facto design is the type of research involving events that have already taken place. The data already exist as no attempt would be made to control or manipulate relevant independent variable. It aims at determining and measuring the relationship between one variable and another or the implications of one variable on another. We applied sets of regression estimation techniques to resolve the four hypotheses stated while time series analysis were be utilized to examine the magnitude and significance of the relationship among the research variables. This study covered sources of deficit financing for the period under review (1970-2013) and its implications on unemployment rate in Nigeria. Annual secondary data of the variables were used and they include deficit financing variables (external source of deficit financing, ways and means sources of deficit financing, banking system source of deficit financing, non-banking public source of deficit financing, exchange rate and interest rate) and unemployment rate (UNP).
Based on the above, the models for our study are therefore estimated as follows:

\[ Y_t = \beta_0 + \beta_1 x_t + \mu_t \ldots (1) \]

However, the linear function of the above notation is hereby modified and estimated as follows;

\[ Y_t = \beta_0 + \beta_1 x_{t1} + \ldots + \beta_n x_{tn} + \mu_t \ldots (2) \]

Transforming the above structural econometric models to regression models, we have:

\[ \text{UNP}_t = \alpha_0 + \alpha_1 \text{EXF}_t + \alpha_2 \text{WM}_t + \alpha_3 \text{BSF}_t + \alpha_4 \text{NBPF}_t + \alpha_5 \text{INTR}_t + \alpha_6 \text{EXR}_t + \mu_t \ldots (3) \]

Where;

- \( Y_t \) = Dependent Variables (Unemployment Rate (UNP);
- \( x_{t1} \) = External Source of Deficit Financing (EXF) (explanatory variable);
- \( x_{t2} \) = Ways and Means Source of Deficit Financing (WM) (explanatory variable);
- \( x_{t3} \) = Banking System Source of Deficit Financing (BSF) (explanatory variable);
- \( x_{t4} \) = Non-Banking Public deficit Financing (NBPF) (explanatory variable);
- \( x_{t5} \) = Interest Rate (INT) (control variable) and \( x_{t6} \) = Exchange Rate (EXR) (control variable).
- \( t \) = Time series (Annual) values.
- \( \mu_t \) = Error or disturbance term.

**RESULTS**

**Unit Root Test**

Aliyu (2001) states that it has been in practice among researchers that macroeconomic data are characterized by a stochastic trend and if untreated, the statistical behaviour of the estimators is influenced by such trend. This means that it has become conventional rule to examine stationarity of the chosen variables in econometric studies like ours to obtain a reliable result. Ajab and Audu (2006) opine that the outcome of working with non-stationary variables leads to spurious regression results from which further reference or result may be meaningless. This test tries to examine the property of the variables. It is used to check for the presence of a unit root. This test is carried out using the Augmented dickey-Fuller (ADF) unit root test. This is the first test carried out in the co-integration analysis and is known as the pre co-integration test. The results of the unit-root tests are presented below:

<table>
<thead>
<tr>
<th>Series</th>
<th>ADF Test Statistic</th>
<th>1% Critical Value</th>
<th>5% Critical Value</th>
<th>10% Critical Value</th>
<th>Order of integration</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNP</td>
<td>-6.110942</td>
<td>-3.596616</td>
<td>-2.933158</td>
<td>-2.604867</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
<tr>
<td>EXF</td>
<td>-7.713802</td>
<td>-3.600987</td>
<td>-2.935001</td>
<td>-2.605836</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
<tr>
<td>WM</td>
<td>-9.3202253</td>
<td>-3.600987</td>
<td>-2.935001</td>
<td>-2.605836</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
<tr>
<td>BSF</td>
<td>-9.556234</td>
<td>-3.600987</td>
<td>-2.935001</td>
<td>-2.605836</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
<tr>
<td>NBPF</td>
<td>-8.917943</td>
<td>-3.610453</td>
<td>-2.938987</td>
<td>-2.607932</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
<tr>
<td>INTR</td>
<td>-8.378742</td>
<td>-3.596616</td>
<td>-2.933158</td>
<td>-2.604867</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
<tr>
<td>EXR</td>
<td>-6.024103</td>
<td>-3.596616</td>
<td>-2.933158</td>
<td>-2.604867</td>
<td>1(1)</td>
<td>Stationary @ 1%, 5% &amp; 10%</td>
</tr>
</tbody>
</table>

Source: Author's Calculation 2015 (Extracted from E-View 7.0 output)
Table 2: Results of Augmented Dickey-Fuller (ADF) Unit Root Test with Trend and Intercept

<table>
<thead>
<tr>
<th>Series</th>
<th>ADF Test Statistic</th>
<th>1% Critical Value</th>
<th>5% Critical Value</th>
<th>10% Critical Value</th>
<th>Order of Integration</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNP</td>
<td>-6.250010</td>
<td>-4.192337</td>
<td>-3.520787</td>
<td>-3.191277</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
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</tr>
<tr>
<td>EXF</td>
<td>-8.032359</td>
<td>-4.198503</td>
<td>-3.523623</td>
<td>-3.192902</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
<td></td>
</tr>
<tr>
<td>WM</td>
<td>-9.188107</td>
<td>-4.198503</td>
<td>-3.523623</td>
<td>-3.192902</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
<td></td>
</tr>
<tr>
<td>BSF</td>
<td>-10.08852</td>
<td>-4.198503</td>
<td>-3.523623</td>
<td>-3.192902</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
<td></td>
</tr>
<tr>
<td>NBPF</td>
<td>-9.102402</td>
<td>-4.273277</td>
<td>-3.557759</td>
<td>-3.212361</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
<td></td>
</tr>
<tr>
<td>INTR</td>
<td>-8.312780</td>
<td>-4.192337</td>
<td>-3.520787</td>
<td>-3.191277</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
<td></td>
</tr>
<tr>
<td>EXR</td>
<td>-6.232947</td>
<td>-4.192337</td>
<td>-3.520787</td>
<td>-3.191277</td>
<td>1(1) Stationary @ 1%, 5% &amp; 10%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's Calculation 2015 (Extracted from E-View 7.0 output)

The a priori expectation when using the Augmented dickey-Fuller (ADF) test is that a variable is stationary when the value of the Augmented dickey-Fuller (ADF) test statistic is greater than the critical value at 1%, 5%, and 10%. All of the variables used met this a priori expectation at first difference. The above empirical Augmented dickey-Fuller (ADF) test in tables 1 shows that the variables (UNP, EXF, WM, BSF, NBPF, INRATE and EXR) are integrated of order one (1) both with intercept and trend and intercept. They are integrated of the same order; 1(1).

Co-integration Test
Having confirmed that the variables (UNP, EXF, WM, BSF, NBPF, INRATE and EXR) were stationary at their first difference 1(1) which denoted that the variables are of the same order of integration, the next thing is to determine the number of long run equilibrium relationships of co-integrating vectors among the variables. The variables can therefore be said to have reliable long-run relationship among them with dependent variable coefficient of co-integration of 0.884724 (Eigen value) and 271.5118 (Trace Statistic) in Table 3. The result for Johansen co-integration test for the series; UNP, EXF, WM, BSF, NBPF, INRATE and EXR are presented in Table 3 below.

Table 3: Johansen Co-integration Result for the series: UNP, EXF, WM, BSF, NBPF, INTR and EXR (UNP = F (EXF, WM, BSF, NBPF, INTR and EXR)) using Trace Statistic

<table>
<thead>
<tr>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>0.05</th>
<th>Prob.**</th>
<th>Hypothesized</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.884724</td>
<td>271.5118</td>
<td>125.6154</td>
<td>0.0000</td>
<td>None*</td>
</tr>
<tr>
<td>0.823905</td>
<td>180.7739</td>
<td>95.75366</td>
<td>0.0000</td>
<td>At most 1 *</td>
</tr>
<tr>
<td>0.708374</td>
<td>107.8312</td>
<td>69.81889</td>
<td>0.0000</td>
<td>At most 2 *</td>
</tr>
<tr>
<td>0.535986</td>
<td>56.07539</td>
<td>47.85613</td>
<td>0.0007</td>
<td>At most 3 *</td>
</tr>
<tr>
<td>0.299780</td>
<td>23.82609</td>
<td>29.79707</td>
<td>0.2079</td>
<td>At most 4 *</td>
</tr>
<tr>
<td>0.145380</td>
<td>8.858948</td>
<td>15.49471</td>
<td>0.3786</td>
<td>At most 5 *</td>
</tr>
<tr>
<td>0.052406</td>
<td>2.260809</td>
<td>3.841466</td>
<td>0.1327</td>
<td>At most 6</td>
</tr>
</tbody>
</table>

Source: Author’s Calculation 2015 (Extracted from E-View 7.0 output)
*(*)) denotes rejection of the hypothesis at 5% significance level. L.R test indicates 5 co-integrating equation(s) at 5% level of significance. Normalized Co-integrating Coefficients: 1 co-integrating Equation(s).

ECM of Equation (UNP = F(EXF, WM, BSF, NBPF, INTR and EXR))

In this model, we proxy economic stability for unemployment rate in Nigeria and the implications of deficit financing on economic stability in Nigeria using unemployment rate as dependent variable. Unemployment is one of the most critical socio economic problems that cause instability in Nigeria economy. It is one of the measures of economic stability of a country. The equation in the eight model regressed UNP on EXF, WM, BSF, NBPF, INTR and EXR. The below table contains the error correction coefficient estimates results and other results. The a priori expectation for the vector error correction coefficient (alpha) is that it must be negative. The result meets this expectation and this implies that 35.4567 percent of the errors are corrected in the long run.

Table 4: ECM Result

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Coefficient</td>
<td>Std. Error</td>
<td>t-Statistic</td>
</tr>
<tr>
<td>C</td>
<td>5.665910</td>
<td>0.769209</td>
<td>7.365892</td>
</tr>
<tr>
<td>D(EXF)</td>
<td>-6.12E-05</td>
<td>4.05E-05</td>
<td>-1.511872</td>
</tr>
<tr>
<td>D(WM)</td>
<td>-1.61E-05</td>
<td>6.91E-06</td>
<td>-2.333152</td>
</tr>
<tr>
<td>D(BSF)</td>
<td>1.34E-05</td>
<td>4.84E-06</td>
<td>2.777596</td>
</tr>
<tr>
<td>D(NBPF)</td>
<td>5.19E-06</td>
<td>2.72E-06</td>
<td>1.905662</td>
</tr>
<tr>
<td>D(EXR)</td>
<td>0.077449</td>
<td>0.007214</td>
<td>10.73594</td>
</tr>
<tr>
<td>D(INTR)</td>
<td>-0.099684</td>
<td>0.061805</td>
<td>-1.612887</td>
</tr>
<tr>
<td>ECM (-1)</td>
<td>-0.354567</td>
<td>0.763458</td>
<td>4.871243</td>
</tr>
</tbody>
</table>

R-squared              | 0.913214            | Mean dependent var| 8.763636                |
| Adjusted R-squared    | 0.899140            | S.D. dependent var| 6.517315                |
| S.E. of regression    | 2.069798            | Akaike info criter.| 4.437689                |
| Sum squared resid     | 158.5104            | Schwarz criterion | 4.721538                |
| Log likelihood        | -90.62916           | Hannan-Quinn criter.| 4.542954                |
| F-statistic           | 64.88899            | Durbin-Watson stat| 1.334885                |
| Prob(F-statistic)     | 0.000000            |                   |                          |

Source: Author’s Calculation 2015 (Extracted from E-View 7.0 output)

The results of the vector error correction model in table 4 above show the estimates of the short run dynamic interaction among the variables. As earlier said, the ECM is a measure of the speed of adjustment of the short run relation to unexpected shocks. It is measured as the effects of residual from the long run model. This long run feedback effect is indicated by significant of Error Correction Model (ECM) terms while the short run causality is measured by the significant coefficient on the individual variables. The co-integration test conducted earlier is mainly to establish whether this error correction model (ECM) term (derived from
the residual of long run regression) is stationary at level or not and to determine how many of such relationships exist. As confirmed earlier, there is significant long run relationship among the variables. However, the fact that there is presence of long run relationship among the variables included in the model does not automatically imply that all the variables in the model have significant effects on the dependent variable. Meanwhile, a crucial parameter in the estimation of the short run dynamic model is the coefficient of the error correction model which measures the speed of adjustment of economic stability to its equilibrium level.

In this case, the error correction coefficient is 0.354567. This means that the system corrects its previous period disequilibrium at a speed of 35.46% annually. Moreover, the sign of error correction coefficient is negative and significant indicating the validity of long run equilibrium relationship between unemployment (UNP) and the explanatory variables (external source of deficit financing (EXF), ways and means source of deficit financing (WM), banking system source of deficit financing (BSF), non-banking public source of deficit financing (NBPF), interest rate (INTR) and exchange rate (EXR)). More so, it is concluded that the Error Correction Model (ECM) is not a spurious model as the computed R² value of 0.913214 is lower than 1.334885 (Durbin Watson Statistics). However, the R² shows that 91.32% of the total variations in unemployment rate (UNP) is accounted for, by the explanatory variables (external financing (EXF), ways and means (WM), banking system financing (BSF), non-banking public financing (NBPF), interest rate (INTR) and exchange rate (EXR)). The result also indicates that external source of deficit financing (EXF), ways and means source of deficit financing (WM) and interest rate (INTR) has negative and insignificant implications on economic stability through unemployment level in Nigeria while banking system source of deficit financing (BSF), non-banking public source of deficit financing (NBPF), and exchange rate (EXR) has positive and significant implication on economic stability in Nigeria except non-banking system financing which indicates insignificant. The implications of this result is that deficit financing through external source of deficit financing (EXF) and ways and means source of deficit financing (WM) reduces the level of unemployed individuals in Nigeria which maintain economic stability in the short and long run. The result also revealed that deficit financing through banking sector source of deficit financing and non-banking public source of deficit financing increases unemployment and thereby causing instability in the economy. Unemployment rate (UNP) stands high in 1980 and dropped in 1981. The number of unemployed has been fluctuating from 1970 to 1987, the unemployment rate has continuously witnessed an increase with the highest level of unemployment registered from 1988 to 2013.

Test of Causality

The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. In conducting an econometric study, the direction of causal relationship among variables is determined according to the information obtained from the theory. In this study, Granger Causality test were used in order to test the hypotheses regarding the presence and the direction of the causality between deficit financing and economic stability. For the purpose of this, the direction of causality determines the direction of the relationship among variables and Granger Causality test has three different directions. The concept of causality is essentially of importance in econometric analysis. The basic principle is to know whether a past change in one variable A causes a current change in another variable B or whether the relation works in the opposite direction. Granger (1988)
states that if two variables are co-integrated, then there must be at least one direction of causality between investigated variables. The causality test results are presented in tables 5 below.

Table 5: Pairwise Granger Causality Tests
Sample: 1970 2013
Lags: 2

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXF does not Granger Cause UNP</td>
<td>42</td>
<td>1.25585</td>
<td>0.2967</td>
</tr>
<tr>
<td>UNP does not Granger Cause EXF</td>
<td></td>
<td>1.42469</td>
<td>0.2535</td>
</tr>
<tr>
<td>WM does not Granger Cause UNP</td>
<td>42</td>
<td>3.39014</td>
<td>0.0445</td>
</tr>
<tr>
<td>UNP does not Granger Cause WM</td>
<td></td>
<td>3.28657</td>
<td>0.0485</td>
</tr>
<tr>
<td>BSF does not Granger Cause UNP</td>
<td>42</td>
<td>1.53257</td>
<td>0.2294</td>
</tr>
<tr>
<td>UNP does not Granger Cause BSF</td>
<td></td>
<td>8.11200</td>
<td>0.0012</td>
</tr>
<tr>
<td>NBPF does not Granger Cause UNP</td>
<td>42</td>
<td>0.59592</td>
<td>0.5563</td>
</tr>
<tr>
<td>UNP does not Granger Cause NBPF</td>
<td></td>
<td>1.65924</td>
<td>0.2041</td>
</tr>
<tr>
<td>INTR does not Granger Cause UNP</td>
<td>42</td>
<td>1.19046</td>
<td>0.3155</td>
</tr>
<tr>
<td>UNP does not Granger Cause INTR</td>
<td></td>
<td>1.19746</td>
<td>0.3134</td>
</tr>
<tr>
<td>EXR does not Granger Cause UNP</td>
<td>42</td>
<td>2.09970</td>
<td>0.1369</td>
</tr>
<tr>
<td>UNP does not Granger Cause EXR</td>
<td></td>
<td>0.19272</td>
<td>0.8255</td>
</tr>
</tbody>
</table>

Source: Author’s Calculation 2015 (Extracted from E-View 7.0 output)

Considering the output of Granger Causality and using 6 and 42 degree of freedom, the F-tabulated value is 2.65 at 5% level of significance. It is observed from the pair-wise relationship between EXF and UNP that the F-statistics is 1.25585 while the value for UNP and EXF is 1.42469. The estimate shows that 1.25585 is less than 2.65 while 1.42469 is less than 2.65 hence, the rejection that EXF does not granger cause UNP. This implies that there is one-way causation between EXF and UNP. It means that external financing does not granger cause economic stability through unemployment but economic stability through unemployment granger cause external financing.

It is observed from the test also that there existed neither one-way nor two-way causation among the variables; EXF and UNP, GTR and UNP, BSF and UNP, NBPF and UNP, INTR and UNP, and EXR and UNP. However, there is two-way causation among WM and UNP. It implies that WM granger cause UNP and UNP granger cause WM.

CONCLUSION AND RECOMMENDATIONS

Conclusion
From the research findings, the study provide empirical evidence and conclude that the sign of error correction coefficient is negative and significant indicating the validity of long run equilibrium relationship between unemployment (UNP) and the explanatory variables
(external source of deficit financing (EXF), ways and means source of deficit financing (WM), banking system source of deficit financing (BSF), non-banking public source of deficit financing (NBPF), interest rate (INTR) and exchange rate (EXR)). More so, it is concluded that the Error Correction Model (ECM) is not a spurious model as the computed $R^2$ value of 0.913214 is lower than 1.334885 (Durbin Watson Statistics). However, the $R^2$ shows that 91.32% of the total variations in unemployment rate (UNP) is accounted for, by the explanatory variables (external financing (EXF), ways and means (WM), banking system financing (BSF), non-banking public financing (NBPF), interest rate (INTR) and exchange rate (EXR)). The result also indicates that external source of deficit financing (EXF), ways and means source of deficit financing (WM) and interest rate (INTR) has negative and insignificant implications on economic stability through unemployment level in Nigeria while banking system source of deficit financing (BSF), non-banking public source of deficit financing (NBPF), and exchange rate (EXR) has positive and significant implication on economic stability in Nigeria except non-banking system financing which indicates insignificant. The implications of this result is that deficit financing through external source of deficit financing (EXF) and ways and means source of deficit financing (WM) reduces the level of unemployed individuals in Nigeria which maintain economic stability in the short and long run. The result also revealed that deficit financing through banking sector source of deficit financing and non-banking public source of deficit financing increases unemployment and thereby causing instability in the economy. Unemployment rate (UNP) stands high in 1980 and dropped in 1981. The number of unemployed has been fluctuating from 1970 to 1987, the unemployment rate has continuously witnessed an increase with the highest level of unemployment registered from 1988 to 2013. In conclusion, deficit financing is positively related to unemployment rate indicating that sound policies are needed to achieve economic stability in Nigeria through reduction of the level of unemployment rate in Nigeria.

RECOMMENDATIONS

Based on our findings and conclusions from our study, the following recommendations were made and they include:

1. Since non-banking public source of deficit financing has been relatively low over the years and has insignificant negative implications on economic stability in Nigeria through inflation rate, government should minimize the level of borrowing from non-banking public for effective control of inflation rate in Nigeria.
2. Deficit financing in Nigeria should be focused on the productive sector of the economy. This is because deficit financing is positively related to economic instability indicating that sound policies are needed to achieve economic stability in Nigeria.
3. There is need to strengthen interest rate policy through effective and efficient regulation and supervisory framework.
4. Since the result of deficit financing through ways and means source of deficit financing will sustain the economic growth and increase the level of unemployment by fueling inflation. This means that ways and means source of deficit financing can only achieve its full potential on economic stability if government can come up with laws and regulation and strengthen the existing ones so as to enhance economic stability in Nigeria through maintaining low level of unemployment rate.
5. The insignificant implications of banking system source of financing (BSF) on economic stability in Nigeria implies that deficit financing through banking system source will crowd out private investment thereby causing economic instability. There is need to strengthen policies that will reduce the level of financing budget deficit
through banking sector (commercial banks and merchant banks) so as to maintain economic stability.

6. Deficit financing in Nigeria should be focused on the productive sector of the economy. This is because deficit financing is positively related to economic instability indicating that sound policies are needed to achieve full employment rate in Nigeria.

REFERENCES


