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Pension Reform and Its Effect on Government Recurrent Expenditure: Evidence from Nigeria's Data

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Abstract:

The study seeks to find out the impact of pension reform on government recurrent expenditure in Nigeria. The Augmented Dickey Fuller and Phillips-Perron unit root tests conducted showed the variables for the research to be integrated at different orders of $I(0)$ and $I(1)$, necessitating the adoption of Autoregressive Distributive Lag (ARDL) for the analysis. The optimal lag structure was 1 which was determined through the Akaike Information criteria. The null hypothesis of no co-integration was rejected based on the ARDL bound test. The error correction term indicates that the speed of adjustment emanating from any short run disequilibrium in the variables is about twenty-one (21) times in the long run. Granger causality showed unidirectional causality running from recurrent expenditure to national pension fund, bidirectional causality running from recurrent expenditure to government revenue and vice versa and unidirectional causality running from national pension fund to government revenue. Diagnostic test also indicated the model to be appropriate, it has no serial correlation, no heteroskedasticity and the model was properly specified. The study recommends increase participation in the contributory pension scheme among public sector employees, increased awareness campaign on the benefits of the contributory pension especially in states and local government, contributor's confidence should be taken into consideration among other recommendations.

Keywords: Pension, reform, retirement, old age, recurrent expenditure

1. Introduction

Pension reforms for the past three decades have been at the top of the scale of preference of policy makers in many countries around the world. The need for reforms has been for several obvious reasons depending on the country carrying out the reform. For instance, in most members of the Organisation of Economic Cooperation and Development (OECD) and European Union (EU) reforms were driven by the need to tackle the challenge posed by demographic change in their population. These countries were experiencing an upsurge in the number of old people who are mostly retired while their birth rate is declining, the increase in older people is as a result of increase efficiency in technology and the health care system which in turn leads to increase in life expectancy (Jarret, 2011; Queisser, 1999; Carone et al., 2016; Fredricksen et al., 2019; Ricardo 2011; Fredricksen et al, 2005; Schwarz, 2006). In Latin American countries of Chile and Argentina, their reforms of 1981 and 1993 respectively was triggered by the combined reasons of the un-sustainability of the Defined Benefit (DB) Pay-as-you-go (PAYG) pension scheme and the need to pooled resources for the development of their capital markets and then their financial sectors. For Nigeria, the reason for reform in the pension industry was due to the burden on government brought about by the DB PAYG system and the need to reduce the incidence of old age poverty especially among those in the informal sector who constitute about 90% of Nigeria's workforce (Stewart and Yermo, 2009). Another critical reason for reform has been the need to make available pooled resources where both the public and private sectors can draw funds to finance development needs.

The Nigerian pension reform was basically a borrowed concept from the Chilean reform initiated in 1981. The reform was carried out in 2004 under the Pension Reform Act of 2004 (PRA, 2004). The amended Pension Reform Act of 2014 (PRA, 2014) necessitated workers to contribute 8% as against 7.5% of their monthly emolument while employers are to pay 10% as against 7.5%. The monthly emolument is made up of the basic salary, housing and transport allowances (Amoo, 2008). Studies such as (European Commission, 2017; Dosdal, 2010; Verbic and Spruk, 2014) have shown that most countries that are reforming are moving from the DB to the Defined Contribution (DC) that are either fully funded or partially funded. Indeed, the reform can be done in unique ways that will suit the changing demographic reality of the country in question, which has meant that several countries have carried out several reforms within a short period of time. For instance, in Italy there was the Amato reform in 1992, the Dini reform in 1995, the Berlusconi reform in 2004 and the

Prodi reform in 2007 (Ricardo, 2011) which were all designed to address specific challenges. Some countries have adopted a hybrid of the two otherwise known as the 'Notional' pension scheme still to address problems peculiar to their citizens. Due to these changing circumstances the concept of pension reform has defied a generally accepted definition (Carone et al., 2016; Schwarz, 2006; Schneider, 2009).

Studies such as that of Dosdal (2010), National Pension Commission (NPC), (2007), Uche and Uche (2002), Ricardo (2011) have shown that the Nigerian pension system prior to the 2004 reform was unsustainable and marred by a near total neglect of pensioners leading to non payment of pension for months sometimes even years. This has led to a high rate of poverty and untimely death among pensioners, a situation that led to adverse publicity in the media and the portrayal of government and the society as uncaring towards the plight of its senior citizens (Amoo, 2008).

Research in the area of impact of the 2004 reform on the public finance of Nigeria has not been well documented; most studies on pension have focused on the reasons for such reforms ignoring the impact of such on the economy. This study sets out to address this gap. This is to evaluate how far any reform can lead to an appropriate stimulus on the economy in the process of development given resource constraints. This is justified since payment of pension under the DB PAYG was part of government recurrent expenditure. With the switch to the DC fully funded pension scheme, has been its impact on government recurrent expenditure? This study is significant on account of the fact that evidence from several countries indicate that the burden of pension payment has increased the ratio of GDP to recurrent expenditure especially in those that are still practicing the DC scheme.

2. Literature Review

2.1. Review of Related Literature

Pension reforms studies in Europe, North America and Latin America have been well documented as evidenced by the large body of literature. For Nigeria, however and many developing countries the same cannot be said. These less developed countries are dominated by a huge informal sector and equally an informal arrangement of living in old age has been in existence over time. The system that was in place was such that the working class take care of children and the young so that by the time the working class get old and are retired, they will in turn be taken care of by younger ones. This system has suffered setbacks due to reasons such as the increase urbanisation of Nigerian societies leading to the breakdown of the communal system of living and the increase in Westernisation or individualism (Uche and Uche, 2002; Schwarz, 2006; Kareem and Kareem, 2010; Dosdal, 2010). According to Schwarz (2006) pension system affects poverty among the elderly, it affects the relationships between younger and elder cohorts as well as family living arrangement, which can have a substantial impact on labour markets and employment (Schwarz, 2006). This perhaps suggests why people prefer to save during their active days in the form of pension in order to have what to fall back to when income ceases.

According to Frederickson et al. (2019), most countries embark on pension reforms to address the problems of fiscal sustainability and aging population. In the words of Robalino (2005), countries are compelled to reform to DC due to different reasons but a common motivation is to maintain fiscal sustainability and at the same time tackle old age poverty among the elderly. According to Amoo (2008), the Contributory Pension Scheme (CPS) is expected to address the problem of backlog of pension payment and ultimately enable government to pay existing ones as and when due. With the DC scheme, a lot of pressure is expected to be removed from the government since pensioners will be paid by the Pension Fund Administrators (PFA) from pooled resources. This will allow government to focus on the development of infrastructure needed to stimulate the economy (Uche and Uche, 2002, Amoo, 2008; Stewart and Yermo, 2009). The DC can also serve other benefits such as strengthening the capital market, providing funds for injection into the financial market, international diversification, raising national savings among others (Stewart and Yermo, 2009). According to Queisser, (1999), the DC encourages the availability of pooled resources that are investible in the economy where both public and private sector participants can draw from for investment purposes. Another benefit of the DC is the encouragement of job mobility, since a Retirement Savings Account (RSA) is opened which is unique to an individual, such a person can change Job (Munell and Yohn, 1991) while the account is still attached to him unlike the PAYG system which encourages individuals to remain in the same occupation as switching jobs may likely have an implication on the pension that one may benefit from in future (Uche and Uche, 2002; Munell and Yohn, 1991)

2.2. Empirical Literature

After the reform of the Chilean pension system, the DC system in Chile accumulated more than \$30 billion which is about 40% of the country's GDP, while Argentina had reached 3.2% of its GDP (Queisser, 1999). These successes helped in strengthening the financial sector in the two countries and also served as an example to other economies. For Nigeria, at the beginning of the reform some successes were reported as captured by the National Pension Commission (NPC) (2007). According to the commission, some modest achievement has been made at the beginning as Public sector contribution rose from ₦ 15.60 billion in 2004 to ₦ 80.63 billion in 2007 and it grossed to ₦ 186.29 billion from commencement in July, 2004 up to December 2007. At the beginning the private sector developed cold feet towards the new scheme but recent data from the National Bureau of Statistics (NBS) (2019) showed an increase in private sector participation as shown in table 1 below.

Age Range	Public Sector		Private Sector		Total		Grand Total	
	Male	Female	Male	Female	Male	Female	Number	%
< 30 yrs	92,099	50,182	442,466	231,909	534,565	282,091	816,656	9.53
30 - 39 yrs	688,515	348,440	1,446,656	581,604	2,135,171	930,044	3,065,215	35.77
40 - 49 yrs	670,344	406,892	1,028,905	303,205	1,699,249	710,097	2,409,346	28.12
50 - 59 yrs	577,462	335,426	523,442	108,235	1,100,904	443,661	1,544,565	18.02
60 - 65 yrs	230,653	96,914	148,115	19,144	378,768	116,058	494,826	5.77
> 65 yrs	111,973	31,958	85,619	8,879	197,592	40,837	238,429	2.78
Total	2,371,046	1,269,812	3,675,203	1,252,976	6,046,249	2,522,788	8,569,037	100

Table 1: Age Grade and Sector Breakdown of Rsa Registration for Q1 2019

Source: National Bureau of Statistics, 2019a

From table 1 above, it can be seen that there has been an increase in the registration of the private sector for the Retirement Savings Account (RSA) as at Q1 of 2019. Out of the 8,569,037 of the registered owners of RSA, 57.51% of them are from the private sector while 42.49% are from the public sector. An indication of the increase in the interest of those in the private sector which was not the case around 2007 when the reform effectively came into operation. The NBS (2019a) also showed that as at Q1 of 2019, ₦ 9.03 trillion was accumulated as the National Pension Fund Total asset. According to NBS (2019b), the area where the highest National pension fund total asset is invested is the federal government bond (46.71%), followed by treasury bills (23.62%), local money market securities (11.21%) while the least of investment goes to the foreign money market security (0.09%). Figure 1 below shows the trend of Nigeria's recurrent expenditure and pension and gratuity from 1981 to 2018.

Figure 1: Recurrent Expenditure and Pension and Gratuity from 1981 To 2018

From the diagram in figure 1 above it can be seen that prior to 1990 both recurrent expenditure and pension and gratuity were low and started to rise from 1990 with recurrent expenditure rising faster than Pension and gratuity. This was due to the government not paying pensions frequently.

Available data also shows an increase in the National pension fund total asset as a ratio of GDP from 2007.

Figure 2: Gross Domestic Product and National Pension Fund Total Asset

As can be seen in the diagram above, at the early stage the national pension fund was rising gradually but started rising significantly to the ratio of GDP around 2010 and since then it has been on the increase as earlier indicated because of the increase in registration of the RSA by those in the private sector. According to NBS (2016) the rate of pension fund

total assets to the ratio of GDP was 3.72% in 2010, 3.88% in 2011, 4.39% in 2012, 5.07% in 2013, 5.12% in 2014, 5.57% in 2015 and 6% in 2016.

3. Materials and Method

3.1. Method of Data Analysis

The research adopts the secondary data analysis where the Autoregressive Distributed Lag (ARDL) was used to determine whether there is the existence of a long run relationship between pension reforms and recurrent expenditure of government. The ARDL allows for variables to be integrated at different order except for integration at the second difference I(2). That is variables that are integrated at the I(0) and at the I(1) can be analysed using ARDL. Data for the study were sourced from the Central Bank of Nigeria (CBN) statistical Bulletins for various years, the National Bureau of Statistics (NBS) Retirement Savings Account report for various years, and the National Pension Commission (NPC) Annual report for various years. Data was analysed using E-views version 10.

3.2. Model Specification

The model for the research is specified thus

$$RE = f(NPF, GOR) \text{----- (1)}$$

$$RE = \beta_0 + \beta_1 NPF + \beta_2 GOR + \varepsilon \text{----- (2)}$$

Where RE is Recurrent Expenditure by Government, NPF is the National Pension Fund and GOR is Government Revenue. β_0 is the intercept while β_1 and β_2 are the coefficients to be estimated.

The functional form of the equation is recast in log form thus

$$\ln RE = \beta_0 + \beta_1 \ln NPF + \beta_2 \ln GOR + \varepsilon \text{----- (3)}$$

Specifying the ARDL gives:

$$\Delta \ln RE_t = a_1 + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \mu_{1t} \text{----- (4)}$$

$$\Delta \ln NPF_t = a_2 + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \mu_{2t} \text{----- (5)}$$

$$\Delta \ln GOR_t = a_3 + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \mu_{3t} \text{----- (6)}$$

The above equation is for a short run period. If the vectors are co-integrated after carrying out the long run form and bounds test, then long run relationship can be inferred. Therefore, the long run equation can be specified as:

$$\begin{aligned} \Delta \ln RE_t = & a_{01} + b_{11} \ln RE + b_{12} \ln NPF + b_{13} \ln GOR + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} \\ & + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \mu_{1t} \text{----- (7)} \end{aligned}$$

$$\begin{aligned} \Delta \ln NPF_t = & a_{02} + b_{21} \ln RE + b_{22} \ln NPF + b_{23} \ln GOR + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \mu_{2t} \\ & \text{----- (8)} \end{aligned}$$

$$\begin{aligned} \Delta \ln GOR_t = & a_{03} + b_{31} \ln RE + b_{32} \ln NPF + b_{33} \ln GOR + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \mu_{3t} \\ & \text{----- (9)} \end{aligned}$$

Equations (7), (8) and (9) can further be stated in the long-run form as:

$$\Delta \ln RE_t = a_{01} + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \lambda_1 ECT_{t-1} + \mu_{1t} \text{----- (10)}$$

$$\Delta \ln NPF_t = a_{02} + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \lambda_2 ECT_{t-1} + \mu_{2t} \text{----- (11)}$$

$$\begin{aligned} \Delta \ln GOR_t = & a_{03} + \sum_{i=1}^p \beta_1 \Delta \ln RE_{t-i} + \sum_{j=1}^q \alpha_j \Delta \ln NPF_{t-j} + \sum_{k=1}^r \varphi_k \Delta \ln GOR_{t-k} + \lambda_3 ECT_{t-1} + \mu_{3t} \\ & \text{----- (12)} \end{aligned}$$

Where Δ is the first difference operator, μ_{it} are the error terms, $\ln$ is the natural logarithm, ECT is the error correction Term, λ is the speed of adjustment. a_{01} , a_{02} and a_{03} are the intercepts, b_{ij} are the coefficients of the long run relationship, β_i , α_j and φ_k are the coefficients of the short run relationship.

The ECT determines the speed of adjustment in the model.

The null hypothesis of no co-integration in the long run is $H_0: \delta RE = \delta NPF = \delta GOR = 0$

against the alternative hypothesis of co-integration in the long run as $H_1: \delta RE \neq \delta NPF \neq \delta GOR \neq 0$.

4. Results

4.1. Unit Root Test

The unit root test is known in econometrics to determine the stationarity or non-stationarity of time series data. When a time series data is non stationary it means it is suitable for analysis only for the present time, it cannot be used to generalise for future purpose as doing so can be generally misleading (Gujarati and Porter, 2009). The Augmented Dickey Fuller and Phillips-Perron unit root test results are presented:

	ADF			P-P		
	At Level	Δ	I	At Level	Δ	I
ln RE	-3.040391	-4.035311**	I (1)	-3.04039	-3.04738**	I(1)
ln NPF	-3.02997**	-	I (0)	9.179612	-	I(0)
ln GOR	-3.04039	-3.83624**	I (1)	-3.8239	-3.04039**	I(1)

Table 2: Augmented Dickey Fuller and Phillips-Perron Unit Root Test Results

Source: Authors' Computation

- Note 1: RE for Recurrent Expenditure, NPF for National Pension Fund and GOR for Government Revenue.
- Note 2: All the variables converted into natural log for estimation
- Note 3: ADF for Augmented Dickey Fuller, P-P for Phillips-Perron
- Note 4: ** indicates 5% level of significance
- Note 5: 'I' for an order of integration, Δ for first difference operator

The result shows the variables are integrated at different order, Recurrent Expenditure became stationary at the first difference I(1), Government Revenue became stationary at the first difference I(1) while National Pension Fund became stationary at levels I(0). The result is good enough for the analysis, see Pesaran et al (2001), Narayan (2004), Narayan (2005).

4.2. Optimal Lag Selection

The selection criteria result shows that all the criteria have selected lag one (1) as the optimal lag as seen in the table below.

Panel A: Optimal Lag length for RE						
Lag	LogL	LR	FPE	AIC	SC	HQ
1	-137.64	32.39976*	320869.7*	15.51575*	15.61468*	15.52939*
2	-136.85	1.315840	329192.0	15.53913	15.68753	15.55960
Panel B: Optimal Lag length for NPF						
Lag	LogL	LR	FPE	AIC	SC	HQ
1	-125.12	78.39025*	79781.12*	14.12400*	14.22293*	14.13764*
2	-125.03	0.138941	88531.00	14.22585	14.37424	14.24631
Panel C: Optimal Lag Length for GOR						
Lag	LogL	LR	FPE	AIC	SC	HQ
1	-159.81	13.58013*	3768338.*	17.97910*	18.07803*	17.99274*
2	-159.52	0.492803	4084132.	18.05736	18.20575	18.07782
* indicates lag order selected by the criterion						

Table 3: Optimal Lag Length Criteria

Source: Authors' Computation

This study however adopted the Akaike Information Criterion (AIC) for the long run co-integration tests.

4.3. Co-Integration Test

The essence of the co-integration test is to determine the existence of any run equilibrium relationship between the dependent variable and the independent variables that can have significant impact between the variables.

4.3.1. Bounds Test

The ARDL method employs the use of bound testing result to draw inference on whether long term relationships exist between or among the variables. The bounds test result is presented in table 4.

ARDL BOUNDS testing					
Variables	F-Statistics	Significance level	I(0)	I(1)	Remark
F(RE)=(RE/NPF, GOR)	1.2964032	10%	3.17	4.14	Absence of Co-integration
		5%	3.79	4.85	
		1%	5.15	6.36	
F(NPF) = (NPF/RE, GOR)	12.440432	10%	3.17	4.14	Presence of Co-integration
		5%	3.79	4.85	
		1%	5.15	6.36	
F(GOR)= (GOR/RE, NPF)	3.8746832	10%	3.17	4.14	Inconclusive
		5%	3.79	4.85	
		1%	5.15	6.36	

Table 4: Bounds Test Result
Source: Authors' Computation

The result in table 4 shows the presence of co-integration when NPF was made the dependent variable as can be seen, the F-statistics is greater than the upper bound value I(1) at 5% significant level. The existence of a long run co-integration confirmed by the ARDL bounds test suggest the existence of at least one directional causality in the model that could be in the long run, the short run or both.

4.3.2. Long run and Short Run ARDL Coefficients

We confirmed long run co-integration between recurrent expenditure and the independent variables when National Pension Fund was the dependent variable. The results are as follows:

ARDL Long-Run Estimation				
Variable	Coefficient	Standard Error	t-test	Probability Value
Dependent Variable= RE				
C	426.7479	323.1404	1.3206	0.2078
ln NPF	0.4474**	0.1199	3.7305	0.0022
ln GOR	0.2442*	0.12731	1.9178	0.0758
ARDL Short-Run Estimation				
C	456.1648	304.2723	1.4992	0.1597
Δ lnNPF	-0.2339	0.2386	-0.9798	0.3438
Δ lnGOR	0.0085	0.0938	0.0909	0.9288
ECT _{t-1}	-0.2063***	0.0308	-6.6922	0.0001
Residual Diagnostics				
R ² = 0.8981	Adjusted R ² =0.8689	F-Statistics = 30.8313		

Table 5: Long and Short Run Coefficients under ARDL

Note: ***, **, * Indicates Significance Level At 1%, 5% And 10% Respectively

From table 5 above the result shows a long run relationship running from NPF to RE at the 5% level of significance and GOR to RE at 10% level of significance. The ECT coefficient also shows the speed of adjustment to be negative, which is the right sign. The ECT result show that short run disequilibrium in the variable of 1% will be adjusted 21times in the long run and this result is significant at 1% level. We therefore reject the null hypothesis of no long run relationship and conclude that pension reform has a positive effect on recurrent expenditure in the long run.

4.4. Granger Causality Test

The granger causality test is carried out to determine the short run causality direction between RE, NPF and GOR. For the short run period, the summary of the result is presented as follows:

Null Hypothesis	F-Statistics	Probability (P-value)	Causal Inference	Direction of Causation
ln RE does not Granger cause ln NPF	1.58437	0.2422	Reject H ₀	Unidirectional: RE→NPF
ln NPF does not Granger cause ln RE	0.07042	0.9324	Accept H ₀	
ln RE does not Granger cause ln GOR	2.30432	0.1391	Reject H ₀	Bidirectional: RE↔GOR
ln GOR does not Granger cause ln RE	0.95144	0.4115	Reject H ₀	
ln NPF does not Granger cause ln GOR	0.79038	0.4743	Reject H ₀	Unidirectional: NPF→GOR
ln GOR does not Granger cause ln NPF	0.36175	0.7033	Accept H ₀	

Table 6: Summary of Granger Causality Result
Source: Authors' computation

From the result in table 6 above the short run causal direction indicate that RE causes NPF while NPF does not granger cause RE, RE also granger cause GOR and at the same time GOR granger cause RE, the relationship between NPF and GOR is unidirectional with causal effect from NPF to GOR only.

4.5. Diagnostic Test

To further validate the reliability of the model, diagnostic tests are conducted and the results are presented in the table below:

Test	F-statistics	Prob. Value	Conclusion
χ^2 Serial	1.3397	0.2769	No Serial Correlation
χ^2 Arch	0.4190	0.8696	No Heteroskedasticity
χ^2 Normal	1.8465	0.2073	Residuals are normal

Table 7: Diagnostic Test Results

Source: Authors' Computation

- Note1: χ^2 Serial is the test for Serial Correlation
- Note 2: χ^2 Arch is the test for Auto Regressive Conditional Heteroskedasticity
- Note 3: χ^2 Normal is the test for non-Normality of Error Term

From the diagnostic test result in table 7, the results are fine showing no serial correlation, no heteroskedasticity and the residual were also found to be normal.

The Cumulative Sum (CUSUM) of square result of our model is presented in the figure below:

Figure 3: Model Stability Test of Cumulative Sum of Square

The Cumulative Sum (CUSUM) of Square also gives us the confirmation that the model is properly stated as the blue line remains within the red boundaries at 5% significant level.

4.6. Implication of Findings

The result of the long run co-integration has confirmed the existence of long run relationship within the model in the long run, the short run or both. Specifically, National pension fund has a significant impact on recurrent expenditure in the long run. The implication is that a large pool of resources is available where as the government can borrow from to finance its recurrent expenditure and other development needs. Also, Government revenue also has a positive impact on recurrent expenditure; the more revenue accruing to the government the more it is able to finance its recurrent expenditure. However, the relationship is not the same in the short run period as the relationship between recurrent expenditure and national pension fund is negative. Available evidence suggest that a large number of government employees are yet to key into the contributory pension scheme, and this is exerting tremendous pressure on government recurrent expenditure for payment of pension and gratuity. For Government revenue, it maintains a positive relationship in the short run as increase in government revenue will lead to increase in recurrent expenditure i.e. government will find it easy to pay all aspect of recurrent expenditure like salaries and wages, pensions and gratuity and overhead cost. Where reforms are sustained, substantial resources can be pooled to be deployed into provision of investible funds to finance development.

5. Conclusion and Recommendations

The study adopts the ARDL to determine the impact of pension reform on government recurrent expenditure, the unit root result showed that the variable for the study are integrated of different order, national Pension fund was stationary at level $I(0)$ while recurrent expenditure and Government revenue became stationary at the first difference $I(1)$.

The relationship between pension reform and recurrent expenditure is positive in the long run as pooled resources will be available from the pension fund to the government to finance its spending with include recurrent expenditure and also when government pays workers their salaries promptly, it may motivate people to save more into their retirement savings account which in turn will lead to an increase in the national pension fund. The relationship in the short run is however negative, an inverse relationship exists between pension reforms and recurrent expenditure, this is because the government still has a substantial number of its work force who are yet to join the contributory pension scheme, which has a negative impact on the national pension fund. The granger causality results showed unidirectional causality from recurrent expenditure to national pension fund, the causality between recurrent expenditure and government revenue is bidirectional while national pension fund granger cause government revenue.

Based on the findings of the study, the following recommendations are made:

- Encouraging the participation of more public sector employees in the contributory pension scheme to boost the contribution into the retirement savings account which in turn will lead to an increase in the National pension fund. This will also give more confidence to private sector participation beyond the present level
- The national pension commission should step up its awareness campaign on the benefits of the contributory pension and also collaborate with the states and local governments on the need to pass laws that will enable their work force to participate in the contributory pension which will be to their advantage in the long run all things being equal.
- Contributor's confidence is key to the survival of the progress made by the reforms in pension. When contributors are not sure of getting their pensions and gratuity as and when due, they tend to develop cold feet in terms of payment into their retirement savings accounts. Negative news about the management of the pension fund has up to present time cast doubt in the minds of workers that their contribution is not well managed, that may in turn affect their earnings after retirement.
- Government should also diversify its source of revenue especially the non oil source, this is because the more the revenue accruing to the government the frequent payment of salaries and wages, when that is being done, workers will not be burden to pay into their retirement account even more than the required percentage.
- Investible funds should not be restricted to only the local financial market, funds can be channel to international financial markets that are highly rewarding and safe, this will enable retirees receive high rate of interest on their savings.

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