

## **Evolution of Pension Management in Nigeria and Its Importance to the Economy**

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**Abstract:** This paper examined the evolution of pension management in Nigeria as a precursor to the provision of social security network to the Nigerian labour Market and economic growth. The study used secondary data sourced from central bank of Nigeria annual statistical bulletin between 2004 to 2018 and were subjected to Augmented Dickey Fuller and Phillip-Perron Unit Root test, Multiple regression analysis and Breusch Godfrey serial correlation and Heteroskedasticity test. The study discovered that pension management proxy by number of retirement savings account, total pension assets and pension contribution facilitated significant improved economic growth in Nigeria. Hence, the study concludes that pension management affects economic growth in Nigeria within the period under review. The study recommends that pension management should be efficiently improved upon to address the relatively few number of retirement savings account in Nigeria.

**Keywords:** Economic Growth, Social Security Network and Contributory Pension Scheme

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### **I. INTRODUCTION**

The pension scheme in Nigeria has experienced a highly deficient service delivery regardless of the growing numbers of pensionable public outlets of the public sector service. Many African countries have undergone public service reforms which were triggered off by the quest for efficient and effective public service provision, influenced by structural adjustment programs and new public management movements of the 1980's. The growing financial requirements to address increasing pension debt structures (retirement benefits) necessitated the different reforms over time in Nigeria. However, the retirement benefit planning as an exercise in Nigeria and the world over is fraught with many challenges. The Nigerian workers are especially challenged by low levels of income and savings as well as huge family and social responsibilities, hence complication of retirement benefit planning.

However, the average life expectancy of Nigerians somewhere around 54 years, with a large number of Nigerians living up to 80 years and some 90 years also inflate the outrageous conditioning of the Nigerian worker. The grossly inefficient pension arrangement in Nigeria for pensioners destroys the chances of workers to contribute to their pension arrangement based on the Pension Reform Act 2004 with most workers tending to the needs of their old relations who also doubled as unpaid pensioners. The workers however noticing the growing deficiency of the pension administration in the country have taken the dampened alternative of planning ahead for their old age by involving themselves in corrupt practices to meet the anticipated expenses of the future.

#### **The Nigerian Pension Industry Timelines**

Key pension industry events include enactment of Pension ordinance in 1951 with retroactive effect from January 1946. The said Pension Ordinance of 1946 contained vital information about the public sector pension scheme ranging from the identification of who a Native Administration Servant is, the nature of benefits (pensions and gratuity) and eligibility conditions. (Uzoma 1989). The First private sector pension scheme was set up by Nigerian Breweries in 1954 this was followed in 1961 with the establishment of the National Provident Fund (NPF) meant for non pensionable private sector employees.

In 1979, the Basic Pension Decree 102 establishing a Civil Service Pension Scheme for the public sector was promulgated. Whereas the establishment of the Nigeria Social Insurance Trust Fund (NSITF) in 1993 was to replace the NPF scheme. The NSITF had an increased level of contributions from the employer and employees at about 6% of basic income. This fell short of meeting the expectation of the labour movement and the dynamics of an inflation prone economy.

In 2004, the Pension Reform Act 2004 that followed the Chile Pension reforms of 1981 was enacted and it became a watershed in Pension Management in Nigeria. Prior to this Act the National pension liability deficit was about N2.3trillion which had been unsustainable under the “pay as you go system” which recognized pension as a government recurrent treasury liability. The Pension Reform Act 2004 established the National Pension Commission to regulate, supervise and ensure the effective administration of pension matters in Nigeria. The National Pension Commission also licensed Trust Fund Pensions Plc by NSITF as a Pension Fund Administrator to manage the accumulated funds of current NSITF contributors

By 2009 the registered retirement saving accounts (RSA) holders had grown up to 4.01million persons and a Pension Fund Assets of N1.5trillion. In 2012, Pension Fund Assets was N2.9trillion. By 2013 PenCom had registered 5.92million contributors and generates N3.82trillion investible fund assets (PenCom 2013). See more on our Table 2. Yet there was a need to review the 2004 Pension Reform Act to meet the desires of all the stakeholders. A joint public hearing on the bill for an act to repeal the Pension Reform Act 2004 was therefore necessary to enable the enactment the of Pension Act 2014

### **Pension Administration in Nigeria**

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 retirement saving 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 are 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

Most of the reforms involve restructuring of government institutions, the creation of new systems, procedures, and functions that are expected to promote transparency, efficiency and responsiveness. The issue of pension had become a major attraction 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.

For instance, as at 1999 the pension liabilities of the Nigerian federal government had accumulated into N1.787 trillion huge unpaid pension liabilities resulting to unprecedented embarrassment to governments and much discomfort to the social welfare of retired persons (PenCom 2005). Under the 2004 Pensions Reform Act arranged according to the Chile pension reform model, accrued retirement benefits (ARB) (gratuity & 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. National Pension Commission (PenCom), has identified some of the operational and regulatory challenges facing the pension industry in the country to include coverage of the Contributory Pension Scheme (CPS), dearth of investment products, inadequate technological capacity as well as inadequate knowledge and skills on the part of Pension Fund Administrators (PFAs) to conduct due diligence on developmental projects. The Commission therefore hoped to raise the number of Retirement Savings Account (RSA) holders from 7.24 million in 2016 to 20 million by 2019 with the introduction of Micro-pension (Anohu-Amazu 2015). However, how has the pension assets facilitated the required improved welfare of pensioners and economic development at large. Thus, this study aims to evaluate the impact of pension administration on economic development in Nigeria.

### **Research Questions**

1. To what extent does pension assets contribute to the economic development of a nation?

### **Research Hypothesis**

Ho: Pension assets contribution does not significant affect economic growth of Nigeria.

## **II. REVIEW OF RELATED LITERATURE**

### **Conceptual framework**

Pension has been viewed differently 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. 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.

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. The 2014 Pension Act defined contributory scheme that is fully Funded-deduction at source, provision for Lump sum withdrawal from balance on 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.

### **Pension fund management**

Pension fund management requires the investment of assets to achieve the long-term provision of funding for retirement (Klumpes, and Tippet 2004). Institutional social security, in some measures or other, exists in almost all countries today. However, there is much variation between countries with regard to the levels of protection, scope, coverage and effectiveness of the system in place. As a group, the developed countries have the most advanced social security and pension fund management systems. With very few exceptions, institutionalized social security and pension fund management in the developing world is of relatively recent origin having appeared only after the Second World War, following the emergence of several independent states at the end of the colonial era (Alemu 2015)

### **Practice of pension fund in developing countries**

Pension fund has been a struggling structure in most developing economies of the world. According to (Catala 2004) in the last two decades, many developing countries implemented pension reforms from publicly managed pay as-you-go defined benefit systems to privately managed fully funded defined contribution schemes. One of the potential macroeconomic benefits typically associated with such pension reforms is the development of domestic financial markets. In fully funded pension systems, the argument goes that the rapid accumulation of domestic financial assets by pension funds bolsters the domestic bond and stock markets. Developed domestic financial markets, in turn, lead to more efficient allocations of both domestic and foreign savings to productive investments in the domestic economy, which spurs productivity and growth. Pension funds could trade frequently, increasing the liquidity of the domestic stock markets, and thus crowding in savings and new investors. Similarly, the intense trading of stock by pension funds and their large size may induce them to seek the introduction of innovations and new financial instruments to lower transaction costs, again attracting additional savings and new market participants (Ventura, 2001; Phillip, 2002; Catala 2004).

### **Pension fund management in advanced economies**

According to Preqin (2011) Special Report, Public pension funds are important and experienced investors in alternatives and on average allocate 5.5% of their capital to private equity, with significant commitments also existing to hedge funds, private real estate and infrastructure. He examined the financial statements of over 150 public pension funds from North America, Europe and the UK to ascertain how well their investments across various asset classes were performing. His data shows that the 20 largest public pension funds have a total of \$224 billion allocated to private equity, and their high levels of assets under management make fund managers keen to attract this type of investor. The long term, high risk nature of alternatives are well matched to long term liabilities of pension plans, providing diversity to investment portfolios, and giving potential to yield high returns (Exley, Mehka and Smith 2003).

### **Practice of pension fund management in emerging economies**

According to Ventura (2001), Brazilian pension funds are minority shareholders with no direct involvement in the operations of their investee companies. Thus, they must invest in transparent companies, ones that treat their shareholders fairly and whose management is responsible and renders full account of its administration. This shows that a good quality Corporate Governance contributes to improved company management. China has National social security fund (NSSF). According to (Impavido, Hu & Li 2009), Fund management has also been centralized ("pooled" in Chinese terminology) as a way to improve standards. The central government's fiscal transfers to nine of these thirteen provinces are managed by the national social security on behalf of the provinces for a period of at least five years and for a guaranteed rate of return. The provinces do not need to pay NSSF the management fee, which is covered by Ministry of Finance (MOF) budget. When we come to India, Government employees are covered under provident fund and pension fund with a pay as you go system. Pension Funds are managed by Pension Fund Administrators and they are responsible for taking investment decisions but in some jurisdictions, pension fund management can be by asset management and insurance companies and some management decisions may be the responsibility of Boards of Trustees in some corporate organizations. Pension Fund Custodians are those who keep custody of pension funds (Iman 2011).

### **The Pension Reform Act 2014 reviewed**

The Pension Reform Act 2014 as reviewed introduced several changes within the pension industry which have key implications for industry stakeholders and the economy:

#### **(a) Lower Employer Eligibility Requirements**

- Employers with less than 3 employees and self-employed persons are entitled to participate under the scheme
- Increased contributor enrolment and pension compliance
- Increased assets under management by Pension Fund Administrators

#### **(b) Setup of Pension Protection Fund**

- Establishment of a Pension Protection Fund to serve as a hedge for the funding of minimum pension guarantee
- Pool of funds to provide eligible retirees with a minimum monthly pension
- Increased cost of operations for key players due to the introduction of an annual Pension Protection levy

#### **(c) Increase in Contribution Rates**

- Increase in contributions rate from 15% to 18%. A minimum of 10% and 8% for employer and employee respectively. However, employers who choose to bear the full contributions are required to make a minimum contribution of 20%
- Increased staff cost resulting in loss of employment for employees whose employers cannot bear the additional cost
- Reduction in disposable income plummeting consumption levels and impacting the consumer goods industry
- Reduced consumption resulting in reduced taxable income for government further impacting the provision of infrastructure
- Fewer funds available to engage the informal sector in gainful employment

#### **(d) Stiffer Penalties for Pension Fraud**

- Stiffer penalties for the contraventions of the Pension Reform Act
- Curbing of unethical practices and the diversion of Pension Fund
- Protection against loss of Pension funds

#### **(e) Foreign Investment of Pension Funds**

- PFAs can now invest pension funds in foreign investments albeit within the confines of PenCom guidelines
- Several investment options available for PFAs including Real estate Mortgage Financing

#### **(f) Tax Exemption of Investment Income**

- Introduction of tax-exempt status for pension fund investment income
- Increased voluntary contributions
- Increased assets under management

#### **(g) Withdrawals from RSAs for Mortgage Contributions**

Retirement savings account holders can now withdraw a maximum of 25% of their pension assets as equity contribution towards payment of a residential mortgage

- Reduced assets under management
- Increased voluntary contributions

### **Investment Diversification**

A diversified investment portfolio is fundamental to managing investment risk. When the defined contribution systems in Nigeria were first established, investment tended to be concentrated in state-issued bonds, that is still the case in many countries. Because investment-grade instruments remain in short supply in emerging capital markets, there is little alternative to investing in government bonds (Uthoff 1997). During the 1990s, firms with investment-grade status found it cheaper to borrow from banks, both at home and abroad, than to turn to the capital markets, while small and medium-sized firms typically did not meet investment-grade requirements. In other words, those firms that could access capital markets did not want to, and those firms

seeking such investments did not qualify as investment grade. Consequently, government-issued securities remained the investment of choice for pension funds in most countries (Kay 2009).

Concentration in government bonds does carry investment risk given that governments can default on their obligations, as Argentina did in 2002 when 80 percent of pension fund investment was in government bonds. Some countries, like Mexico, have encouraged pension funds to diversify away from government bonds leading to reduced concentration in government bonds. Nevertheless, in Bolivia, El Salvador, Mexico, and Uruguay, investment in government bonds is well over 50 percent (Kay 2009).

Foreign investment offers another opportunity to diversify investments and reduce country and currency risk. It has generally been the case that, in part for political reasons, foreign investment is restricted or not permitted during the early years of individual account systems, but is then later permitted as the systems mature. For example, as Colombia and Mexico now have about 10 percent of invested funds in foreign securities, while Peru has 12.5 percent—up from virtually zero in 2001. Meanwhile in Chile, pension fund foreign investment has risen from 5.7 percent in 2001 to 28.5 percent in 2009. The 2008 Chile pension reform permits up to 80 percent of assets to be invested abroad. (Mitchell, Olivia, and Jose 2009). (Antolin, Stéphanie, and Juan 2010)

However, in Nigeria the major act directing pension is PRA, 2014. The accounting aspect and reporting of pension is guided by SAS 8, which before 2004 was voluntary. Subsequently, with the promulgation of Nigerian Accounting Standards Board (NASB) Act 2003 it is now mandatory for firms to comply with the requirements of the standard. The enactment of PRA in 2004 was meant to imitate developed economies of the world such as the USA and UK, where pension acts are enacted to enforce among others the accounting standards.

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):

Ensure 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;

Assist improvident individuals by ensuring that they save in order to cater for their livelihood during old age; and 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.

### ***Contributions of Pensions to the Economy***

The pension arrangement permits pension fund administration with increasing fund leverage of employers and employees for long-term. Thus, pension funds are sources of long-term finance for capital investment, as they have access to longer term funds through contributions by employers and employees towards retirement. The Pension Reform Act 2014, in Sections 86 and 87 permit Pension Fund Administrators (PFA) to invest or engage in various types of investment with the objective of safety and fair return on their investments. Section 90 provides that every PFA shall conduct extensive research and due diligence prior to investment as well as utilize the risk report to the risk rating of the instruments that has been undertaken by any risk rating company registered under the Investment and Securities Act. What infrastructure do we need for sustainable development? They include electricity, roads & rails, airports, power and communication, functional educational institutions and health facilities.

The pension funds as at December 2017 have already accumulated an investment fund equivalent to 55% of GNP (PenCom 2018), and some experts forecast that that percentage will rise to 100% of GNP when the system reaches full maturity. This long-term investment capital not only has helped fund economic growth but has spurred the development of efficient financial markets and institutions (Barr 2001). The PFA's are very active participants in the Nigerian Capital Market. See Table 2 for their Pension Assets Investments.

Another way of encouraging funding is the provision that contributions 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.

Looking at the pension arrangement in the developing economies of the world, the eligibility of pensioners varies and the population covered is unencouraging in Nigeria, Argentina and Kenya. The table 1 reveal a summarized view of the pension arrangement and the ratio of population covered.

**Table 1: Pension Watch, Social Protection In Older Age**

S/No	Country	Name of Scheme	Year Introduced	Age of Eligibility	% Population 60+ covered	Total Cost (% of GDP)
1	Argentina	Pensiones Asistenciales	1994	70	1%	0.035%
2	Botswana	State old age pension	1996	65	88%	0.265%
3	Canada	(Old Age Security Pension)	1927	65	96%	1.448%
4	Chile	Sistema de pensiones solidarias (vejez) - Includes the Pensión Básica Solidaria de Vejez (PBS-Vejez)	1974	65	55%	0.049%
5	Kenya	Older Persons Cash Transfer	2006/2007 budget year	65	5%	0.015%
6	Nigeria (1)	Ekiti State Social Security Scheme	2011	65	1%	0.003%
7	Nigeria (2)	Osun Elderly Persons Scheme	2012	no data	no data	0.12%
8	South Africa	Older Persons Grant	1944	60	100%	1.152%
9	Sweden	Garantipension (Guaranteed pension)	1913	65	41%	0.524%
10	United Kingdom	Pension credit (Guarantee Credit)	1909	65	11%	0.439%
11	United States	Old age Supplementary Security Income	1935	65	5%	0.067%

*Source: International Pension Watch Database edition 25/03/2015*

### Empirical Review

Different empirical researches have been carried out to find the link between pension fund management and economic performance. Studies like Odia and Okoye (2012) compared the old pension scheme with the Pension Reform Act 2004 using a comparative analysis method to compare and contrast the pre-2004 pension scheme with Pension Reform Act 2004. Their study finds that the PRA 2004 is better than the pre-2004 pension scheme, and that the PRA 2004 is expected to help remedy the deficiencies and inadequacies prevalent in the old pension scheme. Contradicting this finding is the study of Olanrewaju (2011) who also examined the Pension Reform Act 2004 and well-being of Nigerian retirees based on the Marxist theory. The study critically analyzes the 2004 pension policy of the government on the wellbeing of Nigerian retirees and discovered that the PRA 2004 failed to contribute to basic social security in old age for the majority of Nigerians employed in the informal sector while the minority of covered workers experience problems.

Micah and Obah (2016) investigated the relationship between pension fund administration and infrastructure financing in Nigeria. The study used a simple random sampling to select 108 respondents for the study and subjecting to Pearson Products moment correlation. The result show that there is relationship between retirement pension account and return on economic and social infrastructural financing; and there is also a significant relationship between superannuation pension account and economic and social infrastructural financing in Nigeria.

Essien and Akuma (2014) compare the new pension scheme with the old pension scheme with a view to highlighting some areas of departure in the new pension scheme from the past ones. Their study revealed that the past pension schemes were plagued with financial misappropriation (corruption), which gave vent to their ineffectiveness and subsequent abrogation. Edogbanya (2013) assessed the impact of contributory pension scheme on Nigerian economic development for the period (2007-2010). Using correlation analysis for testing secondary data and ANOVA for the primary data. The study revealed that risk prevalent has positive effect on pension fund management and that the contributory pension scheme has significant positive impact on the GDP.

Kotun, Adeoye and Alaka (2016) examined the justification for the contributory pension scheme as part of its values and determined their implications for public servant productivity and pensioners welfare in Lagos State. Their study using a field survey collected primary data via simple random sampling method and the result of the analysis discovered that there is significant relationship between adequate retirement package and employees' productivity and that it has a positive impact on the organization efficiency. The oral interview conducted however, found that the contributory pension scheme (CPS) has positive potentials over the defined benefits pension scheme (DBPS).

Jeff-Anyene, Ezu and Ananwude (2017) examine the effect of pension scheme contributions into the retirement saving accounts of employees on national, urban and rural poverty levels. The study using ordinary least square regression analysis for data for the period of 2004 to 2015 revealed that pension contributions have no significant effect on national, urban and rural poverty levels. However, Farayibi (2016) also examine the effect of the operation of the funded pension scheme since its inception in 2004 on economic growth in Nigeria using error correction mechanism (ECM) and Ordinary Least Square (OLS) methodologies. Findings revealed that the pension fund contributions from both private and public sectors in Nigeria increased greatly and constituted a huge investment fund in the capital and money markets.

However, the study of Nwanne (2015) examined the impact of contributory pension scheme on economic growth in Nigeria for the period 2004-2012. The study using Ordinary Least Square Regression method also discovered that that pension funds have negative and significant impact on economic growth while pension savings had positive and significant impact on economic growth.

Zubair (2016) examined the impact of pension fund investments on the performance of capital market in Nigeria. The study looked at a time series analysis covering a period from 2009Q3 to 2016Q1 using the Autoregressive Integrated Moving Average (ARIMA) regression technique. The study concludes that there is a significant positive relationship between pension funds' investments and the performance of capital market (in terms of debt and Liquidity) in Nigeria after the 2004 major industry reform.

Ameh, Ajie and Duhu (2017) evaluate the impact of contributory pension scheme on economic growth in Nigeria. Using data from various issues of PenCom Annual Reports and World Bank Development Indicators (database); the findings revealed that pension fund assets and pension contribution /savings mobilized over the years have positive but insignificant impact on economic growth. Another look at the pension assets is the study of Eke and Onafalujo (2015) on the causal relationship between interest rate, capital market, and pension assets in Nigeria from 1981-2013. Their study using ordinary least square (OLS) regression technique in a recursive system reveals that pension asset is directly sensitive to stock market Index, while the index is inversely sensitive to short term interest rate, implying that the high short-term interest rate regime might be inimical to building 'wholesome' pension assets of the capital market.

However, the empirical gap revealed that most study have looked at pension funds assets, pension fund schemes without considering the management of pension funds and the importance to economic growth or performance in Nigeria.

### **Methodology**

This study used secondary data obtained from published information of National Pension Commission Annual and Quarterly Publications and the CBN 2017 Statistical Bulletin Real Sector Statistics for the GDP figures. The ordinary least square (OLS) was used to measure the short run relationship while the granger causality was used to ascertain the effect of the predictors on the dependent variable. 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 (Iwueze, 2009).

The study extended the classical linear regression model into a regression model with more than one explanatory variable known as a multiple regression model; multiple because multiple influences (i.e. variables) can affect the dependent variables, to explain the linkage between the pension variables and economic growth of the nation. This approach has got a wide application in econometric analysis (Gujarati, 2006; Akinlo and Odusola, 2006).

In its stochastic form, the multiple-variable regression function can be written as follows:

$$Y_t = B_0 + B_1 X_{1t} + B_2 X_{2t} + B_3 X_{3t} + \dots + B_4 X_{4t} + u_t \quad \dots (1)$$
$$= E(Y_t) + u_t$$

Where  $Y$  = the dependent variable

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

$u$  = the stochastic disturbance term

$t$  = the  $t^{\text{th}}$  observation

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

GDP = f (RSA, PC, PA)

Where: GDP = Gross Domestic Product

RSA = No of Retirement Saving Account

PC = Total Pension Contribution

PA = Pension Assets under management by PFAs

**Presentation and Analysis of Results**

The table 2 presents the summary of unit root test for both Augmented Dickey Fuller and Phillips-Perron stationarity test.

**Testing for Stationarity**

**Table 2:** Stationarity result of the Augmented Dickey-Fuller and Phillips-Perron Tests

Var	ADF	C. Values @5%	P-value	PP Test	C. Values @5%	P-value	Order of Integration
<b>GDP</b>	-5.732828***	-3.212696	0.0014	-5.732828	-3.212696	0.0014	<b>I(2)</b>
<b>RSA</b>	-4.755761***	-3.175352	0.0043	-8.748097	-3.175352	0.0000	<b>I(1)</b>
<b>PC</b>	-3.221674**	-3.212696	0.0493	-3.221674	-3.212696	0.0493	<b>I(2)</b>
<b>PA</b>	-5.962132***	-3.403313	0.0032	-6.500369	-3.403313	0.0020	<b>I(1)</b>

*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 summarized unit root test from table 2 reports display the tests for stationarity properties of the series following the Augmented Dickey Fuller (ADF) and Phillip-Perron statistics. Two of the variables were found to be stationery at order one (1) except GDP and PA which was stationary at order two (2). At both First and Second difference as reported, 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.

This leads to the presentation of the OLS and Granger analysis of the study.

**OLS Regression Result**

**Table 3:** Multiple regression result

Variable	C	SE	TS	P	R <sup>S</sup>	AR <sup>S</sup>	FS(P)	DWS
C	8.128880	0.406085	20.01766	0.0000	0.950446	0.925670	38.36039 (0.000261)	1.160584
LOG(RSA)	0.031044	0.020090	1.545214	0.1732				
LOG(PC)	0.590507	0.069603	8.483927	0.0001				
LOG(PA)	-0.067583	0.021955	-3.078261	0.0217				

*Source: Researchers' compilation from E-views 10.0.*

*C-Coefficient, SE-Std. Error, TS-T-Statistic, P- Prob., RS- R-squared, ARS- Adjusted R-squared, FS-F-statistic, (P)-Prob. F-statistic, DWS- Durbin-Watson stat.*

Estimation Equation:

$$\text{LOG(GDP)} = \text{C}(1) + \text{C}(2)*\text{LOG(RSA)} + \text{C}(3)*\text{LOG(PC)} + \text{C}(4)*\text{LOG(PA)}$$

Substituted Coefficients:

$$\text{LOG(GDP)} = 8.12887959142 + 0.0310435309171*\text{LOG(RSA)} + 0.590506798744*\text{LOG(PC)} - 0.0675833360717*\text{LOG(PA)}$$

The table 3 multiple regression result show that the R<sup>2</sup> and Adjusted R<sup>2</sup> both showed 95.04% and 92.57% respectively. The goodness of fit regression model of 95.04% implies that chosen explanatory variables explain variations in the dependent variable (GDP) to the tune of 95.04%, while the remaining less than 4.6% are other factors not captured in the study. The high Adjusted R<sup>2</sup> (92.57%) implies that the model can take on more variables to achieve strong presence on (GDP) conveniently. The high combination effect is also reflected in the result of F-statistics of 38.36039 showed strong and significantly relationship between the dependent and explanatory variables. The overall probability (F-statistics) of 0.000261 is rightly signed and grossly significant but with a displayed Durbin-Watson statistic of 1.160584; the output is good for decision making and show presence or sign of autocorrelation on the chosen data. However, the presence of autocorrelation necessitated the need for confirmatory test as shown in table 4.

The coefficient signifies that an increase in RSA, PC by 1 will cause the GDP to react positively by 3% and 59.05% respectively, thus confirming the positive implication of increase in Pension contribution to economic growth in Nigeria in line with apriori-expectation. While the co-efficient of an increase in PA by 1 will cause the GDP to react negatively by 6.76%.

The PC and PA's effect on the GDP is shown in the t-statistic value of 8.483927 and -3.078261 with a p-value of 0.0001 and 0.0217 showcase a positive impact and the effect is statistically significant at 5% level



since its p-value is well above 0.05. With only RSA having an insignificant effect on GDP with t-statistic value of 1.545214 and p-value of 0.1732.

**Decision:** However, the study rejects the null hypothesis to accept the alternative. Hence, Pension assets contribution significant affect economic growth of Nigeria.

**Serial Autocorrelation Test**

**Table 4:** Result of the test for Breusch-Godfrey and Heteroskedasticity Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:		Heteroskedasticity Test: ARCH	
F-statistic (2.874528)	Prob. F(2,4) (0.1683)	F-statistic (0.967427)	Prob. F(1,6) (0.3633)
Obs*R-squared (5.897039)	Prob. Chi-Square(2) (0.0524)	Obs*R-squared (1.110800)	Prob. Chi-Square(1) (0.2919)

*Source: Researchers' computation using E-views 10.0*

The result of the Breusch-Godfrey serial correlation shows that the probability value is 0.0524, which is less than 0.05 implying that we reject  $H_0$  and accept  $H_1$ . We then conduct further test in Heteroskedasticity test for affirmation of autocorrelation and reliability of findings for decision. The result of the Heteroskedasticity serial correlation shows that the probability value is 0.2919, which is greater than 0.05 implying that we reject  $H_0$  and accept  $H_1$ . We therefore conclude that there is no serial autocorrelation in the model and that the model is appropriate for decision making.

**Findings of the Study**

The study revealed that the total number of retirement savings account play no significant role on the economic growth, while the Pension Contribution and Pension Assets contribute significantly to the economic growth of Nigeria. The overall study showed that pension administration in Nigeria facilitated improved economic growth and the result is supported by the findings of Zubair (2016), Micah and Obah (2016), Kotun, Adeoye and Alaka (2016), Edogbanya (2013) but however the findings was contradicted by the findings of Essien and Akuma (2014), Olanrewaju (2011) and Jeff-Anyene, Ezu and Ananwude (2017). The confirmatory test affirms to the reliability of the findings on the subject matter and thus upheld the output that importance of pension management improves the economic growth in Nigeria.

**Conclusion and Recommendation**

The study based on the output conclude that pension management improved and enhanced the economic growth of Nigeria. The enhancement is however not short of setbacks as the number of saving account related to the retirement over the period are insignificantly related to the economic growth meaning that there is shortage of retirement savings account which would have contributed immensely to the total assets of pension within the economic for onward investment. Hence, the study recommends that pension management should be efficiently improved upon to address the drastic falls in the number of retirement savings account in Nigeria. The total pension assets should also be channeled to key investments that can improve returns on amount invested thereby assuring pensioners their possible funds and interest over time in Nigeria.

**REFERENCES**

- [1]. Ahmad, M. K. (2005). Press Briefing on the Issuance of Approval-in-Principle to Some Applicants For License to Operate as Pension Fund Custodians, National Pension Commission Abuja, July 27, 2005
- [2]. Akintola-Bello, O. (2004). The Role of Social Security in Economic Development in Nigeria Social Insurance Trust Fund (NSITF), The Quest for Social Security.
- [3]. Alemu K. S. (2015). Pension Fund Management: The Case of Ethiopian Social Security Agency. J Bus Fin Aff 4: 148. doi:10.4172/2167-0234.1000148
- [4]. Ameh, O. E., Ajie, H. A. & Duhu, I. G. (2017). Impact of Contributory Pension Scheme on Economic Growth in Nigeria: An Empirical Analysis. *International Journal of Research in Humanities and Social Studies*, 4(6), 24-35.
- [5]. Anohu-Amazu, C. (2015). Press Briefing organised for the second edition of the World Pension Summit 'Africa Special' in 2015 by the Director General of the National Pension Commission (PenCom), Abuja Nigeria
- [6]. Antolin, Pablo, Stéphanie Payet, & Juan, Y. (2010). Assessing Default Investment Strategies in Defined Contribution Pension Plans. OECD Working Papers on Finance, Insurance and Private Pensions, No. 2. Paris: OECD Publishing (June).

- [7]. Anyogu, F. & Umobi, C. A. (2014). Legal protection of pensioners in Nigeria: Challenges and possible resolution in *Judicial Imprints of Hon. Justice CEK Anigbogu and Contributing Essays* edited by Umenweke, M; Nwankwo, C and Ezeibe, K SCOA Heritage, Awka, Nigeria. Pp 437-447.
- [8]. Battaglia, C. (2016). Media conference in Lagos, ahead of the third World Pension Summit-Africa Special, Abuja September 27th and 28th, 2016.
- [9]. Bodie, Z. (1990). Pension Funds Innovation. *Financial Management*, Autumn, pp. 11-21.
- [10]. Catala, N. (2004) Pension Funds and Corporate Govern, Developing Countries: What do Need to Know?
- [11]. Edogbanya, A. (2013). An Assessment of the Impact of Contributory Pension Scheme to Nigerian Economic Development. *Global Journal of Management and Business Research*, 13(2), 47-59.
- [12]. Eke, P. O. & Onafalujo, A. K. (2015). Interest rate, capital market and pensions management: Lessons from Nigeria. *African Journal of Business Management*, 9(13), 542-552.
- [13]. Essien, B. E. & Akuma, M. S. (2014). The New Contributory Pension Scheme in Nigeria: Gleaning from Past Pension Schemes. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 2(5), 33-40. Retrieved from <http://www.iosrjournals.org/iosr-jef/papers/vol2-issue5/E0253340.pdf>
- [14]. Exley, J., Mehta, S. & Smith, A. (2003). Pension Funds-A Company Manager's View. *Journal of Business & Financial Affairs* 4(148).doi 10.4172/2167-0234.1000148.
- [15]. Farayibi, A. (2016). The Funded Pension Scheme and Economic Growth in Nigeria. MPRA Paper No. 73613. Retrieved from [https://mpra.ub.uni-muenchen.de/73613/1/MPRA\\_paper\\_73613.pdf](https://mpra.ub.uni-muenchen.de/73613/1/MPRA_paper_73613.pdf)
- [16]. FGN (2014) Pension Reform Act (2014). Federal Republic of Nigeria *Official Gazette*, 64(101), Federal Government Press, Lagos-Nigeria.
- [17]. Forker, J. (2003) Discussion of determinants of actuarial valuation method changes for pension funding and reporting: Evidence from the UK. *Journal of Business Finance & Accounting*, 30(1-2), 205-211. DOI:10.1111/1468-5957.00489.
- [18]. Imam, A. (2011). Pension fund management in India: government role and Regulatory issues.
- [19]. Impavido, G., Hu, Y. W. & Li, X. (2009). Governance and fund management in the Chinese Pension System.
- [20]. Jeff-Anyene, S. E., Ezu, G. K. & Ananwude, A. C. (2017). Nigerian Pension Scheme and Poverty Reduction in Nigeria: An Empirical Assessment (2004-2015). *Asian Research Journal of Arts & Social Sciences*, 2(2), 1-25.
- [21]. Kay, S. J. (2009). Political Risk and Pension Privatization: The Case of Argentina (1994–2008). *International Social Security Review* 62(3): 1–21.
- [22]. Klumpes, P. & Whittington, M. (2003). Determinants of actuarial valuation method changes for pension funding and reporting: Evidence from the UK. *Journal of Business Finance & Accounting*, 30(1-2), 175-204. DOI:10.1111/1468-5957.00488.
- [23]. Klumpes, P. J. M., & Tippet, M. (2004). Pension termination and the UK. *Journal of Business Finance and Accounting*, 30 (1&2), 175-204.
- [24]. Kotun, A. I., Adeoye, A. O. & Alaka, N. S. (2016). Effects of contributory pension scheme on employees' productivity: Evidence from Lagos state government. *African Journal of Business Management*, 10(16), 384-396.
- [25]. Micah, L. C. & Obah, G. W. (2016). Pension Fund Administration and Infrastructure Financing in Nigeria. *British Journal of Economics, Management & Trade*, 13(2), 1-13.
- [26]. Mitchell, O. S. & Jose, R. (2009). Pension Payouts in Chile: Past, Present, and Future Options.” Population Aging Research Center Working Paper, WPS 09-02.
- [27]. NASB (1991). *Statement of Accounting Standard 8* (Accounting for Employees' Retirement Benefits).
- [28]. Nwanne, T. F. I. (2015). Impact of Contributory Pension Scheme on Economic Growth in Nigeria. *Global Advanced Research Journal of Management and Business Studies*, 4(8), 333-337
- [29]. Odia, J. O. & Okoye, A. E. (2012). Pension Reform in Nigeria: A Comparison between the Old and New Scheme. *Afro Asian Journal of Social sciences*, 3(3.1), 1-17.
- [30]. Olanrewaju, E. A. (2011). The Pension Reform Act 2004 and Wellbeing of Nigerian Retirees: A Sociological Evaluation of its Provisions, *International Journal of Humanities and Social Sciences*, 1(21), 315-325.
- [31]. Philip, D. E. (2002). The European pension management Industry.
- [32]. Preqin (2011). Special Report Public pension plans and alternative Assets.
- [33]. Revsine, L., Collins, D.W & Johnson. W. B. (2002). *Financial Reporting and Analysis*. Pearson Education Inc. Upper Saddle River, New Jersey.
- [34]. United Nation (2002) Madrid International Plan. Proceedings on the second world assembly on ageing, Madrid, Spain. April 8 -12, 2002, USA-NY
- [35]. Uzoma, P. (1989). Insurance and Pension Practice in Nigeria, Reflections of a Nigerian Actuary Ibadan: Board Publications Ltd.

- [36]. Ventura L. C. (2001). Corporate Governance and its application in Pension Fund Management.  
 [37]. Yin, R. (1989). Case Study Research Design and Methods: Applied Social Research Methods, 5, Sage publications.  
 [38]. Zubair, A. K. I. (2016). Effects of Pension Funds' Investments on Capital Market Performance in Nigeria. *International Journal of Economics and Business Management*, 2(9), 1-20.

**Appendix 1**

**NIGERIAN PENSION REGISTRATION, CONTRIBUTION AND ASSETS (2004-2017)**

YEAR	TOTAL REGISTRATION	PENSION CONTRIBUTION (N'Billion)			Growth Rate of Contribution (Year onYear)	TOTAL PENSION ASSETS (N'Billion)	GDP AT CURRENT BASIC PRICES (N'Billion)
		Public Sector	Private Sector	TOTAL			
2004		15.60	-	15.60	-		17,321.30
2005	932,435	34.86	-	34.68	122.3%		22,269.98
2006	1,313,600	37.38	23.03	60.41	74.2%	361,350	28,662.47
2007	2,593,204	80.63	68.34	148.97	146.6%	815,190	32,995.38
2008	3,317,183	99.28	80.81	180.08	20.9%	1,098,990	39,157.88
2009	3,869,152	137.10	91.21	228.31	26.8%	1,529,630	44,285.56
2010	4,415,611	162.46	103.03	265.49	16.3%	2,029,770	54,612.26
2011	4,825,449	228.92	119.53	348.45	31.2%	2,084,880	62,980.40
2012	5,278,065	331.14	174.43	505.57	45.1%	3,728,430	71,713.94
2013	5,787,493	278.50	225.42	503.92	-0.3%	4,058,087	80,092.56
2014	6,263,352	237.76	343.97	581.73	15.4%	4,611,290	89,043.62
2015	6,754,114	200.05	358.91	558.96	-3.9%	5,302,879	94,144.96
2016	7,238,300	169.25	197.45	366.70	n/a	5,961,580	101,489.49
2017	7,708,177					7,736,038	

**SOURCES: National Pension Commission Annual and Quarterly Publications Various Issues  
 CBN 2016 Statistical Bulletin Real Sector Statistics for the GDP figures**

**Appendix 2**

Regression result

Dependent Variable: LOG(GDP)				
Method: Least Squares				
Date: 04/11/19 Time: 06:49				
Sample (adjusted): 2006 2016				
Included observations: 10 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.128880	0.406085	20.01766	0.0000
LOG(RSA)	0.031044	0.020090	1.545214	0.1732
LOG(PC)	0.590507	0.069603	8.483927	0.0001
LOG(PA)	-0.067583	0.021955	-3.078261	0.0217
R-squared	0.950446	Mean dependent var	10.96978	
Adjusted R-squared	0.925670	S.D. dependent var	0.462646	
S.E. of regression	0.126134	Akaike info criterion	-1.013770	
Sum squared resid	0.095459	Schwarz criterion	-0.892736	
Log likelihood	9.068852	Hannan-Quinn criter.	-1.146544	
F-statistic	38.36039	Durbin-Watson stat	1.160584	
Prob(F-statistic)	0.000261			