

FISCAL POLICY, CO-INTEGRATION AND ECONOMIC STABILITY IN NIGERIA (PRELIMINARY INVESTIGATION)

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Abstract

This paper set out to investigate the behavioural effect of fiscal policy on economic stability in Nigeria between the periods 1981 to 2014 using secondary data sourced from the central bank of Nigeria statistical bulletin. The result of the ordinary least square reveals that of all the fiscal policy indicators used in the process of research, only federal government external debt (FXD) maintain a positive and significant relationship to economic stability. The value of FXD reveals that further increase in external debt would promote economic stability in Nigeria. On the other hand, the value of total government expenditure (TGE) shows that increase in government expenditure when an economy is facing inflationary pressure will bring about economic instability. The stationary test using ADF unit root mechanism reveals that all the variables became stationary after first differencing in the order of 1(1). The result of the Johansson co-integration test reveals the existence of four co-integrating equation which suggest that there is long run nexus between all the variable used in the process of research. The result of the granger causality test shows that there is no causality flow between tax (TAX), federal government external debt (FXD), oil and non-oil revenue (ONOLR) and commodity price index (CPI), while there exists a causality flow between TGE and CPI with causality flowing from TGE to CPI. Based on our findings, we conclude that fiscal stimulus is a paramount tool for economic stability and hence recommend that appropriate fiscal policy tools should be put in place as mix-match of policy could bring about ripple effect and more instability in the economy.

Keywords: Economic Stability, Tax, Oil and Non-Oil Revenue, Causality

1.0 Introduction

Fiscal policy through variation in government expenditure and taxation enormously affect national income, employment, output, and price. For instance, an increase in government expenditure when the economy is faced with recession may stimulate aggregate demand for goods and services and result to a large increase in income via multiplier process while reduction in taxes will bring about increase in the disposable income, investment expenditure and quickly stimulate consumption and hence positively influence economic activities. On the other hand, a reduction in government expenditure during inflation will immensely lead to reduction of aggregate demand, downsize of national income, output level, employment and price, while increase in tax will lead to reduction in disposable income, reduction in investment expenditure and consumption. Sequel to this, government can control deflationary and inflationary pressure in the economy by a vast combination of expenditure and taxes (countercyclical fiscal policy).

When fiscal policy is implemented by the federal government, it is usually anchored on some certain objectives which include economic stability and growth, stimulating investment opportunities and provision of full employment, to stabilise price level and maintain equilibrium balance of payment among others. Fluctuation, variation or instability in these fiscal policy objectives is then questioned on some certain endogenous and exogenous factors (monogbe, 2016). One of the paramount economic weapons used in stabilising the state of economy is fiscal policy which involves taking some measures to regulate, control and counteract undesirable trend in the economy gbose (1998). However, the consecutive fiscal deficit over the years (1979's) coupled with a reduction in the income (revenue) generated from oil calls for new policies that will solemnize the emergence of public sector to achieve economic stability. The role played by fiscal policy depends on the state of the economy as at when the policy was implemented. Expansionary fiscal policy is expected when the economy is faced with high level of unemployment, low level of productivity high level of poverty and general economic instability as stated by the Keynesian school of thought (recession). The monetarist and the Keynesian school have different opinions about this view. The monetarist argue that expansionary fiscal policy may specifically have a ripple effect on some interest sensitive investment which could eventually crowd out private investors while the Keynesian school hold a view that expansionary fiscal policy help in stimulating economic growth by giving room for investment expansion hence crowd in private investors. The combination of expansionary monetary policy and fiscal policy tools (countercyclical fiscal policy) is expected to be stimuli in achieving economic stability during economic recession. This view is however in consonant with the Keynesian argument that monetary and fiscal policy tools could be used in stabilising economic performance. At this juncture, it is important to note that since early 80's, various forms of fiscal policy measures have been put in place by the Nigerian government so as to achieve basic economic goals but, one wonders why these goals are not been achieved despite the theoretical and empirical justification. Prior to this, the researcher is inspired to investigate the behavioural effect of fiscal policy and economic stability in Nigeria using a single model. Taxes, total expenditure, external debt and oil and non-oil revenue were proxies for fiscal policy indicators while commodity price index is proxies for economic stability in Nigeria.

Statement of problem

Okunroumu, 1993 from his empirical research assert that it will be difficult to say that the Nigerian state of economy is progressing due to the fact that, the various efforts put in place by the government to manage the state of economy so as to achieve a sustainable macro-

economic stability have been inverse and unfruitful. This can be felt in the various instability in the state of economy, high level of unemployment, high inflationary pressure, price instability, low investment level, low level of foreign direct investment and finally instability in the real gross national income which is seriously affecting the entire economy per capital income.

From the analysis of the World Bank (2003), uneven and disharmonious macro-economic changes propelled by a large foreign term of trade shock and excessively depending on revenue from export especially crude oil is the paramount challenges faced by the Nigerian economy. By some measures, Nigeria's economy ranked among the most volatile in the world for the period 1960 to 2000. Meanwhile, Ejuvbeokpo, et al (2015) however stated that one of the problems faced in this country is the lack of assessment of the appropriate fiscal policy mix that will be suitable in reducing accumulated debt and stimulate investment and the necessary medium term budget deficit stability.

Series of research work carried out by some researcher like gbosi (2002), okowa (1997) and Agiobenebo (2003) report that the Nigeria state of economy is still surrounded with excessive dependant on foreign technology, high level of inflation, high level of unemployment among others. In some years back, the Nigerian government has put in an effort to ensure that sustainable economic growth rate is achieved and poverty line is downsized to a bearable level but, all of these were not achieved despite the large quantum of human and natural resources the nation is endowed with. This condition is highly unbearable when comparing our state of economy with some countries which we are far better off in the early 60's like the Asian tigers such as Taiwan, Hong Kong, china, Singapore and Malaysian. Based on these identified problems, this empirical research tends to test the behavioural effect of fiscal policy and economic stability in Nigeria stating from the pre SAP era to post SAP era.

Study objective

The gross objective of this study is to statistically investigate the behavioural effect of fiscal policy and economic stability in Nigeria using commodity price index as proxy for economic stability while taxes, external debt, total expenditure and oil and non-oil revenue are proxies for fiscal policy indicator. The specific objectives are stated below:

- i. To empirically test the effect of taxes on commodity price index in Nigeria.
- ii. To statistically investigate the impact of external debt on commodity price index in Nigeria.
- iii. To empirically investigate the influence of oil and non-oil revenue on commodity price index in Nigeria.
- iv. To test the impact of total revenue on commodity price index in Nigeria.

Research Question

- i. To what extent do taxes affect commodity price index in Nigeria?
- ii. To what extent does external debt influence commodity price index in Nigeria?
- iii. To what extent does total revenue stimulate commodity price index in Nigeria?
- iv. To what extent does oil and non-oil revenue contribute to the commodity market in Nigeria?

Research hypothesis

H₀₁: Taxes does not significantly relate to commodity price index in Nigeria.

H₀₂: There is no significant relationship between external debt and commodity price index in Nigeria.

H₀₃: Total expenditure does not significantly relate to commodity price index in Nigeria.

H₀₄: Oil and non-oil revenue does not significantly influence commodity price index in Nigeria.

2.0 Literature review

This research work intends to review series of prominent theories and categorizes them into two major groupings; (A) Theories of fiscal policy and (B) theory of economic stability and growth. They include:

- Traditional Keynes' theory
- Compensatory fiscal policy
- The Endogenous Growth model

The Keynesian view

In the Keynesian view, the role of fiscal policy is secondary to that of government policy. To Keynes, monetary policy is of some importance in that by altering interest rate, it can influence aggregate demand through the investment component, and perhaps to a lesser degree the consumption component. Thus, government expenditure and taxes will affect only resource allocation, but also the distribution of incomes. He also argues that investment is a strategic ingredient in economic growth therefore we would expect the economy's growth rate to be stimulated more by corporate taxes cut and increased business subsidies than by cutting personal income taxes, and increasing transfers to low income families. Increased government spending on infrastructures tends to stimulate investment activities. The distributives are quite apparent such as in Education, Health, Agriculture and other sectors of the economy. In a layman's view, the Keynes approach to government expenditure on the whole through its government expenditure and subsidies is to promote growth rather than less inequality among people of various social and economic backgrounds by making available substantial subsidies that lower income families are not eligible or cannot make use of because of other condition constraints.

Compensatory fiscal policy

The rationale behind this policy is aimed at continuously compensating the economy against serious inflation and deflation that could occur due to manipulating taxes and government expenditure. Sequel to this, the government increases its expenditure through deficit budgeting and reduction of taxes whenever there is deflationary tendencies in the economy. This is done as a means of compensating for the lack in effective demand, employment, output, and income within the economy and private investment. On the contrary, when there is a tendency of inflation, government should reduce her expenditure by way of budget surplus and increase taxes so as to mop in those surplus funds in circulation through increase in taxes so as to stabilise the economy at the full employment level. The two major approaches to compensatory fiscal policy are built in stabiliser and discretionary fiscal policies. The build in stabiliser involves the automatic adjustment of the expenditure and

taxes in reaction to the cyclical upswing and downswing within the economy without a deliberate intension and action of the government. This is however referred to automatic stabiliser. Secondly, we have discretionary fiscal policy which involves the deliberate act of the government in changing the taxes rate, government expenditure level or even both. These are usually the three forms which include either changing in taxes with government expenditure constant or changing government expenditure and taxes constant or change in both taxes and expenditure.

Endogenous growth theory

The endogenous growth theory is one of the major theories that emphasises on the endogenous factors which could help in stimulating the economy. This theory however emphasises on the technical progress that could emanate from the local investment, size of stock market, and stock of human capital. The theory lays much emphasis on those internal factors which could serve as a sweetener and attract the operations of the multinational firm. The theory pointed out that the effectiveness of the local market is the prerequisite for technical progress while economic growth comes from technological change. This theory suggests that convergence of growth rate par capital of developing and developed countries can no longer be expected to occur. The increasing returns of both human and capital implies that the rate of returns to investment in developed countries will not fall relative to developing countries. In fact, the rate of returns to investment in developed countries is likely to be higher compared to developing countries. Therefore capital needs not to flow from developed countries to developing countries and actually the reverse may happen.

Empirical reviews

Series of arguments have emanated from the theoretical background and previous empirics as to whether fiscal policy improves economic stability; quite a number of results emerge while there have not been a consensus in the literature as to this effect. Hence, these calls for more empirical findings as this paper will contribute to the existing argument in the Nigerian context.

Monogbe, T.G. and Davies, N.L (2016) carried out an empirical investigation on the monetary and fiscal policy with the intension to test which of these tools is most appropriate in the present situation of the Nigerian economy using secondary data spanning from 1981-2014. Total government expenditure was proxy for fiscal policy tools while total money supply was proxy for monetary policy tools applying series of estimating tools such as impulse response, variance decomposition, and series of diagnostic test. Output reveals that total government expenditure (TGE) has a positive and a significant influence in promoting economic growth which canvases support for the Keynesian that increase in government expenditure is a key instrument in promoting economic growth and hence crowd in private investors in Nigeria. Based on their findings, they recommended that policy makers should ensure that the large quantum of funds flowing from the government pulse should be apportioned asymmetrically to the production sector of the economy like the manufacturing sector, agricultural sector among others.

Muscатели, et al (2002) investigated the G7 countries using VAR estimating model. Meanwhile, in capturing the interdependence between monetary and fiscal policy Bayesian VAR model is used. The findings revealed that monetary and fiscal policy were used as strategic complement while further research by zhang (2003) using a VAR and state space model and markov-switching shows that in the interaction of monetary and fiscal policy in France and Germany, there exist some regime changes.

Nathan P. Audu, (2012) carried out a study on the impact of fiscal policy on the Nigerian economy using time series data spanning from 1980 to 2010 and co-integration error correction mechanism estimating tools were used. The output of the findings show that the entire variables used in the process of the research work is significantly related to gross domestic product.

Chukka A. chukka, (2010) investigated the nature of fiscal policy in Nigeria using VAR and impulse response graph for the period of 1970 to 2008. Result shows that there is an interaction in the contractive manner between monetary and fiscal policy in Nigeria and between 1998 and 2008, there was no interaction pattern between monetary and fiscal policy.

Meanwhile, omoruyi (2000) highlighted some major causes of macro-economic instability in Nigeria and low level of national output growth. According to him he stated that unsustainable level of fiscal deficit and mismanagement of deficit finance are the major causes of macro-economic instability, and if not properly managed could lead to poor economic performance in Nigeria.

Ejubekpokpo, et al (2015), investigated the impact of fiscal policy on investment expenditure in Nigeria using government expenditure, income taxes and gross domestic product as exogenous variable. The study covers the period of 1970 to 2010 using ordinary least square estimating tools. Output of their findings reveals that government expenditure and gross domestic product is positively and significantly related to investment in Nigeria while taxes income has an inverse relationship to investment expenditure.

Ogar, et al (2014) carried out a study with the intension of determining factors of fiscal and monetary policy that contributed to the growth of the Nigerian economy using secondary data from 1986 to 2010 while ordinary least square estimating tools were used. Finding reveals that government expenditure, government revenue, exchange rate, and money supply has a positive and significant relationship with economic growth in Nigeria while inflation rate is positive but not significantly stimulating economic growth in Nigeria.

Yakubu, et al (2013), investigated the effectiveness of the interaction between monetary and fiscal policy on price and output growth in Nigeria using impulse response and variance decomposition. From their findings it was revealed that government revenue and money supply positively impacted on price and economic growth in the long run.

Ajisafe and folorunso, (2002) carried out a study on monetary and fiscal policy as tools for promoting economic growth using error correction model and co-integration to justify their analyses. Their findings show that monetary policy exerts more impact on the economic activities in Nigeria than fiscal policy.

Raymond A. and Adigwe, P.K, (2015) tend to investigate the effect of tax as a fiscal policy tool on the performance of the selected manufacturing firm in Nigeria using descriptive statistic tools while testing the hypothesis with ANOVA. Finding reveals that taxes as one of the major fiscal policy instrument has a significant effect on the performance of the selected manufacturing firm under study in Nigeria hence companies performance is the major determinant for the amount of tax to be paid.

Medee, P. and Nenbee, S. (2012) studied fiscal deficit and inflation in Nigeria between the period of 1980 to 2010 using ordinary least square estimating tools. Output of their findings shows that interest rate and inflation rate has a direct link with fiscal policy. But in the long run, inflation rate impacts more on the fiscal deficit while interest rate does not, and this

could however be blamed on the instability of the macro-economic policy environment, corruption among other.

Shuaib, et al (2015), examined the impact of fiscal policy on the growth of the Nigerian economy using time series data from 1960-2012. Unit root test, co-integration test, VAR estimating and pairwise granger causality tools were used in the process of research so as to identify the direction of causality flows. Result shows that there exists a significant relationship between fiscal policy in the Nigeria economy.

Samson Ogege & Abass A, (2012) investigated the dynamics of Nigeria's monetary and fiscal policies as it promotes growth in the Nigerian economy using Engle-granger and Johansson co-integration test for the analysis. The output of the findings shows that there exists a linear relationship between the exogenous variable and the endogenous variable in the long-run and that both tools (monetary and fiscal policy tools) jointly promote the growth of the Nigerian economy.

Olawunmi and Ayinla (2007) in their study arrived at a conclusion that despite the huge some of government expenditure over the years; specifically 1980-2004, the growth rate in Nigeria is very sluggish and nothing to write home about. Sequel to this, they concluded that achievement of sustainable economic growth in Nigeria through fiscal policy has remained a mirage.

Abdurrauf I. Babalola (2015) examined the impact of fiscal policy on economic development in the short and long-run in Nigeria using time series data spanning from 1981 to 2013. Government capital expenditure, government recurrent expenditure, government investment and tax revenue were proxy for fiscal policy indicator while real per capital income was proxy for economic development. Unit root test, co-integration test and error correction model were applied. Findings revealed that there exists a positive and significant nexus between government recurrent expenditure and government investment in the long and short-run while capital expenditure has a short-run positive impact on economic development.

3.0 Research methodology

Research design

This empirical investigation is designed after ex-post factor research design method using secondary data spanning from 1981 to 2014. Oil and non-oil revenue, taxes, government expenditure and external debt were proxy for fiscal policy indicators while commodity price index was proxy for economic stability.

Source of Data and Operational Measures

This research work utilises secondary data sourced from the central bank of Nigeria statistical bulletin between the periods 1981 to 2014. In an attempt to actualise the gross objective of this study, Oil and non-oil revenue, taxes, government expenditure and external debt were proxy for fiscal policy indicators while commodity price index was proxy for economic stability and are calculated thus:

Commodity price index is aimed at testing domestic market and how fiscal policy has affected it. Oil and non-oil revenue is measure as a ratio of GDP, Taxes are captured as a ratio of GDP, total government revenue which comprises of current and capital expenditure is also captured as the ratio of GDP while external debt which is the combination of multilateral and bilateral debt is also measure as a ratio of GDP.

The Model

Based on the above empirical and theoretical underpinning, we hereby formulate our model in functional form thus: i.e. commodity price index is a function of oil and non-oil revenue, total government expenditure, taxes and external debt.

$$\text{CPI} = f(\text{TGE}, \text{GED}, \text{TAX}, \text{ONOR}) \dots \dots \dots (1)$$

The above model is however transformed into a mathematical model by introducing slope and constant thus:

$$\text{CPI} = \beta_0 + \beta_1 \text{TGE} + \beta_2 \text{GED} + \beta_3 \text{TAX} + \beta_4 \text{ONOR} \dots \dots \dots (2)$$

The above model is finally transformed into econometrics model by introducing error term thus:

$$\text{CPI} = \beta_0 + \beta_1 \text{TGE} + \beta_2 \text{GED} + \beta_3 \text{TAX} + \beta_4 \text{ONOR} + \mu_i \dots \dots \dots (3)$$

The above model is further linearized thus:

$$\log \text{CPI} = \beta_0 + \log \beta_1 \text{TGE} + \log \beta_2 \text{GED} + \log \beta_3 \text{TAX} + \log \beta_4 \text{ONOR} + \mu_i \dots \dots \dots (4)$$

Where,

- CPI = Consumer price index
- TGE = Total government expenditure
- TAX = Tax
- GXD = Government external debt
- ONOR = Oil and non-oil revenue
- B₀ = Slope
- β₁. β₄ = constant
- μ_i = Error term

Apriori Expectation

Sequel to the above review empirics and theories, independent variable is expected to have a direct and positive nexus with the regress and criterion variable which is mathematically stated thus:

$$\beta_1, \beta_2, \beta_3, \text{ and } \beta_4 > 0.$$

4.0 Data presentation

Table 1

Commodity price index (CPI), oil and non-oil revenue (ONOR), total government expenditure (TGE), government external debt (GED) and taxes (TAX). 1981-2014.

YEARS	CPI	GXD	ONOR	TAX	TGE
1981	20.555	2.471324	14.08937	7.963108	12.09583
1982	5.882	8.731215	11.31937	5.760915	11.80081
1983	22.222	9.610849	9.548156	5.69871	8.758859
1984	40.909	12.73648	9.678593	6.25028	8.540466
1985	3.226	12.8543	11.18241	7.431013	9.688684
1986	6.25	30.79673	9.357949	5.920802	12.05052
1987	11.765	52.18718	13.14172	8.35137	11.40165
1988	34.211	50.87785	10.48148	5.920696	10.53971
1989	49.02	62.88748	14.09261	6.773819	10.73353
1990	7.895	90.87198	29.85375	11.61015	18.34089
1991	12.195	60.19275	18.50782	5.649788	12.20151
1992	44.565	62.17745	21.75763	6.085053	10.60159
1993	57.143	58.1037	17.69046	11.56956	17.54919
1994	57.416	46.35372	14.42529	6.47443	11.49461
1995	72.729	24.65693	15.82148	8.59089	8.55656
1996	29.291	15.30938	12.98507	8.063487	8.362969
1997	10.673	14.22526	13.91206	8.384849	10.22188
1998	7.862	15.86727	11.62087	8.866488	12.20995
1999	6.618	55.0814	20.28522	14.1602	20.25321
2000	6.938	46.13617	28.39264	8.896639	10.44243
2001	18.869	46.06525	32.36454	11.55843	14.76433
2002	12.883	50.44902	22.21512	9.194154	13.06043
2003	14.033	45.17396	25.9756	10.32167	12.36665
2004	15.001	42.85549	34.35699	10.98582	12.49839
2005	17.856	18.44565	37.96828	11.36619	12.47084
2006	8.218	2.431843	32.13161	9.893054	10.43923
2007	5.413	2.124626	27.72625	11.29701	11.86456
2008	11.581	2.153634	32.37769	13.14371	13.33872
2009	12.543	2.381348	19.53918	10.65966	13.92658
2010	13.72	2.029844	21.49103	9.089886	12.34254
2011	10.841	2.397362	29.71636	9.498949	12.59577
2012	12.217	2.532807	26.2794	8.952245	11.35896
2013	8.476	3.239822	23.02014	9.509753	12.23046
2014	8.057	3.646154	22.50206	8.044526	10.23114

Source: CBN statistical bulletin

Curve Linear Multiple Regression Output

We start our empirical analysis by testing for short run relationship using ordinary least square (OLS) estimating tools.

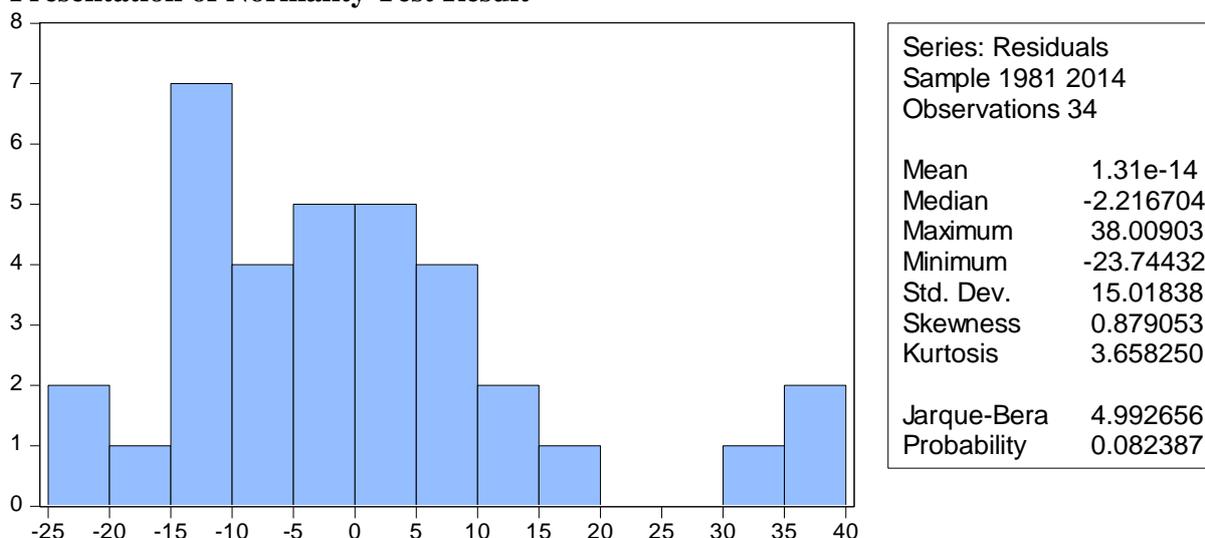
Table 2 ordinary lease square

Dependent Variable: CPI					
Method: Least Squares					
Date: 04/21/16 Time: 18:07					
Sample: 1981 2014					
Included observations: 34					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	45.04512	13.57239	3.318879	0.0024	
TGE	-3.850097	1.902792	-2.023394	0.0523	
TAX	2.972681	2.554433	1.163734	0.2540	
ONOR	-0.772427	0.489380	-1.578378	0.1253	
FXD	0.377233	0.139551	2.703198	0.0114	
R-squared	0.278726	Mean dependent var	19.91391		
Adjusted R-squared	0.179240	S.D. dependent var	17.68370		
S.E. of regression	16.02069	Akaike info criterion	8.520691		
Sum squared resid	7443.208	Schwarz criterion	8.745156		
Log likelihood	-139.8518	Hannan-Quinn criter.	8.597240		
F-statistic	2.801664	Durbin-Watson stat	1.051520		
Prob(F-statistic)	0.044158				

Source: E-view 9

The result of the estimation above shows that of the entire variable used in the process of research, only FXD with the probability value of (0.0114) is positive and significant in explaining the behaviour of fiscal policy to economic stability in Nigeria. Meanwhile, ONOR and TGE with probability value of (0.1253 and 0.0523) respectively have a negative coefficient of -3.8500 and -0.7724 which suggest an inverse relationship to economic stability. While TAX has a positive probability value of 0.2540 but insignificant. The output of the TGE with the coefficient of -3.8500 is in line with the theory which explains that when there is a tendency of inflation, government should reduce its expenditure and increase tax. This suggest that 1% increase in government expenditure during inflation will bring about 3.8500 unit decrease in economic stability hence to maintain stability, government expenditure must be reduce, while tax should be increased.

Table 3
Presentation of Normality Test Result



Jarque-bera normality test is employ to ascertain the extent to which the residual is distributed. From the above result, our probability value is 0.08238 which is greater than the 5% alpha level which suggests that the residual of our model is normally distributed, positively skewed to the right towards normality and the value of the kurtosis are leptokurtic in nature.

Table 4
Test for stationality

Variables	ADF test statistics	Critical val @5%	Probability value	Order of integration	remark
CPI	-5.8064	-2.9571	0.000	1(1)	stationary
TAX	-8.5162	-2.9604	0.000	1(1)	stationary
TGE	-6.5897	-2.9604	0.000	1(1)	stationary
ONOR	-6.7321	-2.9571	0.000	1(1)	stationary
FXD	-5.1122	-2.9571	0.000	1(1)	stationary

Source: E-view 9

From the table above, we observe a unit root between the entire variables used in the process of research at level. Hence, all the variables are not stationary at level. In further research into first order (differencing), we discover that the entire variables used in the process of research became stationary in the order of 1(1) hence, we proceed to test for long-run nexus between the variable using Johansson co-integration tests.

Table 5

Joansson co-integration test

Date: 04/21/16 Time: 18:20
Sample (adjusted): 1984 2014
Included observations: 31 after adjustments
Trend assumption: Linear deterministic trend
Series: CPI TGE TAX ONOR FXD
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value
None *	0.699137	94.83059	69.81889
At most 1 *	0.571749	57.59649	47.85613
At most 2 *	0.418993	31.30705	29.79707
At most 3	0.287535	14.47430	15.49471
At most 4 *	0.120049	3.964563	3.841466

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Source: E-view 9

The result of the Johansson co-integration test shows the existence of three co-integrating equation judging the 5% level of significant and by their respective ranking order. Based on this fact, we conclude that there is a long run relationship between all the variables used in the process of research and that the variable share mutual stochastic trend.

Table 6 Parsimonious error correction model output

Dependent Variable: LOG(CPI)				
Method: Least Squares				
Date: 09/14/16 Time: 11:21				
Sample (adjusted): 1982 2014				
Included observations: 33 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.571024	1.541392	2.965517	0.0063
LOG(FXD)	0.280503	0.107211	2.616357	0.0144
LOG(ONOR)	0.087622	0.424240	0.206539	0.8379
LOG(TAX)	0.034656	0.834463	0.041530	0.9672
LOG(TGE)	-1.222163	0.873464	-1.399214	0.1731
ECM(-1)	-0.357533	0.180067	1.985560	0.0473
R-squared	0.523987	Mean dependent var	2.669287	
Adjusted R-squared	0.498800	S.D. dependent var	0.784692	
S.E. of regression	0.702376	Akaike info criterion	2.294270	
Sum squared resid	13.31996	Schwarz criterion	2.566362	
Log likelihood	-31.85545	Hannan-Quinn criter.	2.385821	
F-statistic	2.588014	Durbin-Watson stat	1.763008	
Prob(F-statistic)	0.048903			

Source: E-views 9

The result above reports that of all the four exogenous variables under investigation, only one variable passes the test of significance judging by 5% alpha level. Federal government external debt (FXD) appears to be positive (0.0144) and maintains a significant relationship to the stability of the Nigerian economy. This suggests that 1% increase in government external debt is capable of stabilizing the economy to the tune of 0.28% all things been equal. On the same frame, oil and non-oil export and tax seems not to promote economic stability as established by the various insignificant P-value (0.8379 and 0.9672) respectively while total government expenditure (TGE) maintains a negative and insignificant coefficient to economic stability. The error correction model coefficient and P-value is negative and significant as expected. This justifies the speed at which the disequilibrium in the short run is corrected and adjusted in the long run. From the output of the estimate, ecm maintains a coefficient of (0.3575) which suggests that the disequilibrium in the short run is corrected and adjusted to the tune of 38% in the long run.

Table 7

Granger Causality Test

Pairwise Granger Causality Tests			
Date: 09/15/16 Time: 11:37			
Sample: 1981 2014			
Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Prob.
LOG(FXD) does not Granger Cause LOG(CPI)	32	1.71039	0.1998
LOG(CPI) does not Granger Cause LOG(FXD)		0.47293	0.6282
LOG(ONOR) does not Granger Cause LOG(CPI)	32	0.36546	0.6973
LOG(CPI) does not Granger Cause LOG(ONOR)		0.52039	0.6001
LOG(TAX) does not Granger Cause LOG(CPI)	32	1.20143	0.3163
LOG(CPI) does not Granger Cause LOG(TAX)		1.18741	0.3204
LOG(TGE) does not Granger Cause LOG(CPI)	32	3.94794	0.0313
LOG(CPI) does not Granger Cause LOG(TGE)		0.59878	0.5566

Source: E-view 9

Granger causality test is employed to ascertain the direction of causality flow between the variables used in the process of research. From the result above, there is no record of causality flow between FXD, ONOR, TAX and economic stability indicator over the year under investigation. Meanwhile, there exists a unilateral relationship between TGE and CPI with causality flowing from TGE to CPI. This implies that total government expenditure granger cause commodity price index in the long run. This further suggests that total government expenditure is a good instrument in stimulating economic stability in Nigeria.

5.0 Discussion of Findings, Summary and Recommendation

This paper set out to investigate the behavioural effect of fiscal policy and economic stability in Nigeria between the periods 1981 to 2014 using secondary data sourced from the central bank of Nigeria statistical bulletin. The outputs of our findings are discussed below.

The result of the curve linear multiple regression output reveals that of all the fiscal policy indicators used in the process of research, only federal government external debt (FXD) has a positive and significant relationship to economic stability. This suggests that increase in the borrowed funds from abroad can be useful or could serve as an indicator of economic stability when the economy is uneven and disharmonious. The value of FXD reveals that further increase in external debt would promote economic stability in Nigeria especially when the economy is faced with recession. On the other hand, the value of total government expenditure (TGE) shows that increase in government expenditure when an economy is experiencing boom will bring about economic instability. However, TGE maintains probability value of 0.0523 with a coefficient value of -3.85009 which implies that 1% increase in government expenditure will lead to 3.8500 unit decrease in economic stability,

all things been equal. The stationary test using ADF unit root mechanism reveals that all the variables became stationary after first differencing in the order of 1(1). The result of the Johansson co-integration test reveals that there exist four co-integrating equation which suggests the existence of long run relationship between all the variables used in the process of research. However, all the variables used in this research work are normally distributed and positively skewed to the right toward normality.

The result of the granger causality test shows that there is no causality flow between TAX, FXD, ONOR and CPI. Simply put, the direction of causality flow between TAX, FXD, ONOR and CPI is symbiotic and intertwined. While there exist a causality flow between TGE and CPI with causality flowing from TGE to CPI which implies that total government expenditure granger cause commodity price index. This suggests that increase in government expenditure is a catalyst or determinant for commodity price index. Based on our findings, we conclude that fiscal stimulus is a paramount tool for economic stability and hence recommend that appropriate fiscal policy tools should be put in place as mix-match of policy could bring about ripple effect and more instability in the economy.

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