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PENSION REFORMS ACT 2014 AND THE PROVISION OF INFRASTRUCTURES FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

NWANNA, Ifeanyi Onyenwe, CMC, (Ph.D)
Department of Banking and Finance, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

OGBONNA, Kelechukwu Stanley (Ph.D)
Department of Banking and Finance, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

ABSTRACT

The Nigerian economy is facing significant challenges inhibiting the attainment of its full potentials. Retirement Planning as an exercise the world over is fraught with many challenges prompting many developing nations to amend and sometimes restructure their national old-age programmes. As they do so, these countries seek guidance on how to design market and regulatory structures to enhance their chances of success. This paper investigates the types of risks facing retirement saving holders in the Nigerian Reform Pension Act 2004 and examines which financial, regulatory, and labor market institutions that appear most supportive of retirement reforms, and most urgently needed, in Nigeria. The Pension Reform Act 2014 provided for a funded contributory pension scheme that covers both the public and private sectors. Using a regression analysis on the performance results of Pension Fund Administrators proxy by Pension Fund Assets and total pension registration and economic growth proxy by gross domestic product at basic price; we try to establish a relationship in the investment performance of pension funds in Nigeria. The study observed the low level of compliance by employers' of labour, especially those in the private sector, to the provisions of the Pension Reform Act 2004, which impedes the successful implementation of the scheme. Notwithstanding that, the New Pension Reform Act 2014 has created an environment in which the administration of promised old-age benefits will be made more affordable, efficient, and equitable in the future. The pension reforms act 2014 contributes significantly to the economic growth of Nigeria.

KEY WORDS: *Pension Reform, Pension Fund, Pension Assets, Micro Pension Scheme and Economic growth*

INTRODUCTION

A well functional infrastructure is critical for the economy to generate revenue(FSDH Research 2017).A new World Bank survey had showed how income inequality among peoples had decreased, and inequality within nations had fallen in many countries, both for the rich and poor. The report identifies strategies to address inequality that even the poorest nations can adopt whether through conditional cash transfers, connecting farmers to markets or rural electrification. The lesson is that inequality is not an unsolvable mystery. Pro-equality policies are not luxury goods and can work in any country (Jim Kim 2016).

However, the bottom line of development economics is ending extreme poverty and boosting shared prosperity. There is need to accelerate inclusive and sustainable economic growth, investing in human capital, and fostering resilience to global shocks and threats. Hence, to end poverty, massive infrastructure investment is needed and no matter how much money the bank and other international organizations were investing, it would never be enough to bridge that gap. The demand for infrastructure investment had far outstripped available resources. About 1.2 billion people in the world do not have electricity. At least 660 million people lack access to safe drinking water; about one billion people in low-income countries lack access to an all-weather road, more than four billion people do not have access to the internet (World Bank Report 2016). It is estimated that emerging markets and low-income countries face an annual gap of up to $1.5 trillion dollars a year in infrastructure finance. To address this and substantially boost global economic growth, the pension fund investment with longer gestation period are in better position to take up the created opportunities for public private partnerships in infrastructure finance in emerging markets.

Global pension assets have grown significantly to $54trillion, Assets of the 300 pension funds globally averaged nearly $14trillion with a lot of developed countries' pension assets now more than 100 per cent of Their Gross Domestic Product (GDP). Global retirement assets are growing in size and volume with a shift from defined benefits to defined contribution. In most developed countries, pension assets have also grown in relation to their economies. The ultimate is to promote a pension industry that impacts on nation-building and national development (Battaglia 2016).

The Nigerian Economy being a developing nation seeks to stimulate its economy inter alia, by focusing on infrastructure development which is critical to job creation, poverty reduction and the overall development of the economy. Infrastructure is a key growth driver with significant multiplier effect on the economy of a country. Investment in infrastructure is acknowledged as one of the quickest means of stimulating an economy particularly in times of recession. The Nigeria 2016 Federal Budget provided for a capital expenditure of N1.6 trillion, the capital market will be an important source of funding such infrastructure projects through a variety of instruments by which the Federal Government, its agencies, state governments and other entities can raise funds. Such instruments like infrastructure funds and infrastructure bonds can be structured specifically to attract capital for identified infrastructure projects. These instruments, if well-structured with necessary safeguards should be attractive to Pension Fund Administrators (PFAs) which have about N6 trillion assets under management. In 2015, Federal and State governments as well as corporate raised about N1 trillion in debt capital from the capital market (Umoru, Jibril, Tukur, Mabadeje, Pam, Ekineh and Kamali 2016).

The Contributory Pension System is a social safety net for old-age, disability and survivor pensions for workers in Nigeria. It was first instituted under the 2004 Pension Reform Act. It is the first comprehensive retirement and welfare system managed entirely by the private sector. A portion of the worker's salary is deducted each month and placed in a special account. This money is managed by a specialized pension company which invests it and charges a commission. When the worker chooses to retire, he can set up a monthly payment schedule from his account. A pension is a contract for a fixed sum to be paid regularly to a person, typically following retirement from service. This should be contrasted and not confused with severance pay. While severance pay is paid in one lump sum, pension is paid in regular installments. Pension is also the amount paid by government or company to an employee after the employee had worked for some specific period of time, and is considered too old or ill to work or have reached the statutory age of retirement. It is monthly sum paid to a retired officer until death because the officer has worked with the organization paying the sum (Anyogu and Umobi 2014)

STATEMENT OF PROBLEM

However, over the period up to 1999, the pension liabilities of the Nigerian federal government had accumulated into N1.787 trillion huge unpaid pension liabilities resulting to huge embarrassment to governments and much discomfort to the social welfare of retired persons (PenCom 2005). Under the 2004 Pensions Reform Act, accrued retirement benefits (ARB) (gratuity and pension) up to June 30, 2004 were recognized. Contractual obligation of the payment of these gratuity and pension preserved, backed by regular funding by the Federal Government through 5% of monthly wage bill set aside at the Central Bank of Nigeria.Hence, the promulgation of Pension Reform Act of 2014 to further address the short comings of Pension Reform Act of 2004. The question now is how has PRA 2014 lived up to expectation to address both pensioners assured monthly payment after retirement and to boost infrastructural finance of the Nigerian economy in line with world best practices.

RESEARCH QUESTIONS

1. To what extend can the 2014 Pension Act fund finance Gaps in Infrastructure deficit in Nigeria?
2. What significant contribution has Pension Fund made to the Economic development of Nigeria?
3. To what extend can the 2014 Pension Act address the loopholes observed in other proclamations relating to Pension management in Nigeria.

REVIEW OF RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

The Concept of Pension

Pension has been defined variously by different policy makers and authors at different times to provide explanation to the agreement between employers and employees that would provide a stream of income especially at retirement. For instance, paragraph 9, Statement of Accounting Standard (SAS 8) states that pension involves an agreement between employers and employees upon the attainment of a specified retirement age. In the same vein, Revsine, Collins, and Johnson (2002) viewed pension as an agreement by an organization to provide a series of payments called a pension to employees when they retire. Pension agreement usually includes a condition for qualification, membership, formula for calculating the amount receivable by the employee, and a specified commencement date to qualify for the benefits (Bodie,1990).

Like all welfare provision, pensions represent in the final analysis a deduction from the surplus value extracted from the working class and realized for the employer of labour and owners of businesses in the form of profit. Any increase in the retirement age or reduction in pension benefit, be it in the form of company tax or employers' contributions to a state and/or occupational pension plan, it represents an attempt by the capitalist class to increase their profit or the rate of return on capital employed.

The effect of pension plans, therefore, is to create a set of rights, obligations and responsibilities of the parties under the contract. In Nigeria, until 1991 when SAS 8 was introduced and a further reinforcement with Pension Reforms Act in 2004. Pension funds were generally unregulated. Rather, the financial management and control of pension funds were subjected to general trust law principles, and thus critically relied on the professional and financial expertise of appointed trustees or boards. Legislation and income tax rules have a strong impact on pension plan funding and compliance with pension standards.

Provision for pensions and old age benefits are of international concern. Madrid International Plan of Action on Ageing (2002) commits governments to achieving a set of objectives which cover areas of concern to older people in developing countries as well as richer countries, and are linked to existing international agreements including the Millennium Development Goals. Africa Policy Framework and Plan of Action on Ageing are adopted by member states of the African Union, covering issues of concern to older people in Africa.

In developed economies, legislations are enacted (such as the Employees Retirement Income Security Act, ERISA, in the USA and Pension Act 1997 in the UK) and designed to ensure compliance with pension standards so that pension funds could operate in a safe and sound manner, as well as protect the beneficiaries from economic loss (Klumpes and Whittington, 2003). These Acts impose legal restrictions on the ability of employer sponsors to under-fund pension funds through the introduction of 'minimum funding requirement' (Forker, 2003). A pension plan sponsor is obliged to fund at least the annual service cost computed under the plan. However, this requirement is suspended if the plan is over funded at the start of the plan year (Revsine, Collins, & Johnson, 2002).

Retirement benefits

The 2014 Pension Act provides for Defined contributory scheme that is fully Funded (i.e. deduction at source) provision for Lump sum withdrawal from balance on Retirement Savings Account (RSA), Monthly or quarterly payment to retirees, guaranteed for life, RSA balance payable to Next of Kin in case of death of contributors, Supervised and Regulated by PenCom.

Computations of Accrued Pension Rights: Retirement Savings Account (RSA) Balance is derived from**ARB (+5% Income) + Employee & Employer Contributions (+Investment Income) = RSA Balance**

Opportunities of Pension Fund for Infrastructure Financing in Nigeria

There are ample opportunities for the development and financing of infrastructure in Nigeria, there exist demand–supply and financing gaps in all our infrastructural requirements, there is also rapid development of the market for long-term debt, diversified and deep resources base (agriculture, oil and gas, solid minerals), encouraging annual GDP growth of non-oil sector of about 11%, favourable credit rating for Nigeria: BB- by Standards & Poor in

2007 for foreign currencies and BB for domestic currencies, the issuance of sovereign bonds at the international capital market, emergence of secondary bond market enhanced by Market Makers that have been established and Nigeria has a ready-made market with a population of about 201 million (United Nations, 2019) that can support any investment in infrastructure development.

The National Pension Commission is set to allow Pension Fund Administrators to invest the growing pension assets in the housing industry, particularly the real estate, in addition to investing it in infrastructure. As of April 2017, the total pension assets under the Contributory Pension Scheme had risen to N6.49tn (PenCom 2017). While the PFAs have invested these funds in different classes of assets, the RSA active funds which are contributions of workers and the RSA retiree funds have rarely been invested in real estate. Pension fund managers in Nigeria are amenable to investing part of the pension funds in infrastructure and real estate through viable and secure investible outlets. There are needs to provide adequate risk mitigation tools to guide the investment of pension assets.

The imperative of timely payment of retirement benefits of workers in order not to compromise their comfort after their active working period is the main objective of saving towards retirement. The Pension Reform Act 2014 gives additional impetus for participation in the Contributory Pension Scheme (CPS) by explicitly prescribing the coverage of states and local government employees, in addition to the federal public service and private sector. The adoption of CPS by employers of labour is one effective tool of managing finances by paying monthly pension contributions into employees' RSAs as opposed to settling these huge liabilities at the point of retirement, being the case in the Defined Benefit Scheme. With the enhanced provisions of the PRA 2014, the pension administration has now extended coverage of the CPS to the underserved economic segments such as the informal sector, through the micro pensions initiative. The implementation the Contributory Pension Scheme (CPS) will avail the employees of the numerous benefits of the scheme, while avoiding huge future pension liabilities.

The issue of pension has become a major issue of attention to policy makers all over the world ultimately in a bid to actualize a privately funded retirement saving by the workforce because of the inability of the government to cope with the increasing burden of pension.

Nigeria pension sector features an organized ecosystem of participants with distinct roles and all under the regulatory ambit of National Pension Commission (PENCOM). They include Pension Custodians (PFC), Pension Fund Administrators (PFA) and Closed Pension Fund Administrators (CPFA). In 2004, Nigeria copied the 1981 Chilean pension reform and established a funded pension system based upon personal accounts. The new system was made to be appropriate for a country such as Nigeria, meet the aspirations of improving pension coverage and help economic growth and development. The current financial and economic recession has hit the scheme in so far as it hits stock values underlining the pension assets. However, more important has been the negative real interest rates that can be earned on government bonds and on bank deposits where the majority of contributions are invested. Bank scandals and rising fiscal deficits do not breed confidence in the system or the government's ability to deliver meaningful benefits in old age.

The objectives pursued by PenCom are to lay a solid foundation for the establishment of an enduring pension system in Nigeria and chart ways for effectively channeling the pension funds to sustainable investments such as power and communication, railway and real estate. And also serve as a catalyst to actively stimulate economic development across the country.

The PRA, 2014 is promulgated to, among others, affect the following areas.

1. **Pension Contribution and Funding:** In a bid to ensure adequate contribution, funding, and to safeguard the objectives of the scheme, Section 4 subsections 1 (a) and (b) and Subsections 2 and 3 provide that contributions be made as follows in relating to his monthly emoluments:
   (a) a minimum of ten percent (10%) by the employer
   (b) a minimum of eight percent (8%) by the employee;
2 The rates of contribution mentioned in (1) of this section upon agreement between any employer and employee, may be revised upwards, from time to time, and the Commission shall be notified of such revision.
3. Any employee to whom this Act applies may in addition to the contributions being made by him and his employer, make voluntary contribution to his retirement saving account

Another way of encouraging funding is the provision that contribution made by employees to the scheme under this Act shall form part of tax-deductible expenses under the relevant Nigerian tax law (section 10). Section 11 (1) of the act makes it mandatory for every employee to maintain an account "retirement savings account" in his name with any pension fund administrator of his choice.

Although various reasons have been given in support of pension reforms in Nigeria, the most important ones, according to Abade (2004) are chronic under funding, delays/non-payment of pension, inflationary trends, massive fraud and diversion of pension funds by pension fund managers. This led to a situation where aged pensioners slumped and passed away while waiting on queues to get their pension paid. It is against this background that the PRA 2014 is set out to, among others; achieve the following objectives (section 2):

1. Ensure that every person who worked in either the public service of the federation, Federal Capital Territory or private sector receives his retirement benefits as and when due;
2. Assist improvident individuals by ensuring that they save in order to cater for their livelihood during old age; and
3. Establish a uniform set of rules, regulations and standards for the administration and payment of retirement benefits for the public service of the federation, Federal Capital Territory and the private sector.

The micro-pension scheme and multi-fund investment structure are initiatives of the National Pension Commission that are capable of putting the sector on a stronger footing. Such reforms and innovations were necessary to maintain the strength and depth of the Contributory Pension Scheme. There had also been heavy marketing campaign competition through Radio and Television advertisements for potential pension contributors by the PFAs.

The Management and Custody of Pension Funds*:*

Prior to the promulgation of PRA 2004 and 2014, pension benefit scheme was either managed in-house or under the custody of another company, usually insurance firms (Pension Act, 1990). Under the then act, pension assets suffered from chronic under funding and carried no definite penalties for offenders (Abade, 2004).

However, with the promulgation of PRA 2014, the administration and custody of pension funds now lie with the pension fund administrator and custodian, licensed by the commission (Part viii, sections 44-46). The pension fund administrator performs services such as opening a savings account for all employees, investment and management of pension fund assets, maintenance of books of account and payment of retirement benefits to employees (section 45). The pension fund custodians are, under section 47 of the act, required to hold pension funds and assets in trust for the beneficiaries.

Investment of Pension Funds*:*

Prior to the enactment of PRA 2004, the provision of the Trustee Investment Act of 1962 guides the investment policy of all pension schemes in Nigeria. The investment portfolio was dominated by financial securities that had an extremely low yield (Abade, 2004). However, under the new legislation, investment restriction was relaxed and the fund investment horizon widened. In addition, part ix, section 72 of the act requires the pension fund administrator to invest the fund with objectives of safety maintenance of fair returns on the amount invested. In order to achieve these objectives, section 73(1) provides that subject to guidelines as may be issued by the commission from time to time, pension funds and assets shall be invested in any of the following:

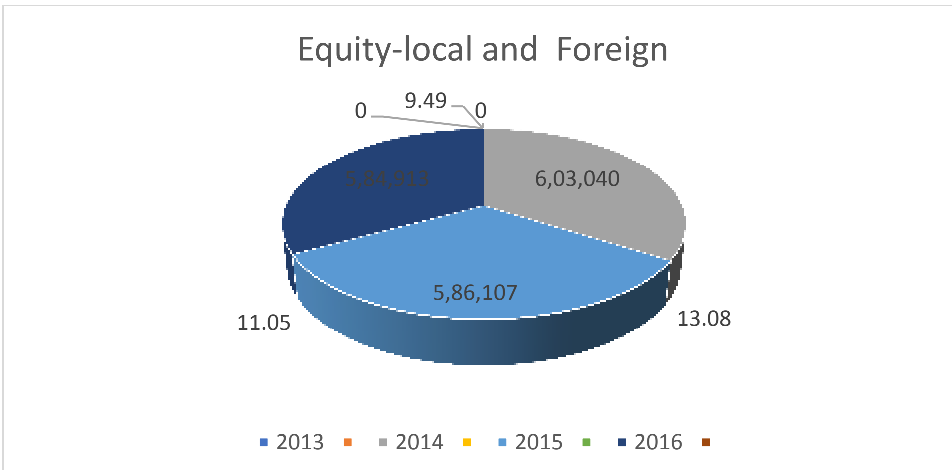
a. Bonds, bills and other securities issued or guaranteed by the Federal Government or CBN;
b. Bonds, debentures, redeemable preference shares and other debt instruments issued by corporate entities and listed on a stock exchange;
c. Ordinary shares of public limited companies listed on the stock exchange, with a good track record having declared and paid dividends in the preceding 5years;
d. Bank deposits and securities, real estate investment, bonds and other debtsecurities issued by listed companies; and
e. Hybrid and specialist open-ended investment funds listed on the stockexchange recognized by the commission.

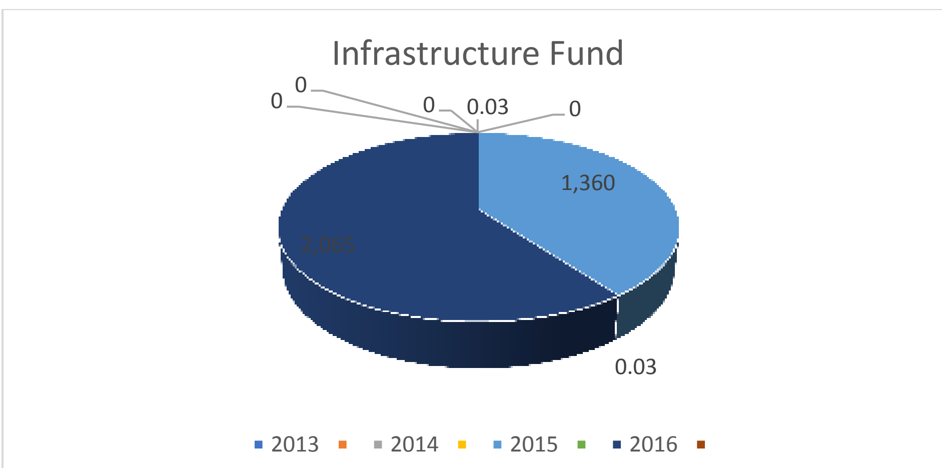
Although the pension fund administrator may, as per section 74 of the act, invest the pension fund assets in units of any investment, sections 75 and 76 of the act precludes him from investing pension funds in any share or securities issued by itself, a shareholder or affiliate of its company. In addition, the administrator is prohibited from buying or selling pension fund assets to itself, its employees, its spouses, or affiliates. The administration is also not to apply the pension assets under its custody as loans or collateral for any loan taken by any person.

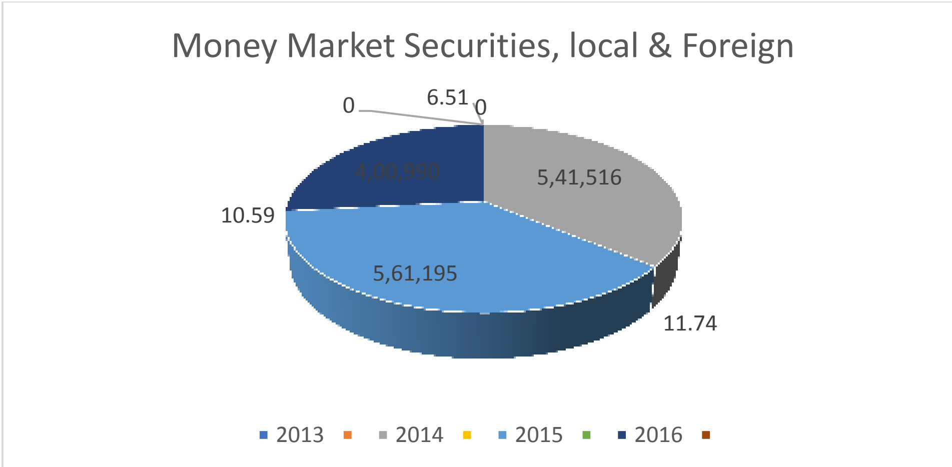
In case of non-compliance to sections 74-76, the pension fund administration is liable to fine of not more than N500, 000 for each day the non-compliance continues. It also forfeits any profit made or shall be made to make up for any loss incurred.

TABLE 1: DISTRIBUTION OF PENSION FUND PORTFOLIO (2013-2016)						
	2014		2015		2016	
ASSET CLASSES	**N'million**	**%**	**N'million**	**%**	**N'million**	**%**
Equity-local and Foreign	603,040	13.08	586,107	11.05	584,913	9.49
FGN & State Securities	3,066,729	66.50	3,667,616	69.16	4,599,038	74.68
Corporate Securities	131,798	2.86	195,824	3.69	261.823	4.25
Money Market Securities, local & Foreign	541,516	11.74	561,195	10.59	400,990	6.51
Mutual Funds	21,026	0.46	20,721	0.39	18,970	0.31
Real Estate Properties	213,247	4.62	230,339	4.34	234,349	3.81
Private Equity Fund	11,097	0.24	24,551	0.46	19,002	0.31
Infrastructure Fund	-	-	1,360	0.03	2,065	0.03
Net Other Assets	22,837	0.50	15,166	0.29	37,798	0.61
	4,611,290	**100.0**	**5,302,879**	**100.0**	**6,158,948**	**100.0**

SOURCES:National Pension Commission Annual and Quarterly Publications Various Issues







The pie chat and figures showed the level of inconsistencies in the distribution of pension fund portfolio in Nigeria with equity local and foreign funds, money market securities, local & foreign and infrastructure funds as example. However, there is a presumed overall growth between 2014 to 2016 but this growth is dragging.

Supervision and Examination of Affairs of Administrators and custodians:

Like other aspects of human endeavours, adequate supervision is a critical factor for the successful administration and custody of pension scheme for both the public and private sectors of the economy. In a bid to protect and securely preserve the pension fund assets, the act established the NPC - National Pension Commission- a body saddled with the responsibility to regulate, supervise, examine and ensure effective administration of pension matters in Nigeria. For instance, sections 79 – 82 of the Act gives the commission (NPC) the powers to at least once in each year, inspect or examine or investigate or verify, as the case may be, the activities of pension fund administrators, custodians or the pension department.

Annual Reports and Accounts by Administrators and Custodians: In addition to the supervisory powers mandated upon NPC by the Act, section 56 (1) makes it duty bound on pension fund administrators and the custodians to keep proper accounts and records, to be audited by a qualified external auditor. The auditors so appointed by the administrators or custodians are answerable to NPC (section 56 (2)). The audited account having been approved by the NPC should be exhibited conspicuously in each of their offices/branches within thirty (30) days and published in at least 2 daily newspapers printed and circulating in Nigeria within one month of approval (section 56 (3) (b)).

The reporting obligations of external auditors are specified under section 58 of PRA. This section states that the auditor has responsibility to PenCom for the protection of pension funds and shall in discharge of his duties to the pension fund administrator or custodian; report any evidence of the following situations to the commission, 58(1):imminent financial collapse of the pension fund administrator or custodian;event or occurrence which has led or is likely to lead to material diminishing of the net assets of the pension fund administrator or custodian;significant weakness in the accounting and other records or the internal control systems of the pension fund administrator or custodian;reporting financial information which is materially misleading;fraud or other misappropriation committed by the directors or management of the pension fund administrator or custodian;event or occurrence which affects or is likely to affect the auditor's confidence.

Offences and Penalties under PRA, 2014:

Unlike the previous pension Act which carries no specified punishments or penalties for any offenders, in the case of PRA 2004, huge penalties are spelt out for offences such as non-remittance of contributions, failure to obtain license, render accounts, failure to report fraud, forgeries, theft and so on. For example, section 85 of the Act stipulates a fine on conviction of not more than N500, 000 or imprisonment for a term of not less than 10 years or both, for persons who contravene any provisions of the Act.

Any misappropriation of pension funds by the fund administrator or custodian is liable on conviction to a fine of an amount three times the amount so misappropriated or imprisonment term not less than ten years or both (section 86). In the case of a custodian, however, there is a fine of not less than N10 million and in addition, the directors or officers shall each be liable for a fine not less than N5 million each or imprisonment for a term not less than three years or both (section 87). The auditor is not left outside. For example, section 58 (3) states that where an auditor acts in contravention of or fails deliberately or negligently to comply with any of the provisions of section 58 (1) of the act, he has committed an offence and is liable on conviction to a fine not less than N10 million or imprisonment of a term not less than three years or both.

Scheme Challenges

The misconceptions and apprehensions about the scheme stem from the general knowledge gap, especially on pension administration. Coverage will need to be expanded, how to cover the informal sector that has over 40% of total labour force in Nigeria is still an issue. Capacity building is essential in the industry, to address the general knowledge gap, especially on pension administration and encouraging State and Local Governments to adopt the Contributory Pension Scheme. Inadequate investment outlets to absorb growth of savings and lowering the inflation rate to ensure positive real return on savings and other investments.

The capital market will serve as the primary source of funding for infrastructural and high impact development projects, Investment in Technology infrastructure and general economic growth. Hence, the Capital market is poised to drive emergence of the Nigerian Economy with the investment of pension fund in the various capital market instruments.

However, previous works like Ezeugwu and Alex (2014) examine the portfolio analysis of pension funds investment in Nigeria for the period 2007 to Third Quarter 2012. The result showed that equity which had the highest percent in the portfolio also returned the highest value of N2.8528bn. The consistent increase in return over an increase in the weight of the asset classes in the portfolio suggests a direct relationship between size of asset in a portfolio and its return. Olaitan (2016) investigates the pension funds as a tool for infrastructural development in Nigeriaas an overview of the rules on investment of pension funds in infrastructural development and conclude that despite the legal and socio-cultural factors inhibiting the growth of investment of pension funds in infrastructure in Nigeria, a developed pension markets create enabling environment for pension funds investment in infrastructure in Nigeria. Nwanna and Ogbonna (2019) further uphold the submission of Olaitan (2016) in their study of evolution of pension management in Nigeria and its importance to the economy. The study conclude that efficient management of pension contribute to the overall economic growth performance of an economy (Nigeria being the case study).

THEORETICAL FRAMEWORK AND METHODOLOGY

This study is anchored on the theory of pooling (Matheson, Jorge, Ramana & Anna, 2004), intermediation (Allen &Santomero, 1998), life cycle (Bailliu& Reisen, 1997) and role playing as adopted by Farayibi (2016). The theory of pooling is adopted due to the fact that accumulation of pension funds could reduce the risk of pooling resources at a higher rate by pooling funds at a lower cost across assets whose returns are imperfectly correlated. The intermediation theory was adopted due to the role of pension funds as substitutes for intermediation function for economic growth by strengthening the funds mobilization functions of the financial system as an alternative to banks and other individual investors. The life cycle of pension funds if well managed are growth facilitator instrument in an economy as its returns over a stretched period are more than enough to cause a stirred positive multiplier effect on the economic growth of the economy.

This study used data from published information of National Pension Commission Annual and Quarterly Publications and the CBN 2017 Statistical Bulletin for the GDP figures.The ordinary least square (OLS) was used to measure relationship between pension fund assets and economic growth in Nigeria. This was utilized because of the nature of relationship that exists between the variables. The statistical software utilized is Econometric View version 10.0 statistical package.

Regression analyses are used for prediction including forecasting of time series data, inference, hypothesis testing, and modeling of short-run relationships.

Taking a cue from Nwanna and Ogbonna (2019), the function for examining how the pension fund assets has influenced the Nigerian economic since its introduction in 2004 is specified as:

$$Y_t = B_0 + B_1 X_{1t} + B_2 X_{2t} + \dots + B_3 X_{3t} + u_t \quad \dots\dots\dots (1)$$

$$= E(Y_t) + u_t$$

Where Y = the dependent variable

$X_1, X_2, X_3, \dots X_t$ = the explanatory variables

u = the stochastic disturbance term

t = the t^{th} observation

Thus, this model for the analysis of this work is given as:

GDP = f (PFA, TR)

$$GDPt = \beta 0 + \beta 1\ PFAt + \beta 2\ TRt + \mu t \quad \dots\dots\dots\dots\dots\dots\dots\dots.(2)$$

Where: GDP = Gross Domestic Product

PFA = Pension Fund Assets

TR= Total Registration

μt= Error term.

PRESENTATION AND ANALYSIS OF RESULTS

The summary of the Unit root test using Augmented Dickey Fuller and Phillips-Perron stationarity test is presented in table 2.

Testing for Stationarity

Table 2: Augmented Dickey-Fuller and Phillips-Perron Tests results for GDP, PFA and TR

Var	ADF	C. Values @5%	P-value	PP Test	C. Values @5%	P-value	Order of Integration
GDP	-6.513764***	-2.963972	0.0000	-9.081606	-2.963972	0.0000	**I(1)**
PFA	-7.360383***	-2.963972	0.0000	-7.439401	-2.963972	0.0000	**I(1)**
TR	-5.395636**	-2.963972	0.0001	-5.395563	-2.963972	0.0001	**I(1)**

*Source: Researchers' compilation from E-views 10.0. Values marked with a *** represent stationary variables at 1% significance level, and ** represent stationary at 5% and * represent stationary variables at 10%.*

The Augmented Dickey Fuller (ADF) and Phillip-Perron (PP) statistics results in Tables 2 show that all the variables are non-stationary at their levels. However, with their first differences, they become stationary even as the ADF and PP Statistics for all the respective variables were all negative as the critical values at 5% significance level. The reported P-values were all less than 0.05 chosen level of significance for which cause, the Null Hypothesis of the presence of unit root in all the variables is convincingly rejected.That is, the gross domestic product (GDP), pension fund assets (PFA) and total registration (TR) becomes stationary as indicated by the ADF and PP values of each of these variables. Hence, integration of the variables occurred at order one [I (1)].

This leads to the presentation of the OLS regression analysis of the study.

OLS Regression Result

Table 3: Multiple regression result

Dependent Variable: GDP
Method: Least Squares
Date: 05/06/19 Time: 22:53
Sample: 2010Q1 2017Q4
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PFA	0.001436	0.000413	3.473445	0.0016***
TR	-0.001205	0.000421	-2.862024	0.0077***
C	22607.05	1966.336	11.49704	0.0000***

R-squared	0.319558	Akaike info criterion	19.65054
Adjusted R-squared	0.272631	Schwarz criterion	19.78795
F-statistic	6.809675	Hannan-Quinn criter.	19.69609
Prob(F-statistic)	0.003762***	Durbin-Watson stat	0.906178

Source: Researchers' compilation from E-views 10.0.

***, **, *** denotes 1%, 5% and 10% level of significance respectively**

Estimation Equation:

GDP = C(1)*PFA + C(2)*TR + C(3)

Substituted Coefficients:

GDP = 0.00143622743331*PFA - 0.00120497266052*TR + 22607.0487916

The R^2 of 0.319558 indicates that about 32% of total variation in the dependent variable (GDP) is accounted for by the explanatory variables (i.e. PFA and TR). This result is not robust even after adjusting for the degrees of freedom (d.f.) as indicated by the value of adjusted R2, which is 0.272631 (i.e. ≈ 27%). Thus, the regression does not show a good fit. The F-statistic, which is a test of explanatory power of the model is 6.8097 with the corresponding probability value of 0.00376, is statistically significant at 1%, 5% and 10% significant level. Therefore, this implies that the explanatory variables (PFA and TR) have joint significant effect on the economic growth of Nigeria using GDP as a proxy. The individual impact as indicated by the t-statistics in 3.473445 and -2.862024 with probability values of 0.0016 and 0.0077 for PFA and TR respectively showed that the dependent variable GDP were significantly impacted by the two variables.

The coefficient signifies that an increase in PFA by 1 will cause the GDP to react positively by 0.00144%, thus confirming the positive implication of increase in Pension fund assets to economic growth in Nigeria in line with apriori-expectation. While the co-efficient of an increase in TR by 1 will cause the GDP to react negatively by 0.0012%.

The Durbin-Watson statistic of 0.90618 indicates the presence of autocorrelation. Thus, needing a confirmatory test to uphold or reject the usage of the results for decision making in the study.

Test for Serial Correlation – Breusch-Godfrey (BG) Tests

The Breusch-Godfrey tests was used to test for the presence or absence of serial or autocorrelations in the model with the Null hypothesis stating that there is No autocorrelation. This holds if p-value is greater than the chosen level of significance otherwise reject.

Table 4: BG serial correlation test result

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	11.24198	Prob. F(2,27)	0.0003
Obs*R-squared	14.53980	Prob. Chi-Square(2)	0.0007

Source: Researchers' compilation from E-views 10.0.

From table 4, the p-value is less than the chosen level of significance of 5%, indicating the presence of autocorrelation in the model. Hence, further confirmatory test is also conducted to further ascertain the rejection or acceptance of the position of autocorrelation in the result.

Test for Heteroskedasticity (Arch)

Heteroskedasticity is a result where the variance of the errors is not constant while, the assumption of the classical linear regression that the variance of the errors is constant is known as *Homoskedastycity*. The Null hypothesis states that there is no Heteroscedasticity if the p-value is greater than the level of significance (Brooks, 2014).

Table 5: Heteroskedasticity test

Heteroskedasticity Test: ARCH			
F-statistic	5.255454	Prob. F(1,29)	0.0293
Obs*R-squared	4.756004	Prob. Chi-Square(1)	0.0292

Source: Researchers' compilation from E-views 10.0.

The null hypothesis states that there is No heteroskedasticity if p-value is not significant and is greater than the chosen level of significance of 5%. Hence, table 5 results prove that we reject the Null hypothesis that there is no evidence of heteroskedasticity since p-value is less than 5% significance level. Thus, confirming the position of autocorrelation in the study using ordinary least square regression analysis. This however facilitate the need for error correction model analysis to correct the presence of autocorrelation in the study.

Error Correction Model Analysis

Table 6: Error correction model results

Dependent Variable: GDP
Method: Least Squares
Date: 05/06/19 Time: 22:55
Sample (adjusted): 2010Q2 2017Q4
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PFA	0.000378	0.000392	0.965531	0.3428
TR	-0.000662	0.000345	-1.919220	0.0656
ECM(-1)	0.806991	0.189627	4.255676	0.0002
C	23550.32	1508.553	15.61120	0.0000

R-squared	0.600376	Akaike info criterion	19.12551
Adjusted R-squared	0.555973	Schwarz criterion	19.31054
F-statistic	13.52117	Hannan-Quinn criter.	19.18583
Prob(F-statistic)	0.000014	Durbin-Watson stat	2.068360

Source: Researchers' compilation from E-views 10.0.

***, **, *** denotes 1%, 5% and 10% level of significance respectively**

Estimation Equation:

GDP = C(1)*PFA + C(2)*TR + C(3)*ECM(-1) + C(4)

Substituted Coefficients:

GDP = 0.000378077143715*PFA - 0.000661774094884*TR + 0.806991128974*ECM(-1) + 23550.3236607

The R^2 of 0.600376 indicates that about 60% of total variation in the dependent variable (GDP) is accounted for by the explanatory variables (i.e. PFA and TR). This result remains robust even after adjusting for the degrees of freedom (d.f.) as indicated by the value of adjusted R^2, which is 0.555973 (i.e. ≈ 56%). Thus, the regression has a good fit. The F-statistic, which is a test of explanatory power of the model is 13.52117 with the corresponding probability value of 0.000014, is statistically significant at 1%, 5% and 10% significant level. Therefore,this implies that the explanatory variables (PFA and TR) have joint significant effect on the economic growth of Nigeria using GDP as a proxy. The Durbin-Watson statistic of 2.068360 indicates we can completely rule out autocorrelation. Thus, the result is reliable for decision making for the study. The individual impact as indicated by the t-statistics in 0.965531 and -1.919220 with probability values of 0.3428 and 0.0656 for PFA and TR respectively showed that the dependent variable GDP were insignificantly impacted by the two variables individually.

The coefficient signifies that an increase in PFA by 1 will cause the GDP to react positively by 0.000378%, thus confirming the positive implication of increase in Pension fund assets on economic growth in Nigeria in line with apriori-expectation. While the co-efficient of an increase in TR by 1 will cause the GDP to react negatively by 0.00066%.

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

This study has provided evidence on the Pension Reforms Act 2014 and the provision of infrastructures for sustainable development in Nigeria using error correction mechanism (ECM) and Ordinary Least Square (OLS) methodology.It is clear from the analysis that increases in pension fund assets from both private and public sectors in Nigeria positively affects economic growth. This showed that increases in pension fund assets increases the pool of investible fund, which ensure capital adequacy for infrastructural development which enhances economic output. Although the increase in the total registration does not necessitate the required increase in economic growth as the result continuously showed negative impact on the economic growth in Nigeria. This negative impact is probably due to private sector leakages and diversion of pension funds for personal empire development within the pension fund management thus depriving the capital market availability of funds for infrastructural development of the economy. The study also reveals that the proper treatment and adjustment of the pension fund assets with the total registration can significantly and reliably facilitates necessary economic growth in Nigeria. The regression results also reveals that the duo of pension fund assets and total registration within the Nigerian economy continue to aid the building of funds for infrastructural development and economic growth at large.

Thus, to harness Nigeria's talents in pension and other support services such as investment, insurance, actuarial valuations amongst others. The platform among regulators and operators, both in pension and the financial market that we have will usher a new dawn of innovations in pension administration, particularly towards extending coverage, promoting quality service delivery and to channel pension funds safely towards investments that have visibility and measurable impact on the country.

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Appendix 1

	TR	TPA	GDP
Q1 2010	4,130,160	1,637,290	**12,583.5**
Q2 2010	4,283,417	1,777,580	**12,934.5**
Q3 2010	4,421,167	n/a	**14,304.4**
Q4 2010	4,542,250	2,029,770	**14,789.8**
Q 1 2011	4,639,009	n/a	**14,501.45**
Q2 2011	4,726,759	n/a	**15,054.96**
Q3 2011	4,824,237	n/a	**16,163.64**
Q4 2011	4,925,350	2,084,880	**17,260.35**
Q1 2012	5,048,440	2,554,840	**16,450.36**
Q2 2012	5,165,125	2,738,680	**17,743.63**
Q3 2012	5,276,070	3,728,430	**18,521.60**
Q4 2012	5,393,001	2,029,770	**18,998.34**
Q1 2013	5,516,441	3,382,420	**18,295.63**
Q2 2013	5,623,907	3,521,911	**19,931.02**
Q3 2013	5,821,365	3,728,427	**20,464.40**
Q4 2013	5,917,207	4,058,087	**21,401.52**
Q1 2014	6,025,117	4,207,628	**20,169.78**
Q2 2014	6,129,532	4,419,123	**21,734.83**
Q3 2014	6,263,949	4,582,735	**22,933.14**
Q4 2014	6,396,574	4,611,290	**24,205.86**
Q1 2015	6,515,736	4,746,003	**21,041.70**
Q2 2015	6,631,539	4,937.68	**22,859.15**
Q3 2015	6,745,406	5,103,799	**24,313.64**
Q4 2015	6,885,396	5,302,879	**25,930.47**
Q1 2016	7,006,734	5,460,797	**22,235.32**
Q2 2016	7,126,676	5,729,316	**23,547.47**
Q3 2016	7,240,196	5,961,561	**26,537.65**
Q4 2016	7,348,028	6,158,948	**29,169.06**
Q1 2017	n/a	6,415,507	**26,028.36**
Q2 2017	n/a	n/a	**27,030.25**
Q3 2017	n/a	n/a	**29,377.67**
Q4 2017	n/a	n/a	**31,275.35**