

EFFECT OF PENSION CONTRIBUTION ON ECONOMIC GROWTH IN NIGERIA

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Abstract

This study examined the effect of Pension Contribution (PC) on economic growth in Nigeria. The time series data used in this study were for a period of twelve years (2005 - 2017). Data were collected from the Annual Reports of National Pension Commission (PenCom). The study anchored its theory on the “theory of intermediation” and the study also employed sophisticated econometrics statistical tools like unit root test, the ordinary least square, and granger causality test. The econometric results indicated that PC has negative and insignificant relation. The insignificant relationship of PC on economic growth in Nigeria could also be as a result of Pension fund looting and non-remittance of pension contribution over the years. This study therefore recommends that efforts should be intensified to incorporate pension as a course of study in our higher institutions of learning, just as we have insurance as a course of study in our higher institutions, and also regulatory authorities should collaborate and generate a Reporting Software’s and data base of the names of organizations whose staff ought to contribute. This will make the supervisory function of the regulatory authority more efficient and effective.

Key words: Pension Contribution, Pension Scheme, Economic Growth, Nigeria.

BACKGROUND TO THE STUDY

Many countries of the world are currently grappling with pension reforms in the face of pressures from ageing populations (Alo, 2004). In most cases, the reform is either to increase the length of contribution to qualify for full pension or to reduce the rate of pension or both. But virtually in all cases, the trend is towards the adoption of tiered systems in which public pensions are complemented by private pension and individual savings.

In Nigeria's 2004 Pension Reform Act, it is termed the "Contributory Pension Scheme". Among the Organization for Economic Cooperation and Development (OECD) countries, France, Italy and Belgium have turned to tax incentives to encourage private insurers to manage an added tier of retirement, while Germany and Sweden are offering incentives to encourage private savings for retirement. Denmark and Finland, on their part, have made additional savings mandatory. The British government has launched a Pension Protection Fund to safeguard the benefits of workers. The Fund, in its initial operating years is expected to be funded from a flat-rate levy on all firms. Presently, the Costa Rican government is considering a number of radical options to reform its pension system. Interestingly, the United States, which has maintained a relatively stable pension regime since 1983, recently embarked on a study of worldwide pension reforms with a view to fine-tuning its own pension system (OECD, 2009). It should therefore be mentioned at this juncture that the Nigerians Pension Act 2014 is in line with global practice.

The history of Nigeria's pension system dates back to the year 1946, when the first pension scheme was inaugurated in the country. According to Balogun (2006), Nigeria's first ever legislative instrument on pension matters was the Pension Ordinance of 1951 which had a retroactive effect from 1st January, 1946. The law provided public servants with both pension and gratuity. The National Provident Fund (NPF) which was established in 1961, was the first legislation enacted to address pension matters of private organizations. Pensions Decrees 102 and 103 (for the military) of 1979 were enacted with retroactive effect from April, 1974 (Ahmed, 2006).

The police and other Government Agencies' Pension Scheme were enacted under Pension Act No. 75 of 1987. This was followed by the Local Government Pension Edict which

culminated into the establishment of the Local Government Staff Pension Board of 1987. In 1993, the National Social Insurance Trust Fund (NSITF) scheme was established by decree No. 73 of 1993 to replace the defunct NPF scheme with effect from 1st July, 1994 to cater for employees in the private sector of the economy against loss of employment income in old age, invalidity or death.

Prior to the enactment of the Pension Reform Act (2004) and signing into law the amended Pension Act 2014, Pension Schemes in Nigeria had been bedeviled by many problems. The public service operated an unfunded defined benefits scheme, and the payment of retirement benefits were budgeted annually. The annual budgetary allocation for pensions was often one of the most vulnerable items in budget implementation in the light of resource constraints. The defined benefit pension scheme in Nigeria was plagued by many problems among which was poor funding due to inadequate budgetary allocations. For instance, shortage of budgetary release relative to benefits resulted into unprecedented and unsustainable outstanding pension deficit estimated at over ₦2 trillion before 2004 (Balogun, 2006). It was obvious therefore that the defined benefits scheme could not be sustained.

STATEMENT OF THE PROBLEM

The compulsory retirement age for public and private worker in Nigeria is 65years and 70years, after which one is expected to, settle down to an easy life of contentment and leisure. The reality is that many retirees may spend old age running after government contracts if they have the wherewithal, or tending chickens in their backyard to eke out a living. It is not that the new pension scheme cannot sustain contributors but it seems that looting and non-remittance has become the problem of the pension industry.

According to BBC (2013), Nigeria has two classes of government pensioners. One class consists of those who took insurance for their old age by either stealing as much as they could while in public service, or collecting as many bribes as they were privileged to do by their office. Members of this class have no need of their pensions. The second class is made up of the honest, self-righteous ex-public official who would not touch one kobo of

government money beyond their salaries and allowances and to whom bribe-taking was contrary to their religious beliefs and values.

Nigeria has a low level of pension penetration compared with most countries despite the growth in pension funds in the last twelve years. The ratio of the total pension funds in Nigeria to GDP stood at 7% in December 2017 compared to South Africa and Kenya which stood at 52% and 14% respectively. Looting of pension funds and non-remittance of employees' contribution have been a serious problem facing the pension industry in Nigeria for more than a decade. One could have imagined that with the amendment of the pension reform act 2014, a lot of short-comings would have been eliminated.

However, the frequency of the complaint of non-remittance of employees' pension also is creating fear, anxiety which can hamper the core essence of the reform act (which is the development of the financial market). Section 3, sub-section (1) of the pension reform act (2014) states that Nigerian employers with up to three employees in their business should arrange for pension package for the employees under the contributory pension scheme for payment of retirement benefits to the employee.

The contributory process used in the contributory pension scheme should aim to get each contributor remit their savings quickly and efficiently so the scheme does not give room for unremitted fund. However, the current pension reform has failed to utilize its pension fund, as retired persons still suffer trauma, pains and even death before they receive their pension. The current pension fund to GDP as at 2017 stood at 7% compared to Kenya and South Africa that has 14% and 52% respectively. This implies that pension fund is fully to be utilized.

CONCEPTUAL FRAMEWORK

Contributory Pension Scheme

A pension system is essentially an income security program which provides benefits to beneficiaries who may be retirees, pensioners or the destitute. The benefits of a pension may be flat or defined. A defined benefit is one whose value payments vary according to established rules for participation whereas a flat benefit is one that pays a unitary value to

beneficiaries. Furthermore, within pension programs, a distinction exists between a defined benefit plan and a defined contribution plan.

In a defined benefit plan, only the employer is responsible for funding of the plan where as in defined contribution plan both the employers and the employee make defined contributions to fund the plan. As such, pension systems can be broadly categorized as contributory and non-contributory. Ako (2006) observes that this implies the criteria for pension eligibility include a history of earmarked contribution having been made by the prospective retirees or their employers. The objective is usually that of replacing a greater proportion of income for low-income workers in what could be refereed as a form of minimum pension guarantees. Contributory pension system is therefore usually in the form of savings or insurance schemes. On the other hand, noncontributory pensions are pure cash transfers to beneficiaries rather than savings or insurance schemes (Ako 2006). This implies the prospective beneficiary is not eligible on the basis of a contribution history but the eligibility criterion is usually a socio-economic or even political factor such as poverty old age or political participation. Hence noncontributory pension is sometimes called social pensions.

Defined contribution plans according to Masilela (2008) are those in which the benefit is defined as the future value of pension fund contribution made on an employee's behalf. The exact value is unknown prior to retirement because it depends on future earnings of pension fund investments. Benefits are solely a function of accumulated contribution, and for this reason the plans are called defined contribution.

Defined contribution plans may be either contributory or noncontributory. It is contributory where funding is shared by the employer and employee as provided by the new Pension Act 2004 in Nigeria. It is noncontributory if all contributions are made by the employer as the case of Nigeria before the commencement of Pension Reform Act 2004. The benefit is defined either on a specific amount or by a general formula based on salary. However, noncontributory pensions are very costly affairs and the countries that operate them have had to battle with unsustainable fiscal deficits on account of several factors, including rapid demographic changes as well as changes in the age and sex – specific labor force participates (Ako, 2006).

The “cost” of a defined contribution plan is readily calculated, but the benefit from a defined contribution plan depends upon the account balance at the time an employee is looking to use the assets. So, for this arrangement, the contribution is known but the benefit is unknown (until calculated). Despite the fact that the participant in a defined contribution plan typically has control over investment decisions, the plan sponsor retains a significant degree of fiduciary responsibility over investment of plan assets, including the selection of investment options and administrative providers.

The Pension Reform Act 2004 (PRA 2004) is a multi-pillar pension scheme copied from 1981 Chilean Pension Scheme (Orifowomo, 2006). The idea of PRA 2004 was to allow Nigerian follow the Chilean model of providing long-term capital to develop the financial markets and improve economic growth; to solve the problem of growing pension arrears and unfunded entitlements; and to add to credibility of general economic reform effort of the government (IMF, 2005). Gunu and Tsado (2012) stated that the idea behind the introduction of the contributory pension scheme is to serve as a tool towards the realization of the goal of savings mobilization, which can lead to capital market development, thereby fostering economic growth in Nigeria.

Table 2.1: Comparison between the Old and New pension scheme

Characteristics	Old Scheme	New Scheme
1. Type	Largely defined benefit	Defined contribution
2. Funding	Mostly unfunded and pay as you go (PAYG)	Contributory and fully funded
3. Membership	Voluntary in private sector	Mandatory for all employees in public and private sector except pensioners and those with 3 years to retire
4. Pension portability	Not portable	Personalized and very profitable
5. Management	Largely State and management	Private sector and individual choice

	union	
6. Retirement benefit	Discriminatory	Uniform application
7. Supervision	Fragmented and unregulated (SEC, NAICOM and JTB)	Strictly regulated by PENCOT.
8. Pension liability	Implicit and not transparent	Explicit through retirement bond and Capped
9. Tax exemption	Limited	Contribution and retirement benefits
10. Insurance policy	Voluntary and mostly in private sectors	i) Mandatory for all employers ii) Three times the employee's emoluments
11. Dismissal from service	No pension benefits	Full pension rights
12. Collateral for loans	Benefits could be used as collaterals	Benefits cannot be used as collaterals
13. Deductions from benefits	Benefits can be subjected to deductions especially employers in any financial obligations in the employee.	Contents of RSA can be used for payment of retirement benefits only.
14. Claiming retirement benefits	Cumbersome	Straight forward
15. Minimum service years	Generally, 5 years for gratuity & 10 years for pensions	Month of employment for all benefits subjects to minimum age

16. Gratuity	Provided to those qualified withdrawal	Provision for lump sum
17. Risk Management	No provision	Adequate provision

Source: Ahmad, (2008)

A comparison of the old and new pension shows some remarkable difference between them as shown in table 2.1. For instance, starting from the type of scheme, funding, membership to risk management of the pension fund, the new scheme seems to be broader, inclusive and more adequately provided for. While the old pension scheme was largely defined benefits and unfunded, the new scheme is defined contribution and fully funded. The new scheme is very portable and enjoys uniform application unlike the old which was not. In fact, employees who leave one employment for another or even dismiss from service have no fear of losing entirely their pensions or other retirement benefits under the new pension scheme. The regulation and supervision of the new scheme is by PENCOM whereas the SEC, NAICOM and JTB were jointly responsible for the old scheme.

Akeni (2009) made a comparison of nine items in the old and new scheme by conducting a survey of the pension fund administrators, pension fund custodians and the beneficiaries in the public and private sector. He found that the new scheme was better than the old in terms of: accountability, accessibility, ease of payment of pension and gratuity, funding, management of pension fund, transparency, and stakeholders' confidence in the scheme, auditor's control and corporate governance. Although there was agreement that the new scheme was applauded as far better than the old, he discovered that the new scheme may not address the difficulties currently encountered in the pension industry in Nigeria nor impact positively on the standard of living of retirees and pensioners unless there were proper coordination and supervision of the pension fund administrators and custodians by the Nigerian Pension Commission.

Pension Contribution and Investment

The total monthly pension contribution made by contributors into their RSAs was ~~₦~~4.4 trillion as at the end of fourth quarter 2017. This shows an increase of ~~₦~~147.92 billion

representing 3.41 percent over the total contributions as at the end of the previous quarter as shown in Table 2.2.

Table 2.2: Pension Contributions as at 2017

Year/Quarter	Amount (₦ billion)	% of Total
2004	15.6	0.35
2005	34.68	0.77
2006	60.41	1.35
2007	148.97	3.32
2008	180.09	4.01
2009	228.31	5.09
2010	265.49	5.92
2011	348.45	7.77
2012	505.57	10.29
2013	503.92	11.23
2014	581.73	12.96
2015	558.96	12.46
2016	488.2	10.88
2017	610.83	13.61
Total	4,487.40	100.00

Source: Pencom Annual report, 2017.

The aggregate total pension contribution increased from ₦488.2 billion as at fourth quarter of 2016 to ₦610.83 billion as the fourth quarter of 2017 representing a growth of 3.40 percent. Data obtained from PenCom shows that the retirement savings account (RSA) membership distribution data for quarter four (Q4) 2017 reflected that 7,888,559 workers are registered under pension scheme compared to 7,348,028 registered workers in Q4 2016 out of a total working population of 69,470,901 recorded as at Q4 2016. This represents 10.85% of the total working population. This is not surprising given the fact that the informal sectors of the Nigerian labour force which account for 50% of the current

workforce engaged in subsistence agriculture and informal trading, have not been properly utilized.

Economic Growth

Economic growth alludes to an expansion in the limit of the economy to create labour and products contrasted from one period with another (Nnubia & Obiora 2018). It tends to be estimated in ostensible terms, where it isn't adapted to expansion, or in genuine terms, where it is adapted to expansion. The development of an economy is considered as an increment in useful limit as well as an improvement in the personal satisfaction to individuals of that economy and it is related with mechanical enhancements (Nnubia, Egbunike, Akaegbobi & Okoye, 2021). Gross Domestic Product (GDP) alludes to the money related worth of the multitude of completed labour and products created inside a nation's boundaries in a particular time span. It incorporates all of private and public utilization, government expenses, ventures and commodities less imports that happen inside a characterized region and is estimated every year (Nnubia, Okafor, Chukwunwike Asogwa & Ogan, 2020). Gross domestic product is generally utilized as a financial sign of the general strength of an economy, just as to gauge the ways of life in a country.

EMPIRICAL STUDIES

Contributory Pension Scheme and Economic Growth

The relationship between pension funds and economic growth has been a subject matter, which researchers like Vittas, (2000), Walker and Lefort (2002), Meng and Pfau (2010), Mesike and Ibiwoye (2012) and Gunu, and Tsado (2012) examined and established that there is a link between pension funds and capital market development. A fully funded pension scheme accumulates long-term investible funds that enhance the performance and growth of capital markets (Vittas, 2000; Mesike & Ibiwoye 2012; Gunu, & Tsado, 2012).

The contributory pension plan, which accumulates long-term investible funds, will affect the composition of financial savings, which in turn may increase total savings and enhance economic development. Roldos (2004) stated that in addition to providing better risk management and lower transaction costs, their long-term liabilities allow pension funds to

invest in and contribute to the development of longer-term securities markets. According to Vittas (2000), the question of the links between pension reform and capital markets has two aspects. One concerns the preconditions in terms of financial sector development for the successful implementation of pension reform, while the other refers to the long-term impact of pension reform on the development of capital markets. He argued that pension reform and the promotion of private pension funds requires a small core of sound, prudent and efficient financial institutions, such as banks and insurance companies, but does not depend on the prior existence of well-developed securities markets but he opined that private pension funds and insurance companies may have a beneficial impact on capital market development once they reach critical mass and provided, they operate in a conducive regulatory environment. Walker and Lefort (2002), states that there are many paths through which pension reform may heighten the development of financial markets. For example, there are many concomitant conditions to the process of pension reform that may support or limit the positive effect on financial market development. In an attempt to clarify the rationale behind the link from pension reform to financial market development, Walker and Lefort (2002) argued these links through three sets of economic phenomena. They summarized these phenomena into processes that are induced by the accumulation of pension funds, concurrent conditions to the process of pension reform and the consequences on economic growth.

Owo (2008) analyzed the implication of the pension reform on financial market development, especially the capital market. His study concluded that the new pension scheme is an improvement on what existed before (the old pension scheme). Pension funds exert both quantitative and qualitative effects on financial markets (Davis 2006 & Yermo 2005). Quantitative effects relate to asset allocation decisions while qualitative effects relate to corporate governance decisions. Pension funds increase offshore investments, which grow international financial markets thus contributing to greater stability of the economies as a result of increased capital flows (Davis, 2006). In addition, pension funds increase equity market capitalization (Catalan, Impavido & Musalem, 2000) and bond market capitalization (Njuguna, 2010). Alabadan, (2012) stressed that stable, long term and

relatively cheaper funds for sustainable economic development can be effectively mobilized through the reforms in pension and capital market, supported by a healthy banking system. Raddatz and Schmukler (2008) suggest that since pension funds face regulatory requirements and are required to allocate more funds to domestic investments, they are the most important institutional investors within a country. Furthermore, the pooling of pension fund assets boosts the stock market and increases the stock market's liquidity (Catalan, 2004). As holders of large amount of bank deposits, government papers and short-term assets, pension funds are important institutions that control the flow of funds in the financial markets (Raddatz & Schmukler, 2008).

Catalan (2004) and Davis (2006) suggest that pension funds contribute to the growth of the financial markets through the corporate governance channel. Pension funds lobby for enactment of pro-investor laws, increase intensity of their monitoring activities thus exposing corporate crimes and are capable of initiating legal claims against managers when crimes are detected (Catalan, 2004). Strengthening pension funds can therefore shape corporate governance principles applicable to the corporations as to where they invest their money.

In Latin American countries, pension reforms contributed to the growth of capital markets and resulted in these economies opening their markets to trade and foreign investments and reducing their national budget deficits (Andrade, Farrell & Lund, 2007).

Theoretical Framework

From the theoretical view point, this study draws its bearing from the theory of financial intermediation (Allen & Santomero, 2001), and endogenous growth theory offered by Pagano (1993). These theories will be adopted firstly, because most of the researches conducted using the theories are in developed economy and the insurance sector respectively, hence the adoption of the theories in Nigeria is very imperative. Secondly, the theories will be adopted to examine how the investment framework and management of the volume of pension fund contribution, contribute to economic growth in Nigeria.

The intermediation theory will be adopted to enable the researcher establish whether the operation of pension funds is acting as agents of economic growth by strengthening the

functions of financial systems more efficiently than the alternative such as banks and individual investors. In adopting the endogenous growth theory, it was discovered that an economy's long-run growth rate depends on its saving rate. The endogenous growth theory offered by Pagano (1993) assumes that financial intermediation could affect economic growth through three channels namely: changing productivity of capital, savings funneled to investment and savings rate. In other words, financial development reduces the loss of resources needed to allocate resources, encourage greater savings ratio, and increase capital productivity.

Given the relevance of the intermediation theory and the Endogenous growth theory to the subject matter of this research, the financial intermediation theory will therefore be adopted as the theoretical framework for this study.

METHODOLOGY

Research Design

The type of research design that was employed in this study is the "ex-post facto" research because the researcher made use of existing data rather than new data gathered specifically for the study. With the use of this data no attempt would be made to control or manipulate relevant independent variable. It aims at determining the impact of one variable on another. The annual time series data that were used for this study was obtained from various sources which include; PenCom Annual Reports (various issues from 2005-2017) and Central Bank of Nigeria (CBN) Statistical Bulletin (2015). The period covered spans from 2005 to 2017, which represents the time span of the implementation of the funded pension scheme in Nigeria. Specifically, data on pension contribution (PC) were sought from various issues of PenCom Annual Reports. Data on gross domestic product (GDP) was sourced from Central Bank of Nigeria (CBN) Statistical Bulletin (2015).

Method of Data Analyses

The Ordinary least square techniques were used in the model estimations. The

- i. Global statistics and
- ii. The Relative statistics were examined.

The global statistics applied include;

i. R-Squared

The R-squared (R^2) statistic measures the success of the regression in predicting the values of the dependent variable within the sample. In standard settings, R^2 may be interpreted as the fraction of the variance of the dependent variable explained by the independent variables. The statistic will equal one if the regression fits perfectly, and zero if it fits no better than the simple mean of the dependent variable.

ii. Adjusted R-Squared

The adjusted R^2 , commonly denoted as R^2 , penalizes the R^2 for the addition of regressors which do not contribute to the explanatory power of the model. The R^2 is never larger than the R^2 , can decrease as you add regressors, and for poorly fitting models, may be negative.

iii. Durbin-Watson Statistic

The Durbin-Watson statistic measures the serial correlation in the residuals. In line with a rule of thumb, if the DW is less than 2, there is evidence of positive serial correlation.

iv. F-Statistic

The *F-statistic*: is an overall test of the hypothesis of the slope coefficients (excluding the constant, or intercept) in a regression are zero. If the F-statistic exceeds a critical level, at least one of the coefficients is probably non-zero.

Decision Rule:

Find a p-value and compare it to your significance level

If p-value $< \alpha$, reject H_0 . If p-value $> \alpha$, do not reject H_0 .

P- value

The p-value or the marginal significance level is also known as probability. Given a p-value, the researcher can tell at a glance if to reject or accept the hypothesis that the true coefficient is zero against a two-sided alternative that it differs from zero. A probability lower than 0.05 is taken as strong evidence of rejection of that hypothesis; the relative statistics used were p-value and t-statistics

Decision Rule 1: instructions: Find a critical value (F^*) and compare it to your test statistic. Critical values (F^*) are the F scores Tabulated in associated with your level of significance (α).

Decision rule 1: If $p\text{-value}(s) < \alpha$, reject H_0 . If $p\text{-value}(s) > \alpha$, do not reject H_0 .

Unit Root Test

The stationarity of the series used in the study was determined with the estimation of unit root. Dickey Fuller (DF) unit root test was used.

Decision rule: Reject H_0 if test statistic is less than critical values, otherwise do not reject. (Barrientos, 1993)

Granger Causality Test

This is a statistical hypothesis test for determining whether one time series is useful in forecasting another. The hypotheses were tested using granger causality test at 5% level of significance.

Decision Rule: If $p\text{-value}(s) < 0.05$, reject H_0 . If $p\text{-value}(s) > 0.05$, do not reject H_0 .

3.3 Model Specification

Following the theoretical framework and the extensive review of pension scheme, the interest in this sub-section is to attempt to model the effect of pension contribution on Nigeria's economic growth, taking the objectives and scope of our study into consideration. The model that was used in this study was based on Nwanne (2012). The model of Nwanne (2012) is as stated as: $GDP = f(PFA, PFS)$

Where,

GDP = Gross Domestic Product (Economic Growth)

PFA = Pension funds invested in specified investment outlets and

PFS = Pension savings contributed by the private and public sectors in Nigeria.

This study modified the model of Nwanne (2012) to have the model for this work. Thus, the model for this study is written as;

$GDP = f(PC)$equation 1

Econometric specification of the model

$GDP = \alpha_0 + \alpha_1 + \mu$ equation 2

Where: GDP = Gross Domestic Product —————> Dependent variable

PC = Pension Contribution ————— independent variable

α_0 = is the constant

α_1 , = are the coefficient

μ = is the stochastic error term

A priori Expectation

Based on theories and empirical studies, the predictor variables have direct relationship with the dependent criterion variables which is therefore mathematically states as:

$$\alpha_1 > 0.$$

This signifies a positive relationship amongst the Predictor variables and the criterion variable. i.e. as one is increasing, the other is increasing and as one decreases, the other decreases as well.

DATA PRESENTATION, ANALYSIS AND INTERPRETATIONS

The aim of this section is to present, analyze, and discuss the output of our model estimations.

Presentation of Data

Table 4.1, presented the input data for the model estimation

Table 4.1: Data on Gross Domestic Product and Pension Contribution

YEARS	GDP (N million)	Amount (N billion) PC
2005	14,610.88	34.68
2006	18,564.59	60.41
2007	20,657.32	148.97
2008	24,296.33	180.09
2009	24,794.24	228.31

2010	54,612.26	265.49
2011	62,980.40	348.45
2012	71,713.94	505.57
2013	80,092.56	503.92
2014	89,043.62	581.73
2015	94,144.96	558.96
2016	101,812.78	488.2
2017	113,711.63	610.83

Source: Pencom 2017

GDP = Gross Domestic Product, PC = Pension Contribution

Descriptive data analysis

To access underlying trend amongst employed data, the study employs the Descriptive statistics as a form of Univariate Analysis:

Table 4.2: Descriptive Statistics

	GDP	PC
Mean	54090.02	329.2920
Median	58796.33	318.3250
Maximum	94144.96	591.5400
Minimum	18564.59	12.89000
Std. Dev.	29847.59	182.9184
Skewness	-0.013510	-0.067803
Kurtosis	1.398937	2.098619
Jarque-Bera	1.068389	0.346199
Probability	0.586141	0.841054
Sum	540900.2	3292.920
Sum Sq. Dev.	8.02E+09	301132.2

Observations	12	12

Source: E-view 9 output

Mean

From the descriptive statistics in table 4.2, it can be duly noted that the mean representing a common average and expected normalcy of employed data varies greatly for all employed variables, The Gross Domestic Product (GDP) can be observe to have the highest mean of 54090.02 and a maximum value of 94144.96 while the opposite of this output rests with PC which has a mean of 329.2920, showing that the overall level of pension contribution still rests below average signifying that most of Nigeria pension institute output has been home based.

Standard Deviation

The standard deviation showing the movement of variables around their mean appears manageable amongst the employed variable with the exception of Gross Domestic Product (29847.59) which shows a high rate of movement above or below the mean score and shows a rapid shock level, which could be attributed to the developing condition of the nation.

Skewness

The skewness which can simply be explained to show the movement of variables whether they more or less than the mean (As the mean is considered as a state of normalcy), it could either be positive or negative, the Gross domestic product (GDP) and pension contribution (PC) are all negatively skewed with the respective output of -0.013510, -0.067803, as only Gross domestic product exhibits a significant level of negative skewness. The above kurtosis output shows that the distribution is symmetrical.

Kurtosis

While the Kurtosis which is a statistic that shows the sharpness or flatness of variables might not be a very useful statistics but signifies a relatively peaked distribution as most employed variables have been on the increase and most are still rising. With Gross Domestic Product

(1.398937) and Pension Contribution (2.098619) are seen to be the sharpest of the employed variables.

Jarque-Bera

The Jarque Bera (JB) being a normality test based on the skewness and Kurtosis and shows the level of even distribution amongst employed variable (i.e. to know if the variables are asymptotic or not). It could be summarized from the output above that the p-values of all employed variables are way above the significance level of 0.05 which strongly signifies that the null hypothesis won't be rejected; the variables are therefore not normally distributed.

Inferential data analysis

Due to the underlying shocks inherent in time series variables, and also shocks that could be found in the error terms (other variables not captured by the model), unit root test was conducted. Augmented Dickey Fuller test was applied. The output result was shown in Table 4.3.

Table 4.3: Unit Root Output (Augmented Dickey Fuller)

Variable	ADF Test Statistics	Critical Value (5%)	Order of Integration	Test Equation specification
(GDP)	-3.24017	-3.199871 -2.976263 -2.627420	I(1)	Intercept
(PC)	-5.079040	-4.420595 -3.259808 -2.771129	I(1)	Intercept

Sources: Extraction from E-views 9

The result of the Augmented Dickey Fuller unit root test presented in the table 4.3 reveals that all variable was not stationary at level. Further integration was necessary; and the data became stationary at first differencing in the order of 1(1) integration. This implies that all data set are reliable and the result of this study can be used for decision making at order of 1(1).

The multiple regressions were carried out using the Ordinary Least Square tool. The output result was depicted in table 4.4.

Table 4.4: Ordinary Least Square Output (Linear Output)

Dependent Variable: GDP				
Method: Least Squares				
Date: 08/11/18 Time: 14:08				
Sample (adjusted): 2006 2017				
Included observations: 11 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9262.234	5212.386	1.776966	0.1135
PC	50.42024	32.44860	1.553850	0.1588
R-squared	0.961017	Mean dependent var		58428.45
Adjusted R-squared	0.951271	S.D. dependent var		31762.13
S.E. of regression	7011.366	Akaike info criterion		20.77545
Sum squared resid	3.93E+08	Schwarz criterion		20.88397
Log likelihood	-111.2650	Hannan-Quinn criter.		20.70705
F-statistic	98.60862	Durbin-Watson stat		1.644888
Prob(F-statistic)	0.000002			

Source: Extraction from E-view 9

From table 4.4, the R-squared (R^2) coefficient of correlation, showing an output of 0.961017, signifies that the predictors account for approximately 96 percent (%) variation in the criterion variable while 4% are captured by other variables not in the model (The white noises or unobserved variables), while the Durbin Watson reveals an output of 1.64488 showing an absence of autocorrelation judging by its rule of thumb. The F-statistics given its Probability level is significant, while the t-statistics approves only the significant of pension fund investment (0.0058) using the probability level of their t-statistics against the 0.05 (5%) level of significance. The adjusted R-square is an extension of the coefficient of

determination which takes cognizance of the corrections for the variables employed and shows a slight reduction to 0.951271 signifying 95%, which still shows a good measure of success of the regression in predicting the values of the criterion variable.

Relative Statistics

From the output in table 4.4, it can be observed that the coefficient of the constant (C) is 9262.234, which signifies that if all other variables are kept at a constant or zero, the criterion variable Gross Domestic Product will increase by approximately 9262.234 units, which shows a high rate of direct expression by the economic output of Nigeria as it tends to increase regardless of the minute movement and characteristics of the employed predictor variables.

Pension Contribution (PC) exhibited a positive coefficient of 50.42024 alongside an insignificant P-value of 0.1588. This therefore suggests that increase in Pension Contribution is capable of stimulating economic growth in Nigeria to the tune of ₦50.424024b all things been equal. The economic implication of this is that increase in pension funds contributed by government and private sector is capable of yielding a better return which will generate more interest in the long run and these returns will help in contributing to the Nigerian economy through the window of increased government generated revenue. This can however be possible when such investment is a return yielding type and not a redundant kind of investment.

Test of Hypotheses

In testing the hypotheses of causation, the study used granger causality tests. The hypothesis testing is another way of finding out whether the estimated results make good theoretical sense, and whether the results obtained conform to the a priori expectation.

Table 4.5: Presentation of Granger Causality Test Result

Pairwise Granger Causality Tests
Date: 09/11/18 Time: 15:13
Sample: 2005 2017

Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Prob.
PC does not Granger Cause GDP	11	1.99847	0.1952
GDP does not Granger Cause PC		0.65636	0.4413

Source: Extraction from E-views 9

The results of the Pair-wise Granger Causality tests presented in table 4.5, shows the following (using 0.05 level of significance); we found the existence of no uni or bi-directional relationship between PC and GDP in Nigeria. This therefore implies that there exists no causality between the employed variables under this study as reported by the result of the granger causality test.

Hypothesis:

Ho₁: There is no significant relationship between Pension Contribution and gross domestic product in Nigeria

HA₁: There is a significant relationship between Pension Contribution and gross domestic product in Nigeria

From the report of the multiple regressions (Table 4.4), pension contribution exhibited a positive coefficient of 50.42024 alongside an insignificant p-value of 0.1588 which suggest the existence of positive and insignificant relationship between Pension Contribution and gross domestic product in Nigeria. Based on this finding, we accept the null hypothesis and thus conclude there is no significant relationship between Pension Contribution and gross domestic product in Nigeria.

CONCLUSION AND RECOMMENDATION

From the foregoing, it was established that Pension Contribution significantly stimulates economic growth in Nigeria. Pension Contribution (PC) exhibited a positive coefficient of ₦50.42024 alongside an insignificant p-value of 0.1588. The insignificant relationship of PC on economic growth in Nigeria could also be as a result of Pension fund looting and non-

remittance of pension contribution over the years and also inability of the reform scheme to cover the informal sector.

The result of the findings disagrees with the findings of Nwanne (2012), which suggest that pension savings contribution has a positive and significant relationship with economic growth in Nigeria. The economic implication of this is that increase in pension funds contribution by government and private investment is capable of yielding a better return which will generate more interest in the long run and this return will help in contributing to the Nigerian economy through the window of increased government generated revenue.

To enhance pension contribution, efforts should be intensified to incorporate pension as a course of study in our higher institutions of learning, just as we have insurance as a course of study in our higher institutions. This will help to structure the mind of potential employers and employees in understanding the role of pension industry on economic growth and also as a career choice. More so, Reporting Software's and data base of organization (with a work force of 3 and above as stated by the 2014 Act) should be developed by the regulatory authority. This software when developed will send a signal to the authority if contributions have not been remitted for two months. This will in turn increase the amount of pension fund contributed and also improve pension investment.

REFERENCES

- Ahmad, M.K. (2006). The Contributory Pension Scheme: Institutional and Legal Frameworks. *CBN Bullion*, 30(2), (April – June), 1 – 18.
- Ahmad, M.K. (2008). Pension Reforms in Nigeria: Transition from the Defined Benefits to Defined Contribution. *A Paper Presented at the IOPS Workshop in Pension Supervision in Dakar on February 5, 2008.*
- Akeni, P.O. (2009). Pension Fund Administration in Nigeria: Problems and Prospects of Implementation, Undergraduate project, University of Benin.
- Ako, M. R. (2006). Contributory Pension Schemes: The case of Brazil. *CBN Bullion* 30(2) April-June. Published by Central Bank of Nigeria.
- Alabadan, S. (2012). Pension reform has positively impacted on economy – Pencom. <http://dailyindependentnig.com/2012/11/pension-reform-has-positively-impacted-on-economy-pencom/>.
- Allen, F. & Santomero, A. M. (2001). What Do Financial Intermediaries Do? *Journal of Banking and Finance* 25(1), 271-294.
- Alo, O. (2004). Current Pension Reforms: Implications for Career Development in the Public and Private Sector. *A Paper Presented at the 2nd State Conference of the Lagos State Branch of the Chartered Institute of Personnel Management of Nigeria (CIPMN)*
- Andrade, L. Farrell, D. & Lund, S. (2007). Fulfilling the Potential of Latin America's Financial Systems. Available at: <http://brazilandeconomics.blogspot.com/2007/06/fulfilling-potential-of-latin-americas.html>.
- Balogun, A. (2006): Understanding the New Pension Reform Act (RRA, 2004). *CBN Bullion* 30(2).
- Barrientos, A. (1993). Pension Reform and Economic Development in Chile's Development. *Policy Review at Overseas Development Institute*, 1(1), 91-107.
- Catalan, M., Impavido, G., & Musalem, A. R. (2000). Contractual Savings or Stock Market Development: which leads? *Journal of Applied Social Science Studies*, 120(3), 445-487
- Catalan, M. (2004). ISSUES & POLICY: Pension funds and corporate governance in developing countries: what do we know and what do we need to know?' July 2004. *Cambridge University Press*
- Davis, E. P. (2006). How will Ageing Affect the Structure of Financial Markets? *Sydney. G20 Workshop on Demography and Financial Markets.*
- Gunu, U. & Tsado E. (2012). Contributory Pension System as a Tool for Economic Growth in Nigeria, *International Journal of Business and Behavioural Sciences*, 2(8), 6 -13.

- Masilela, E. (2008). PENSION REFORM: Fundamentals of Pension Reform. *Presentation to the Pencom Conference on March 8, 2008*
- Meng, C. & Pfau, W. (2010). The Role of Pension Funds in Capital Market Development. *GRIPS Discussion Paper 10-17. Tokyo: GRIPS*
- Mesike, G. & Ibiwoye, A. (2012). Pension Reform and Financial Market Development Nexus: Evidence from Nigeria. *International Journal of Academic Research in Business and Social Sciences, 2(6) ISSN: 2222- 6990.*
- National Pension Commission, (2004). *Frequently Asked Questions and the Answers on the Contributory Pension Scheme in Nigeria*".
- Nigerian Pension Fund Administration Data – 2017 www.nigerianstat.gov.ng
- Njuguna, A. C. (2010). Strategies to Improve Pension Efficiency in Kenya. *An Unpublished Ph.D Thesis of Nelson Mandela Metropolitan University, Port Elizabeth*
- Nnubia, I. C., Egbunike, P. A., Akaegbobi, T. & Okoye, N. J. (2021). Perceived Effect of COVID-19 in Developing Economies: Lessons from Nigeria, South Africa and Kenya. *Journal of Global Accounting, 7(1), 60 – 74.*
- Nnubia, I. C., Okafor, G. O., Chukwunwike, O. D., Asogwa, O. S. and Ogan, R. J. (2020). Effect of E-Taxation on Revenue Generation in Nigeria: A Pre-Post Analysis. *Academy of Entrepreneurship Journal, 26(3), 1528-2686.*
- Nnubia, I. C. and Obiora, F. C. (2018). Effect of Tax Incentives on Economic Growth in Nigeria. *CARD International Journal of Social Sciences and Conflict Management, 3 (2), 141-159.*
- Nwanne, T. F. I. (2012). The Impact of Contributory Pension Scheme on Economic Growth in Nigeria. *Global Advanced Research Journal of Management and Business Studies (ISSN: 2315-5086), 4(8), 333-337, September, 2015*
- Owo, B. I. (2008). An Appraisal of the New Pension Reform in Nigeria. *Journal of Research in National Development 6 (1), June, 2008.*
- Pagano, M. (1993). Financial Market and Growth: An overview. *European Economic Review, 37, 613-622.*
- Pencom (2006). Frequently Asked Questions and their Answers on the Contributory Pension Scheme in Nigeria. Available Online at www.oauife.edu.ng/administration/registry/dloads/pencon/pdf.
- Pension Reform Act (2014). Sections 1 - 7. Abuja: *Federal Government Press.*
- Raddatz, C. & Schmukler, S. (2008). Pension Funds and Capital Market Development. How much Bang for the Buck? World Bank Development Research Group. *Policy Research Working Paper 47-87.*

- Roldos, J. E. (2004). Pension Reform, Investment Restrictions, and Capital Markets. *IMF Policy Discussion Paper PDP/04/4*.
- Vittas, D. (2000). Pension Reform and Capital Market Development: "Feasibility" and "Impact" Preconditions. *The World Bank Development Research Group Finance, August 2000*.
- Walker, E. & Lefort, F. (2002). Pension Reform and Capital Markets: Are There Any (Hard) Links? *Social Protection Discussion Paper 0201. Washington, DC: World Bank*.
- Yermo, J. (2005). Pension Reform and Capital Market Development. *Organization for Economic Cooperation and Development (OECD)*