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EFFECT OF FISCAL POLICY ON PRICE STABILITY IN NIGERIA

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Abstract
The study investigated the effects of aggregates of fiscal policy on price stability in Nigeria using Autoregressive Distributed Lag (ARDL) Model and Error Correction Model (ECM) on annual time series data from 2000 to 2019. Fiscal policy was proxied as budget deficit, government expenditure and taxation while price stability was measured as inflation rate. In the short-run as well as the long-run, the results revealed the consistent absence of a significant effect with regards to budget deficit and government expenditure. Taxation, on the other hand, exerted a positive and significant influence on price stability. This study concluded that fiscal policy in Nigeria is not inflationary, hence suggesting that the Nigerian situation may be a monetary phenomenon. The study therefore recommended that federal ministry of finance should consolidate on its fiscal mechanisms by creating and implementing an institutional framework for fiscal policy with a medium- to long-term perspective. Furthermore, taxation policies must incorporate the economy-wide repercussions and implications of such policies.

Keywords: Price Stability, Fiscal Policy, Budget Deficit, Government Expenditure, Taxation

Introduction
Fiscal policies are macroeconomic instruments used by the government to stabilise the economy (Maheswaranathan & Jeewanthi, 2021). They are government's policy instruments that are primarily targeted to alter aggregate demand and level of economic activities. Elaborately, fiscal policy connotes the utilisation of policy instruments such as budget, government expenditure, taxation and transfer payments to control and regulate the economy by altering revenue and spending levels. These policies can be deployed as either fiscal stimulus or as fiscal contraction tools. In fulfilling its role as a stimulus, the policies are targeted to spur economic activities while as contractionary tools; they are used to mop-up liquidity and slow down economic activities. Invariably, fiscal policy is engaged to stabilize the economy. The aptness of fiscal policy as a tool for economic stabilization is premised on its capability to vary output by influencing overall demand in an economy. There are essentially three fiscal policy variables that are commonly used, namely expenditure (spending), receipt (tax revenue) and the fiscal deficit (Nguyen, 2015). Justifying the effectiveness of fiscal policy, Anyalechi, Onwumere and Boloupremo (2017) and Osuka and Achinihu (2014) highlighted its potential to stimulate economic growth and development and effectuate price stability.

Price stability describes the situation of an economy where general prices remain relatively unchanged over a defined period. This concern on price stability is motivated by the deleterious effects of price instability (Iorember, Usar & Ibrahim, 2018). These adverse effects, as provided by Iorember, et al (2018), include the progressive and steady reduction in the purchasing power of

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money, consequently creating uncertainty for consumers, businesses, and investors. The authors further stated that price instability eroded the value of incomes and savings, diminished the efficiency of resource allocation and also undermined the economy's ability to generate sustained gains in productivity, incomes and employment. The pervasive nature of price instability justifies the myriad of academic researches targeted at probable immediate and proximate inducing factors such as fiscal tools.

Fiscal tools have actively been deployed in emerging economies (Anyalechi, et al., 2017). Central to the predilection towards fiscal tools is the Keynesian postulation that fiscal interventions have significant positive effect on the growth of an economy without destabilizing its price mechanism (See Anyalechi, et al., 2017; Liu & Jing, 2019; Maheswaranathan & Jeewanthi, 2021). Specifically, the theory posits that price instability is not caused by fiscal policy but is rather always a monetary phenomenon. Even though the growth inducing capacity of fiscal policy is evident in developing countries, the areas of transmission channels and its interaction with other economic indicators such as price stability are still insufficiently explored. The demand for such investigation is further propelled by the argument by the monetarists that government activities typically exert a destabilizing and inflationary effect in an economy. These counterclaims have overtime generated an ongoing discourse of the relevance of either claim in developing economies.

Several researchers have quantified this argument. For instance, Nguyen (2015) conducted a dynamic analysis and concluded that fiscal policy noticeably increases the variability of price levels. Dumicic (2019) also stated that majority of fiscal policy measures and activities targeted at facilitating preconditions for a sustainable economic growth have been identified to exert direct or indirect influence on systemic risks and stability of the economy. Similar studies include Khumalo (2013) and Olayungbo (2014) and Oyerinde (2019). Other studies such as Otto and Ukpere (2015), Ogbonna (2014) and Oniore, Ezie and Torka (2015) negated such conclusion as they revealed insignificant evidence of any association between various measures of fiscal policy and inflation rate. A limitation of much of the underlying research is the utilization of methodologies that inadequately capture the dynamic attribute and lagged effect of fiscal policies.

Despite the existence of cogent studies focused on validating the Keynesian postulation that fiscal policies do not disrupt price mechanism, the stabilization effect of fiscal policies instruments remains a highly discussed, debated and largely unsettled issue. The renewed attention maybe attributed to the increasing public debt of most developing economies and severe fiscal imbalances confronting such countries globally. Additionally, the presence of high inflation rate in Nigeria seemingly accompanying consistent expansionary fiscal mechanisms of the government certainly demands a further investigation into how fiscal policy impacts the stability of the price level. Furthermore, Ishaq and Mohsin (2015) had emphasized the importance of the inclusion of conditioning variables to reflect the unique economic structure of any economy under study. Therefore, the study examined the effect of fiscal policy on price stability in Nigeria using ARDL approach and conditioning for size of the economy and foreign spillover by incorporating gross domestic product (GDP) and exchange rate.

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The following hypotheses were tested:
H_{01}: Budget deficit has no significant effect on price stability
H_{02}: Government expenditure has no significant effect on price stability
H_{03}: Taxation has no significant effect on price stability

The next section is the literature review. The third section provides the research methodology followed by results and discussions after which conclusion and recommendations are provided.

Literature Review

Conceptual Review

Price Stability

The primary and predominant objective of government policies is to achieve stable economic growth; this key objective must be complemented with the pursuit of stability in intermediate variables such as general price level and exchange rate. Price stability is a state of economy characterized by low inflation, and thus a stable value of money, that the prices don't change much over time. It is characterized by a rate of inflation so low that it has virtually no influence on economic behaviour. Expounding on the significance of price stability, Aminu and Anono (2012) highlighted its critical importance to policymakers by identifying instability in prices as a major constituent of the vicious, circular and prevalent nature of poverty inherent in developing countries. The essentiality of price stability is because it serves as a catalyst financial and interest rate stability and promotes economic growth. Furthermore, price stability improves the transparency of the price mechanism resulting to more effective allocation of resources as consumption and investment decision makers are better informed. It also reduces inflation risk premium in interest rates, thus propensity to invest increases as real interest rates is reduced (Labonte, 2011). Price stability is concerned with the changes in general price level as opposed to price changes of an individual good or service. It is estimated by the periodic shifts in a currency's purchasing power and is typically measured as inflation rate. It is a common practice to present the rate of inflation as a price index computed by expressing the price level of year of interest to the price level of the base year (Mishkin & Serletis, 2016). The study also explained that a price index was the weighted average of prices of a basket of selected products and services. The weights attributed to each item represents the proportional significance of its relative share in the overall value of the basket. Mishkin and Serletis (2016) further identified Consumer price indices, Producer price indices and Gross domestic product deflator as price indices that are commonly used to quantify the general pattern of price movements at different phases of economic activity. However, since changes in CPIs clearly depict the price fluctuations confronted by individuals within a specified society, it has remained as the foremost broadly utilised price indices (Iorember et al., 2018). Therefore, in this study, price stability is measured as consumer price index.

Fiscal Policy

Fiscal policy refers to the utilisation of measures such as government expenditure, taxation and budget deficit to influence the aggregate demand and productivity of a country (Ene, 2018). These dynamic fiscal instruments are expected to enable the government accomplish its predetermined developmental targets (Maganya, 2020).

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Budget deficit, according to Epaphra (2017) and Goher, Mehboob and Wali (2012), occur when government's projected expenditures is higher than its revenues in a fiscal year. It is an intentional expansionary tool whereby a government plans for its outlays to exceed expected revenue in a particular fiscal year, requiring the financing of the excess expenditure from other sources such as loans (Etim-Ikang, 2013).

Taxation is a compulsory levy imposed by government on its citizens for the sole purpose of providing goods and services for their common benefit (Obafemi, 2014). It is a system used to raise money for the government from the contributions of individual person or corporate body (Obaretin & Akhor, 2019). More precisely, Soyode and Kajola, (2006) explained tax as a compulsory exaction of money by a public authority for public purpose.

Government expenditure is the amount of money spent by government within a fiscal year (Danladi, Akomolafe, Olarinde & Anyadiegwu, 2015).

Empirical Review

Several studies have exploited diverse dimensions of data to ascertain the linkage between fiscal policy and price stability in developed and developing countries. Most of these studies examined the budget deficit/inflation nexus and yielded capricious results which may probably be due to economic structure and methodological differences.

Budget Deficit and Price Stability

Oladipo and Akinbobola (2011) examined Nigerian economy from 1970 to 2005 using Granger causality test. The findings divulged the presence of a significant unidirectional causality with budget deficit causing inflation. Elsewhere, Devapriya and Ichihashi (2012) conducted the study on the Sri-Lankan economy from 1950 to 2010 and confirmed the existence of a bi-directional causality between both variables. Furthermore, the vector autoregressive (VAR) model considered the sources of deficit financing and showed a positive deficits-inflation relationship. Confirming the inflationary effect of deficit in developing countries, Avgeris and Katrakilidis (2013) identified budget deficit as the primary causal determinant of inflation in 33 developing economies. The study could not confirm same in the case of developed countries covering the period 1970 to 2009 using applied dynamic panel econometric methods.

In addition to providing substantiation of the inflationary tendencies of a budget deficit in developing economies, Audu and Apere (2013) explained that the inflationary consequence of budget deficit in any economy was largely dependent on the means of deficit financing and its subsequent influence on aggregate demand. Audu and Apere had examined the economy of fifteen ECOWAS countries, Nigeria inclusive over the period 1980 to 2011 using panel data cointegration analysis. Contrarily, Lwanga and Mawejje (2014) found the absence of inflationary tendency with regards to budget deficit in Uganda, a developing economy. Data covering from 1999 to 2011 was investigated using VECM, granger causality test and variance decomposition techniques.

Reinforcing the absence of inflation as an aftermath of deficit in developed economy, Samirkas (2014) used Johansen co-integration and Granger causality tests in Turkey (1980-2013), revealed

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an insignificant relationship between the variables understudied. Employing a multivariate co-integration regression technique, Uduakobong (2014) also established a causal link between Nigerian deficit and inflation causality (from 1970 to 2010). However, Uduakobong, similar to the submission by Audu and Apere (2013), expounded that this effect is determined by the preferred channel of deficit financing and the absorptive capacity of the productive base of the economy.

Introducing the moderating role of institutional structure in the linkage between deficit and inflation rate, Ishaq and Mohsin (2015) examined eleven (11) Asian countries covering the period from 1981 to 2010 with special reference to the level of autonomy of the central banks and fragility of their financial markets. Even though, the inflationary effect of deficit was evidence in all economies, the Generalised method of moments (GMM) applied showed that the linkage was more pronounced in countries with underdeveloped financial markets and government controlled central banks. This result provides an explanation to the inconsistency in the significance of the interaction between deficit and price stability across economies at various level of development. Most developed countries have autonomous central banks and financial markets that are typically efficient and developed. Ishaq and Mohsin also found that financing via seigniorage increased the inflationary effect of deficit. Meanwhile, the absence of a budget deficit and inflation link in nine EU economies was revealed by Tiwari, Bolat and Kocbulut (2015). The study used different bootstrap and Granger causality tests applied in the frequency domain analysis to explore the economies over the period 1990 to 2013.

Contrary to most studies on African countries, Nkalu, Edeme and Nwosu (2016) deployed Seemingly unrelated regression (SUR) model and Two-stage least squares (2SLS) and revealed that deficit was not inflation inducing. Moreover, Okoye, Evbuomwan, Modebe and Ezeji (2016) revealed that deficit stabilized inflation rate using the VECM. This differed from the empirical evidence provided when Arjomanda, Emamib and Salimic (2016) explored the robustness of estimated Generalized least squares to ascertain the association between inflation rate and deficit in Middle East and North African countries. The study revealed that budget deficit had a positive impact on inflation rate. Similar to the finding of Arjomanda et al. (2016), substantial connection was found between deficit and inflation in the BRICS economies by Molocwa, Khamfula and Cheteni (2018). The study had applied a panel cointegration approach on the period between 1997 and 2016.

In Indian economy (1970 – 2015), Kaur (2018) used Johansen cointegration technique and Granger causality and found an inflationary effect of fiscal deficit in the long run, this was however absent in the short run. Completely reversing the scenario, in the short term, Bulawayo, Chibwe and Seshamani (2018) found a significant relationship and revealed an insignificant linkage in the long run. Bulawayo, et al. had examined the deficits/inflation nexus in Zambia using the ARDL approach. The inflationary effect of budget deficit was however evident in both short run and long run when Sahin (2019) carried out a related study in Turkey also using the ARDL bounds technique for annual data (1980 – 2017). Similarly, Bayir and Guvenoglu (2020) utilized Granger causality test and showed that expansionary fiscal policy had detrimental effects on price stability in Turkey. While Nguyen, Phan and Tran (2022) utilised VAR model and also found that Vietnam's inflation was positively influenced by fiscal deficit.

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Government Expenditure and Price Stability

Focusing on the economy of Indonesia, Surjaningsih, Utari and Trisnanto (2012) studied the relationship between fiscal policy and inflation utilizing VECM on quarterly data, covering the period 1990 to 2009. The study found an inverse relationship between government expenditure and inflation. It is pertinent to note that the study emphasized that this influence was most significant within recessionary periods. Coming from a unique angle, Olayungbo (2013) constructed cumulative sums of positive and negative change of the variables and found that an asymmetric relationship existed between government spending and inflation in Nigeria within a VAR model. Contrary to the claims of the neoclassicals, increase in government expenditure did not have any inflationary effect. On the other hand, the results revealed that reduction in government expenditure increased inflation. The study examined annual data from the period of 1970 to 2010.

In Nigeria, Ogbonna (2014) explored the influence of government expenditure on inflation rate covering the period of 1981-2013. The empirical findings of the co-integration and VECM analysis revealed that government expenditure had no short run or long-lasting effect on price stability. The study also called attention to the significance of lagged values of inflation rate in determining the contemporaneous value. This finding supports the recent predilection to dynamic models such as ARDL that incorporate previous values of dependent variables in the model. Conversely, covering the period from 1985 to 2012, Nguyen (2015) found that increase in government expenditure increased inflation in Indonesia, Malaysia, Bangladesh, Cambodia, Sri Lanka, Pakistan, Philippines, Vietnam and Thailand. Nguyen had employed the Arellano-Bond approach to differenced panel GMM and Pooled mean group techniques on annual data.

Consistent with the result from Ogbonna (2014), Oniore, et al. (2015) revealed the absence of any significant government expenditure/inflation association in Nigeria. The research employed Johansen Co-integration and Granger causality tests to examine the period from 1981 to 2012. Taking advantage of dynamic modeling, Dikeogu (2018) examined the interaction between rate of inflation and public spending utilising ARDL. The findings revealed that, in Nigeria, expenditure on capital projects from 1980 to 2017 significantly reduced inflation rate but government recurrent spending had no such effect. Oyerinde (2019) also examined same period utilising the Johansen cointegration and VECM. The author found that total government expenditure expressed as a percentage of GDP increased inflation in the short and the long run. Consistent with the short run findings of Oyerinde, George-Anokwuru and Ekpenyong (2020) utilized ARDL and revealed a short run positive impact on price level in Nigeria (1980-2019). However, this effect did not persist in the long run. One the other hand, Jorgensen and Ravn (2022) found that the response of prices to government spending increases to be neither negative nor significant. The authors acknowledged that the results from the application of the SVAR models on U.S. economy contradicted the predictions of standard New Keynesian models of the transmission mechanism of fiscal policy

Taxation and Price Stability

Focusing on the economy of Indonesia and utilizing VECM on quarterly data (1990 – 2009), Surjaningsih, et al. (2012) found that tax exerted a positive effect on inflation rate. Atan, (2013)

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also examined such relationship in Nigeria (1970 to 2008) employing the ordinary least square (OLS) method. The research however found that increase in tax revenue reduced inflation. More elaborately, Anichebe (2015) also explored the significance of tax policy on price stability in Nigeria from 1981 to 2012. Even though, the combination of Johansen test, OLS and Wald test revealed a long run linkage between tax policy and rate of inflation, the direction of each type of tax differed. While company income, property tax, consumption tax exerted significant positive influence, personal income tax rate had a negative effect on inflation.

Obaretin and Akhor (2019) studied the period from 1994 to 2014 to ascertain the linkage between tax policy and price stability using the ECM. The empirical findings negated the conclusion of Anichebe (2015) research as company income tax, value added tax and custom and excise duties did not exert any significant effect on the level of inflation. Contrariwise, Husain and Ayesh (2020) employing the Engel-Granger model revealed that tax revenue granger caused inflation. The study had examined the Iraqi economy for the period 2010 to 2018.

The review of the fiscal policy and inflation nexus reveals that their interaction significantly differs across countries and across time. There seems to be strong evidence supporting the inflationary tendencies of fiscal policy especially budget deficit in developing countries, however the association lessens in developed economies lending credence to the assertion that the persistence of inflation in developing countries maybe due to mode of financing the budget deficit and other pressures exerted on the economy of developing countries by the absence of formal economic structures.

Theoretical Framework

Various theories have been postulated to evaluate the relationship between fiscal policy and inflation. The relevant one with regards to this study is hereby discussed.

Fiscal theory of the price level (FTPL): The theory, according to Tule, Nurudeen, Ogundele and Martins (2019), is spearheaded by both Sims (1994) and Leeper (1991). It represents a significant shift from monetarist theory as it eliminates any direct allusion to monetary policy and propounds that price level is determined by government activities with regards to debt, tax and planned expenditure (Bassetto, 2008). That is, it theorises that, fiscal policies are determinants of price level rather than monetary policies. Explicitly, Carlstrom and Fuerst (2000) explained that the theory maintains that fiscal policy, independent of money growth, exerted direct influence of price stability. This view strongly opposes the monetarist view of money supply being the primary determinant of inflation.

Quantitatively, the FTPL expresses the interaction between fiscal policy and price level by relating discounted stream of future primary government surpluses to the outstanding nominal debts. This equation, according to Bassetto and Cui (2018) is termed as the government budget constraint. The equation is stated thus:

$\frac{B_t}{P_t}$ = Present value of primary fiscal surpluses at time t

Where B is the outstanding nominal debts of the government, and
P is the price level.

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The main assumption of FTPL, as stated by Buiter (2005), is that the government can commit to non-Ricardian rules that involve fiscal-monetary plans that do not necessarily satisfy a government intertemporal budget constraint. It also assumes the context of an infinitely-lived, representative agent (Farmer & Zabczyk, 2019). Furthermore, Xu and Serletis (2017) also indicated that the theory assumes the existence of an economy with fiscal dominance, that is, an economy where a passive monetary policy in combination with an active fiscal policy exists.

Diminishing the relevance of FTPL, Buiter (2005) criticised the supposition of a flexible price and fiscal dominance as being mis-specified. More importantly, Buiter and Siberwere (2017) warned that the application of FTPL would result in hyperinflation. Despite the aforementioned fallibility of FTPL, its validity in a developing economy such as Nigeria, where the injections from fiscal policies especially budget deficit are crucial for inducing aggregate demand, remains plausible.

Methodology

The research adopted the ex-post facto design using secondary data obtained from CBN statistical bulletin 2019 and FIRS tax statistical reports. The period covered from 2000 to 2019 (20years). To overcome the inadequacy of estimates of OLS in the presence of endogeneity, the study applied ARDL approach. Beyond solving the endogeneity issue of explanatory variables, the ARDL bounds testing technique allows the combination of variables integrated at different levels. Furthermore, the approach simultaneously estimates both long and short run parameters (Kuhe, 2016).

ARDL expresses the dependent variable as a function of its lagged values, the current and lagged values of other exogenous variables in the model, the generalised ARDL(p,q) model is specified as follows:

$$Y_t = \alpha_{0j} + \sum_{i=1}^{\rho} \delta_j Y_{t-1} + \sum_{i=0}^{q} \beta'_j X_{t-1} + \varepsilon_{jt} \quad \ldots\ldots (1)$$

Where Y is a vector and β and δ are coefficients,
j = 1,....., k ;
α is a constant.
ρ and q are optimal lag orders;
ε_{jt} is a vector of the error term.

Consistent with the stated objectives, the econometric ARDL equation is stated thus:

$$\Delta LnINF_t = \beta_0 + \sum_{k=0}^{n} \beta_1 \Delta LnGAD_{t-k} + \sum_{k=0}^{n} \beta_2 \Delta LnGEXP_{t-k} + \sum_{k=0}^{n} \beta_3 \Delta LnTAX_{t-k} + \sum_{k=0}^{n} \beta_4 \Delta LnGDP_{t-k} + \sum_{k=0}^{n} \beta_5 \Delta LnEXR_{t-k} + \sum_{k=0}^{n} \beta_6 \Delta LnINF_{t-k} + \alpha_1 LnGAD_{t-1} + \alpha_2 LnGEXP_{t-1} + \alpha_3 LnTAX_{t-1} + \alpha_4 LnGDP_{t-1} + \alpha_5 LnEXR_{t-1} + \varepsilon_t \quad \ldots\ldots (2)$$

Where: Δ is difference operator,
β_i and α_i are short-run and long run coefficients respectively.
INF is inflation rate measured as change in consumer price index
GAD is the annual government deficit
GEXP is government expenditure
TAX is the total tax collected as reported by FIRS
GDP is nominal Gross domestic Product

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EXR is annual Average Official Exchange Rate of the Naira (N/US$1.00)

The ARDL equation (2) short run model is specified thus:

$$\Delta LnINF_t = \beta_0 + \sum_{k=0}^{n} \beta_1 \Delta LnGAD_{t-k} + \sum_{k=0}^{n} \beta_2 \Delta LnGEXP_{t-k} + \sum_{k=0}^{n} \beta_3 \Delta LnTAX_{t-k} + \sum_{k=0}^{n} \beta_4 \Delta LnGDP_{t-k} + \sum_{k=0}^{n} \beta_1 \Delta LnINF_{t-k} + \vartheta_0 ECT_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

ECT_{t-1} is the error correction term, with ϑ_0 as the speed of adjustment.

Results and Discussions

Table 1: Descriptive Statistics of the Variables of the Study

	INF	GAD	GEXP	TAX	GDP	EXR
Mean	12.06000	1192.542	3820.584	2882.701	58204.71	169.7520
Median	12.15000	822.8600	3823.785	2905.750	49448.91	149.5891
Maximum	18.90000	4913.820	9714.840	5320.890	144210.5	306.9206
Minimum	5.400000	47.38000	701.0500	433.9000	6897.480	102.1052
Std. Dev.	3.674292	1413.178	2459.628	1733.565	42616.21	67.22531
Skewness	0.064623	1.400502	0.646038	-0.019435	0.483480	1.267813
Kurtosis	2.259703	3.841100	2.818462	1.580091	2.046387	3.118050
Jarque-Bera	0.470621	7.127565	1.418682	1.681377	1.536991	5.369444
Probability	0.790326	0.028331	0.491968	0.431413	0.463710	0.068240

Source: Eviews 10 output

The descriptive statistics of the study in Table 1 showed that most of the variables have normal distribution as indicated by the p-values of the Jarque-Bera coefficients which are higher than 0.05. All the variables are positively skewed towards normality as evidenced by the positive sign of the skewness. The Kurtosis of the distributions of GAD and EXR are greater than 3, indicating that the variables are leptokurtic in nature. Other variables are plutokurtic. The mean values of most of the variables are relatively equal to their median values thus validating the normality results.

Unit Root Tests

The results from the unit root tests from both the ADF and PP estimations (Table 3) confirm that the variables are integrated at different levels. Specifically, inflation rate and gross domestic product are stationary at level while the other variables are stationary after first difference. In other words, unit root tests show that the dependent variable is I(0) and the independent variables are a mixture of I(0) and I(1). Thus, the ARDL approach is more appropriate as it is able to accurately examine relationships between variables at different levels or order of integration.

Table 2: Results of Stationary Test

	Augmented Dickey-Fuller		Phillips Peron	
Variables	Level	First Difference	Level	First Difference
LNINF	-3.811685**	-3.841098**	-3.814390**	-9.612154**
LNGAD	-0.953025	-4.977497**	-0.953025	-4.987857**
LNGEXP	-1.510310	-5.163566**	-1.510310	-5.005032**
LNTAX	-1.719272	-4.134144**	-2.343961	-4.132938**
LNGDP	-4.154904**	-1.174160	-5.662254**	-2.426709
LNEXR	-0.298094	-2.455554**	-2.679773	-2.455554**

** denotes statistically significant at 5%.

Source: Eviews 10 output

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Prior to constructing the error correction model, the ARDL bound test was carried out on the ARDL model with lag-length of 1(one) as chosen using the Akaike Information Criterion (AIC). The result as presented in Table 4 indicates the presence of cointegration as the F-stat is higher than the upper bound at 5% level of significance.

Table 3: ARDL Bound Testing for Cointegration Results.

Test Statistic	Value	k	Significance	I0 Bound	I1 Bound
F-statistic	3.983424	5	5%	2.62	3.79

Source: Eviews 10 output

The error correction model and long run form results are summarized in Table 4.

Table 4: Short Run Estimation and Long Run Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Short Run Estimation				
CointEq(-1)	-1.271419	0.243520	-5.220999	0.0005
D(LNGAD)	-0.040252	0.130364	-0.308764	0.7645
D(LNGEXP)	0.943553	0.610560	1.545388	0.1567
D(LNTAX)	0.900854	0.285938	3.150527	0.0117
D(LNEXR)	4.194920	0.883556	4.747771	0.0010
D(LNGDP)	1.922119	1.463791	1.313110	0.2216
Long Run Estimation				
LNGAD	0.094312	0.060479	1.559407	0.1533
LNGEXP	0.742126	0.572674	1.295896	0.2273
LNTAX	0.708542	0.217619	3.255887	0.0099
LNEXR	0.690471	0.280003	2.465937	0.0358
LNGDP	-1.456067	0.483926	-3.008863	0.0147

Source: Eviews 10 output

The cointegrating equation is negative and significant suggesting an adjustment to long run equilibrium. This result is consistent with our prior finding of the existence of a long run relationship between the variables. With regard to the fiscal policy instruments, the results presented in Table 4 indicate that only Tax revenue had significant and positive effect on inflation rate in the short and long run. Specifically, a percentage increase in tax revenue raises inflation rate by 0.9% in the short run and by 0.7% in the long run, ceteris paribus. On the other hand, contrary to the proposition of monetarists, increase in deficit and government expenditure did not induce distortions in price level as GAD and GEXP did not exert any significant impact on inflation rate (INF). Moreover, the two control variables of the model, i.e., GDP and EXR have significant coefficients in the long run model. This implies that both control variables contribute to the changes in inflation rate in Nigeria. Indeed, based on the magnitude of coefficients, it can be deduced that the changes in inflation rates are largely driven by exchange rate hence exchange rate in Nigeria is highly inflationary.

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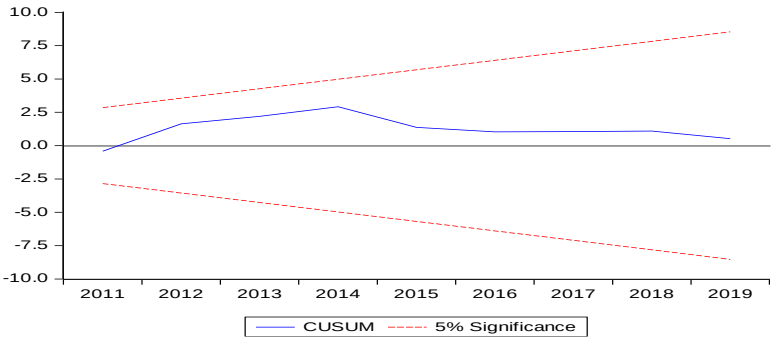
Table 5: Summary of ARDL Model goodness of fit and Diagnostic tests

Model goodness of fit	R-squared		0.854989	The variables in the model explains 85% of the fluctuations in inflation rate in Nigeria
	Adjusted R-squared		0.709977	
	F-statistic		5.896016	The p-value is significant hence the model can be described as being fit
	Prob(F-statistic)		0.007187	
Diagnostic Tests		**Statistics**	**p-value**	
	Correlogram	2.5308	0.112	The absence of autocorrelation
	Serial Correlation	1.230301	0.3484	The absence of serial correlation
	Heteroskedasticity	0.015262	0.9032	Absence of Heteroskedasticity
	Ramsey Reset	1.811327	0.2152	The model is correctly specified
	Jarque-Bera	0.494089	0.781106	Residuals are normally distributed



The cusum tests in Figure 1 show that the variables are stable as the line does not cross the 95% upper and lower bounds. The diagnostics of the model ratify the robustness and reliability of the results of this study. The insignificance of the impact of government deficit was also found by Lwanga and Mawejje (2014), Samirkas (2014), Tiwari, et al. (2015), Nkalu, et al. (2016) and Bulawayo, et al. (2018). It however differs from the empirical evidence from the study by Audu and Apere (2013) Uduakobong (2014), Ishaq and Mohsin (2015) Arjomanda, et al. (2016) Molocwa, et al. (2018), Sahin (2019) Bayir and Guvenoglu (2020). Most of these studies have posited that the inflationary consequence of budget deficit in any economy was largely dependent on the means of deficit financing and its subsequent influence on aggregate demand.

Concerning the government deficit, the finding is consistent with the work done by Ogbonna (2014), Oniore, et al. (2015), Dikeogu (2018) and George-Anokwuru and Ekpenyong (2020). Contrariwise, Surjaningsih, et al. (2012), Olayungbo (2013), Nguyen (2015) and Oyerinde (2019) had found a significant relationship between government expenditure and inflation. Finally, similar to the work by Surjaningsih, et al. (2012), Atan, (2013) and Anichebe (2015), the study found a significant relationship between tax and inflation. Obaretin and Akhor (2019) however did not corroborate this claim in their study.

Conclusion and Recommendations

Price stability play a critical role in development especially in developing countries in general and Nigeria in specific, but Nigeria continues to struggle to provide the required premise for

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investments despite the application of fiscal and monetary policies, hence it might seem plausible and very essential to thoroughly examine the role of fiscal policies to ascertain their significance in pursuit of inflation targeting as a policy giving due consideration to the dynamic feature of economic data and the effect of the size of the economy and external spill-overs. Therefore, this research examined the relationship between fiscal policy and price stability in Nigeria for the period 1985 to 2019 using ARDL approach. The empirical evidence revealed that the conventional view that all expansionary policies are inflationary did not hold in this case as only taxation had a significant effect on inflation rate. Both deficit and government expenditure had an insignificant impact on price stability measured as inflation rate. The study therefore concludes that budget deficits and government expenditure can be utilised to stimulate economic productivity in Nigeria without actuating inflationary spiral.

Based on the conclusion, the study recommends that government should effectively consolidate on the gains of fiscal tools by creating and implementing an institutional framework for fiscal policy with a medium- to long-term perspective. The study also recommends that when enacting tax policies, tax authorities should rigorously identify and incorporate economy-wide repercussions and implications of taxation as this will establish the ultimate consequence of tax increase and eliminate uncertainty concerning the direction and extent of tax shifting which could potentially trigger price instability. Furthermore, since there exists a considerable possibility that the inflationary trend in Nigeria is a monetary phenomenon, it is also recommended that the Central Bank reexamine and alter the current exchange rate determination mechanism.

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