PENSION FUND ADMINISTRATION AND ECONOMIC WELLBEING OF NIGERIAN POPULACE: A COMPARATIVE EVALUATION OF 2004 AND 2014 PENSIONS REFORM ACTS PERIODS

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Abstract
This study comparatively evaluated the impact of pension fund administration on the economic wellbeing of Nigerian populace under the 2004 and 2014 Pension Reform Acts regimes. Pension fund administration was measured with pension fund contributions from public and private sectors and real gross domestic product per capita was used as proxy for economic wellbeing. Data were sourced from the National Pension Commission Annual reports and Central Bank of Nigeria Statistical Bulletin for periods covering 2008 – 2013 (2004 PRA regime) and 2014 – 2019 (2014 PRA regime). Data were analysed using Ordinary Least Square Regressions and Chow statistics, after validating the data with Normality test. Results revealed that, on individual basis, pension fund contribution by public and private sectors has no significant impact on the economic wellbeing of Nigerian populace under the 2004 and 2014 Pension Reform Acts (PRAs). However on jointly basis, the total pension fund (public & private sectors) contributions significantly impacted on the economic wellbeing of the people during the 2004 PRA regime but did not show any statistical evidence of significant impact during the 2014 PRA regime; the total Pension fund contributions since the 2004 PRA to date exerted significant impact on economic wellbeing of Nigerians; and the relegation of 2004 PRA for 2014 PRA has warranted a structural change in pension fund administration in Nigeria. Therefore, pension fund contributions under 2004 PRA regime supported economic wellbeing better than the 2014 PRA periods. The study thus recommended (among others) that the national pension commission should carry out more awareness campaign on the operations of pensions schemes in Nigeria.

Keywords: Pension Fund Administration, Pension Fund Contributions, Public and Private Sectors Pension Contributions, Real Gross Domestic Product Per Capita

1. INTRODUCTION

The social contract which exists between an employer and employee requires that while the employee is under obligation to discharge his/her designated duties within the period of his/her appointment, the employer, on the other hand, is under obligation to ensure that the entitlements of the employee are settled as at when due. Thus, Farayibi (2016) asserts that an employee who has worked for an organization for some years is entitled to some benefits which, among other things, include gratuity and pension payable to such employee by its employer at the time of

retirement. The holy scriptures also provide that the mouth of the ox that treads out the corn should not be muzzled; hence, the worker (the employee) deserves his wages (entitlements) (1 Timothy 5:18 NIV).

However, over the periods, Nigerian workers (both in the private and public sector) have had a chequered history of irregular payment of their entitlements in the form of routine emolument (salaries and other due allowances) during active service and retirement benefits (pension and gratuity); particularly, their retirement benefits. Nwite and Ehiogu (2014) observed that the problems of retired workers in Nigeria appeared to have had its root during the colonial era, when people were paid such ridiculous amounts ranging from two shillings and six pence to ten shillings monthly as pension benefit.

Notably, up till 1st July 2004, Nigeria practiced a traditional social benefit scheme, in which case the retirement benefits of retired workers were basically paid from the current year's budgetary provisions using a pay-as-you-go (PAYG) approach; which made the financial involvement so burdensome on the government, in the face of the basic current year's financial challenges. The flaws associated with the conventional pension system were various. On the one hand, the system inadvertently fueled fiscal leakages as it created room for massive corruption, fraud and misappropriations of public funds by corrupt elements in the public service; on the other hand, prompt payment of retirement benefits was like a tall order to the government; pensioners were subjected to unimaginable hardship (Abu & Musari in Nweke, 2014).

The Federal Government of Nigeria under the leadership of Chief Olusegun Obasanjo however, took a ground-breaking step in 2004 to ameliorate the hardship experienced by retirees by aligning into law the Pension Reform Act, 2004. With the emergence of the 2004 pension reform act, the issue of operating a crude unfunded pension scheme system was brought to a compulsory demise; a defined funded Contribution Pension Scheme was enthroned. The act also laid a more solid foundation for effective and hitch-free administration of pensions and indeed retirement benefits of retired workers in Nigeria through the establishments of regulatory and administrative bodies such as the National Pension Commission (PENCOM), Pension Fund Administrators (PFAs) and Pension Fund Custodians (PFCs).

The operation of pension scheme in Nigeria has a history traceable to the Colonial Administration following the 1951 Pension Ordinance with retroactive effect from 1946; the Ordinance provided public servants with both pension and gratuity (Ahmad, 2006). In their analysis, Nnanta, Okoh and Ugwu (2011) posit that the first pension scheme in Nigeria was set up for the employees of the Nigerian Breweries Limited in 1954, followed by United African Company in 1957. Nwanne (2015) added that the first Social Security Scheme in Nigeria came into being in 1961 by the Act of Parliament, which established the National Provident Fund (NPF); the NPF scheme was set up to address pension matters of private organizations in Nigeria.

Pensions generally represent the sum of money paid regularly to a person who no longer work because of old age, disability, retirement or to his widowed or dependent children by the state, former employers or from provident fund to which he and his employer both contributed (Edogbanya, 2013). On the other hand, gratuity is a lump sum of money payable to a retiring officer who has served for a minimum period of term year, usually ten years (Adam, 2005 in Ojiya, Ajie & Isiwu, 2017). Ijeoma and Nwufu (2015) assert that pension is a vital social security scheme for employees in both public and private sectors of the economy; and that it can contribute to a better environment for economic growth and development since it connotes improvement on the welfare and standard of living of the citizens of sovereign

nations by reducing poverty and underdevelopment.

It is unarguable, therefore, that the whole essence of pension reforms is to improve on the existing pension administrative system in Nigeria; thus, bettering the lots of retirees and by implication result to better economic fortunes of the Nigerian populace. Hence, the 2004 pension reform act provided clear-cut differences from what was obtainable in the administration of pension matters in Nigeria before 2004. For instance, Nwite and Ehiogu (2014) highlighted some changes from the pre-2004 pension administration in Nigeria to include the introduction of a unified economy-wide pension scheme which replaced the dual pension schemes previously existing for the public and private sectors; coverage of all Federal and civil service workers in Nigeria, all private sector employees employing more than 5 people; the act provided for operation of individual Retirement Savings Account (RSA) in the name of the individual employee not the employer which serves as the principalal account where pension contribution will be made; a minimum contribution of 15% of the employee's salary is to be made into the RSA on monthly basis, in which case 7.5% was contributed by each of the employee and employer; among other provisions.

Evidently, Part 1 (Schedule 2) of the 2004 Pension Act states the objectives of the Act, which include to; ensure that every person who worked in either the Public Service of the Federation, Federal Capital Territory or Private Sector receives his retirement benefits as and when due; 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 payments of retirement benefits for the Public Service of the Federation, Federal Capital Territory and the Private Sector. The IMF (2005) cited in Nwanne (2015) posits that the idea of the Pension Reform Act (2004) (among others) is to solve the problem of growing pension arrears and unfunded entitlements; and to add to credibility of general economic reform effort of the government.

Despite the numerous gains associated with the 2004 Pension Reform Act, another major pension reform was carried out in Nigeria in 2014. The intents of the reform were capsulated in the Pension Reform Act of 2014 which was assented to by the President on July 1st, 2014. Some of the key highlights of the 2014 reform as reported by the KPMG (2014) include (but not limited to): the minimum threshold for private sector employers to participate in the Scheme was increased to 15 (as against the previously 5) employees; increase in the rate of contribution for employees and employers to a minimum of 8% and 10%, respectively, although, employers who choose to bear the full pension cost of their employees, are required to contribute a minimum of 20% to the Scheme; all interests, dividends, profits, investments and other income attributable to pension funds and assets are tax exempt; thus, the issue of whether withholding tax (WHT) deductions at source should apply to the investment of the underlying funds and assets, which was not clearly spelt-out in the previous reform was now finally addressed.

Given the two mentioned reforms, it is strongly expected that the pre-2004 woes and lamentations experienced by Nigerian retirees should have totally become a thing of the past; thus, the standard of living of pensioners in particular and Nigerian populace in general should have been significantly impacted upon. Therefore, an empirical investigation into the impact which these two prominent reforms have exerted on the people's economic wellbeing is highly needful. Although, the literature is not bankrupt of empirical evidence as to the impact of Contributory Pension Scheme (CPS) on the economic growth and or development of Nigeria, as in Nwanne (2015); Farayibi (2016); Ojiya, Ajie and Isiwu (2017); among others; however, none of the extant literatures reviewed in the course of this study showed any indication of a specific focus on the

people's economic well-being; rather, most of the related studies focused on the economic growth or development of Nigeria at large. Besides, no existing empirical study was found at the disposal of the researcher, in the course of this study, which attempted a comparison of the pension funds administrations under the two reform acts, against the backdrop of their impact on the economic well-being of Nigerian populace. The only related attempt found was by Nwite and Ehiogu (2014); yet their study was merely a theoretical review without any empirical undertone. These suggest clear gap in literature; hence, this study comparative evaluates the impact of pension fund administration on the economic wellbeing of Nigerian populace under the 2004 and 2014 Pension Reform Acts (PRAs).

Consequently, this study specifically pursues the following objectives: to;

i. Determine the impact of Pension Fund Contributions from the Public Sector on Real Gross Domestic Product Per Capita (RGDPPC) under the 2004 and 2014 PRAs.
ii. Examine the nexus between Pension Fund Contributions from the Private Sector and RGDPPC under the 2004 and 2014 PRAs.
iii. Establish the existence or otherwise of a structural break in Pension Fund Contributions as a result of the relegation of the 2004 PRA for 2014 PRA.

In line with the specific objectives of the study, the following hypothesis (in null form) are formulated:

Ho_1: Pension Fund Contribution from the Public Sector has no significant impact on Real Gross Domestic Product Per Capita (RGDPPC) under the 2004 and 2014 PRAs.

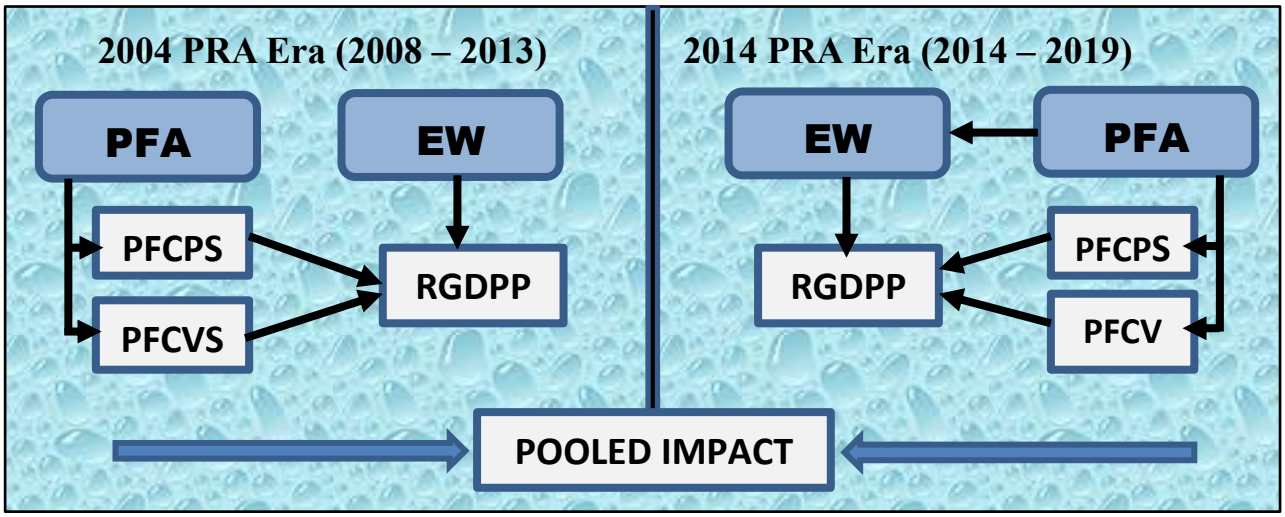
Ho_2: Pension Fund Contribution from the Private Sector does not significant relate to Real Gross Domestic Product Per Capita (RGDPPC) under the 2004 and 2014 PRAs.

Ho_1: The replacement of 2004 PRA with 2014 PRA exerted no structural break exists in pension fund contributions.

2. REVIEW OF RELATED LITERATURE

A. Conceptual Review

The various key concepts (variables) as reflected in the specific objectives of the study are presented in the following conceptual framework:



Key:

PRA *means* Pension Reform Act
PFA *means* Pension Fund Administration
EW *means* Economic Wellbeing of Nigerian Populace
PFCPS *means* Pension Fund Contribution by Public Sector
PFCVS *means* Pension Fund Contribution by Private Sector
RGDPPC *means* Real Gross Domestic Product Per Capita

A1: The Concept of Pension Fund Administration

Pension consists of lump sum payment paid to an employee upon his disengagement from active service (Adebayo & Dada, 2012). It generally represents the sum of money paid regularly to a person who no longer work because of old age, disability, retirement or to his widowed or dependent children by the state, former employers or from provident fund to which he and his employer both contributed (Edogbanya, 2013). Obasa (2019) asserts that pensions may represent deferred salary (on a socialized or individual basis); the means to secure long and better service from essential employees, a necessary investment in industrial restructuring, a source of venture capital, as well as protection against destitution in old age.

Pension fund represents the total sum of money standing to the credit of an employee from the various contributions made by the employee and his/her employer into the retirement savings account operated by a pension fund manager (administrator), appointed by the employee. It also includes any accruable income from the investment made by the pension fund administrator on behalf of the employee. The operationalities of the contributed pension funds falls within the shoulders of three key stakeholders as provided by the 2004 Pension Reform Act; namely, the National Pension Commission (PENCOM), the Pension Fund Administrator (PFAs) and Pension Fund Custodian (PFC). The PENCOM is the coordinator, supervisor and regulator of the administration of contributed pension funds in Nigeria. Nwanne (2015) posits that the PENCOM was empowered to register, license, supervise and regulate corporate organizations that acts as the administrators and managers of pension funds in Nigeria. On the other hand, the PFAs are the direct administrators of the pension funds. The various contributions by the employees and employers into the retirement savings accounts (RSAs) opened for the individual employee are directly controlled by the PFAs which also ensure efficient commitment (investment) of the pension funds in a profit ventures otherwise referred to as Pension Fund Custodians and prompt settlement of pensioners their due pensions upon request.

According to the PENCOM report (2019), the total membership of pension schemes stood at 8,949,536 as at 31 December, 2019 representing an increase of 5.67 percent (that is, 8,469,257) from 31 December, 2018. On the other hand, membership of RSA scheme dominated total pension scheme memberships at 8,891,236 representing 99.35 percent, while the Approved Existing Scheme (AES) and Closed Pension Fund Administrators (CPFAs) accounted for the balance of 0.65 percent (40,951 and 17.349 respectively) of the total pension schemes membership. However, the total number of PFAs is 22; PFCs are 4 in number while the number of CPFAs is 6 in 2019. Notably, the PENCOM report reveals that the accumulated pension contributions from the public sector as at 31st December 2008 stood at 99.28 billion Naira while the accumulated contributions from the private sector at the same period stood at 80.81 billion Naira. But by 31st December 2013 (before the reform act in 2014), the accumulated contributions increased to 278.5 billion Naira and 225.42 billion Naira for public and private sectors respectively; representing 181% and 179% growth in contributions from public and private sectors respectively between 2008 – 2013 (2004 PRA

era). On the other hand, contributions from public and private sectors stood at 237.49 billion Naira and 343.89 billion Naira respectively in 2014 while the contributions by the two sectors in 2019 were 331.56 billion Naira and 369.13 billion Naira for public and private sectors respectively. These represent a growth of 40% in public sector contributions and a decline of 7% in private sector contributions between 2014 – 2019 (2014 PRA era).

The PENCOM (2018 & 2019) reports also provide that the retirement benefits paid out to the retirees in 2018 amounted to the sum of 71.35 billion Naira as lumpsum and 2.73 billion Naira in the form of monthly pension while the sums of 87.09 billion Naira and 1.33 billion Naira were paid as total lumpsum and monthly pension respectively for the year 2019. Table 1 presents the total pension contributions of public and private sectors from 2008 – 2019.

Table 1: Pension Contributions from Public and Private Sectors (2008 – 2019)

YEAR	PUBLIC SECTOR CONTRIBUTION (₦'M)	PRIVATE SECTOR CONTRIBUTION (₦'M)	TOTAL PENSION CONTRIBUTION (₦'M)
2008	99,280	80,810	180,090
2009	137,100	91,210	228,310
2010	162,460	103,030	265,490
2011	228,920	119,530	348,450
2012	302,240	159,520	461,760
2013	278,500	225,420	503,920
2014	237,490	343,890	581,380
2015	200,050	358,910	558,960
2016	225,860	262,330	488,190
2017	257,110	353,730	610,840
2018	266,840	340,720	607,560
2019	331,560	369,130	700,690

Source: *National Pension Commission Annual Report, 2019.*

A2: The Concept of Economic Wellbeing

Economic wellbeing of a people refers to the economic status of the populace; it is typified in the quality of the economic life the people enjoy in the society. The quality of economic life of the people is generally expressed in their standard of living which is typified in the economic growth of the nation.

Conventionally, the Gross Domestic Product (GDP) is variously used as economic growth measure in growth literature. Consequently, the measurement of economic growth of a nation is grossly defined in the value of the nation's GDP. Anyanwu and Oaikhenan (1995) cited in Okwori and Sule (2016) asserted that economic growth refers to the increase, over time, of a country's or an economic capacity to produce those goods and services needed to improve the well-being of the citizens in increasing numbers and diversity. This view is corroborated by CBN (2016) which sated that economic growth is the increase in the amount of goods and services produced in an economy over time. The GDP on the other hand, according to Pritzker, Arnold and Moyer (2015) is the economic indicator which measures the value of the goods and services produced in an economy in a given time period. Kromtit, Kanadi, Ndangra, and Lado (2017) opine that GDP is the market value of all final goods and services produced in a country in a given time period and it indicates an economy's performance (economic growth). It is measured using the current market prices otherwise called a nominal GDP. Contemporarily however, economic growth is measured with Real Gross Domestic Product

(RGDP) rather than the nominal GDP. Real gross domestic product takes inflation into consideration, making it possible for comparisons and a more realistic measurement of the value of goods and services produced in a given period of time. Thus, Tejvan (2016) argues that economic growth means an increase in real GDP - which implies an increase in the value of national output/ expenditure.

Sumner (2016) posits that where there is economic growth, economic wellbeing of the people would improve; indicating that economic growth and economic wellbeing of the people are linearly related. Therefore, it is safe to measure economic wellbeing of the Nigerian populace with the real gross domestic product for the period under study. More reliable result would be achieved when the RGDP values of the nation for the periods are related to the population of the Nigerian populace during the same periods. Hence, the use of RGDP Per Capita as an index of measuring economic wellbeing of the people in this study. Thus, RGDP per capita income is the value of the nation's real gross domestic product divided by the total population of the country.

The Population, RGDP and RGDP per capita are presented on table 2.

Table 2: Population, RGDP and RGDPPC (2008 – 2019)

YEAR	POPULATION	RGDP	RGDPPC
2008	150,269,600	46012.52	306199.79
2009	154,324,900	49856.10	323059.34
2010	158,503,200	54612.26	344549.89
2011	162,805,100	57511.04	353250.85
2012	167,228,800	59929.89	358370.63
2013	171,765,800	63218.72	368051.85
2014	176,404,900	67152.79	380674.18
2015	181,137,400	69023.93	381058.41
2016	185,960,300	67931.24	365299.69
2017	190,873,300	68490.98	358829.55
2018	195,874,700	69799.94	356349.95
2019	200,000,000	71387.83	356939.15

Sources: *Central Bank of Nigeria Statistical Bulletin, 2019.*
Index Mindi, 2019

B. Theoretical Review

This study adopts Solow's neoclassical exogenous growth model. The neoclassical exogenous growth model was propounded by Robert Solow which earned him a Nobel Prize in Economics in 1987. In the model, Solow employed Cobb-Douglas production function to establish labour, capital, and technical progress (which is exogenously

determined) as important agents of growth while also stressing the importance of savings and capital formation for economic development (Amaefule, 2019). Solow's theory believes that labour, in addition to other factors of production, is a cardinal agent of economic betterment of a people. Thus, when labour is adequately managed, it has the tendency of spurring economic growth and by implication, a better economic wellbeing of the populace of the society. Adequate labour management would include better remuneration and social security management (during active service and retirement). It could thus be inferred from the theory therefore, that adequate retirement benefit (pension fund) administration and management has the tenacity to drive economic wellbeing of the Nigerian populace. Solow's theory also stressed on the importance of savings and capital formation in economic performance of a society. This also explains the import of pension contribution; as it ensures that employees save for the rainy day; thus, enhancing capital formation in the economy.

C. Empirical Review

Some related empirical studies consulted in the course of this study are reviewed as follows:

Nyong and Duze (2011) investigated the current status of the PRA 2004 in attaining the objectives for which it was promulgated. The authors conducted a survey of 3,000 serving teachers and teacher pensioners, using descriptive statistics and simple percentages to analyse the responses gathered from the survey. The study found that the objectives of the 2004 PRA were yet to be achieved since retired persons still suffered trauma, pains, and even death before they received their pension packages in Nigeria; and that the sustainability of the reform was in doubt. This study differs from the current study in that it only focused on the 2004 PRA, was conducted in 2011 (some 9 years back) and used primary data gathered from mere responses which many scholars believe are susceptible to bias.

Akowe, Ocheni and Akubo (2015) evaluated the contribution of portfolios of new contributory pension fund on Nigerian gross domestic product (GDP); thus, establishing the relationships between the pension portfolios with the Nigerian GDP. The study used regression analysis in analysing the data collected for periods between 2007 -2012 while Pearson product moment correlation test was carried in testing the hypotheses. The study found that Domestic Ordinary Shares, Federal Government of Nigeria Securities and Real Estate Property of pension fund all have positive contributions to Nigerian gross domestic product for the period under review while Local Money Market Securities have negative contribution to Nigerian GDP. The study is in variant from the present study in many ways: The focus of the study was on the contributions which the various investment portfolios with pension funds make on the nation's GDP on the basis of 2004 PRA while the current study focuses on comparative impact of pension fund administration on the RGDP per capita of Nigeria for the 2004 and 2014 PRAs. The current study also differs from the study of Akowe, et al on the basis of the scope of the study; while Akowe, et al covered periods from 2007 to 2012, the present study covers from 2008 – 2019.

Nwanne (2015) examined the impact of contributory pension scheme on economic growth in Nigeria for the period 2004-2012. The study used Ex-post-facto research design while employing Ordinary Least Square Regression method as the analysis technique. The result of the study's analysis revealed that pension funds have negative and significant impact on economic growth while pension savings had positive and significant impact on economic growth. Nwanne's study differs from the present study on the basis of approach and scope; Nwanne covered a period from 2004 – 2012 and focused mainly on the 2004 PRA while the present study

covers from 2008 – 2019; 2004 & 2014 PRAs.

Tijani and Adekunle (2018) employed secondary data sourced from the central bank of Nigeria statistical bulletin for the period from 2006 – 2016 to examine the impact of the contributory pension funds scheme on Nigeria economic growth, using pension fund assets and population of pensioners as the indices of contributory pension funds scheme. The authors conducted data analysis using ordinary least square method of statistical analysis. The study found that a contributory pension funds asset has significant impact on Nigeria economic growth while population of pensioners has no significant impact on the growth of Nigeria economy. This study varies from the current study both in scope and approach; while the study covered periods from 2006 -2016, the present study covers periods from 2008 to 2019; also, the present study analysed the comparative impact of the two PRAs eras (2004 and 2014) which is entirely different from the approach of Tijani and Adekunle (2018).

Farayibi (2016) investigated the effect of the operation of funded pension scheme since its inception in 2004 on economic growth in Nigeria using quarterly time series data from 2004 – 2014. The study employed error correction mechanism (ECM) of the Ordinary Least Square (OLS) technique for its analysis. 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; thus, increased liquidity in the economy and created employment opportunities as well as improvement in the investment climate. This means that the study found positive effect of funded pension scheme on economic growth. This study is distinct from the present study in scope and approach. The present study covers periods from 2008 to 2019 which is very current and carried out a comparative analysis of the 2004 and 2014 PRAs against the backdrop of their impact on Nigeria's populace wellbeing.

Jeff-Anyene, Ezu and Ananwude (2017) examined the effect of pension scheme on poverty reduction in Nigeria. National urban and rural poverty levels were used as proxies for poverty in Nigeria while Pension Contributions into Retirement Saving Accounts of employees was the proxy for pension scheme; data on the variables were sourced for period of 2004 to 2015 and the Ordinary Least Square (OLS) regression technique was employed in data analysis. The diagnosed results revealed that pension contributions have no significant effect on national, urban and rural poverty levels; thus, has not impacted on economic growth of Nigeria. This study is different from the present study on the basis of scope of the study, variables used and analysis approach adopted.

Ijeoma and Nwufu (2015) examined the stability of the contributory pension scheme (CPS) in Nigeria by establishing whether the CPS has significantly impacted on the economic development of Nigeria; development of the Nigerian capital market; and whether there is a sound risk management and effective investment strategy in existence capable of ensuring sustainability of the new scheme. The study employed primary data collected through the administration of questionnaire on 15 pension fund administrators; the data were analysed using simple regression analysis, the Kruskal-Wallis test and the Cronbach Alpha reliability. The result of this study revealed that there exist a strong positive linear relationship between the contributory pension expenditure and the gross domestic product in Nigeria; the contributory pension Scheme has significantly impacted the development of the Nigeria Capital market; there is significant evidence of sound risk management and investment strategies in existence to ensure sustainability of the contributory pension scheme in Nigeria. Overall, the study found a significant impact of CPS on economic development of Nigeria. There is an obvious distinction of the study from the present study. For instance, the

study employed survey design in which case primary data generated through questionnaire administration while the present study employed ex post facto approach in which case secondary data were utilized.

Ojiya, Ajie and Isiwu (2017) empirically analyzed the impact of contributory pension scheme on economic growth in Nigeria. Secondary data covering the period of 2005 to 2016 were used in the study. Regression analysis was employed for the analysis of data collected. Results reveal that pension fund assets and pension contribution /savings mobilized over the years have positive but insignificant impact on economic growth. The present study differs from this in both scope and approach. The present study covers a period from 2008 – 2019 and adopted a comparative approach, among other distinctions.

3. METHODOLOGY

This study adopted quasi-experimental research design. Quasi experiment design is suitable for impact or relationship studies with at least two distinct variables (dependent and independent) such that the relationship between the dependent and independent variables over a given period of time can be measured. It is also applicable for comparative studies where quantitative data is used analysis. This explanation agrees with the main objective of this study which is to Comparatively evaluate the impact of pension fund administration on the economic wellbeing of Nigerian populace under the 2004 and 2014 Pension Reform Acts (PRAs). The dependent variable of the study is Economic Wellbeing of Nigerian populace and is measured with Real Gross Domestic Product Per Capita (RGDPPC) and independent variable is Pension Fund Administration with Pension Fund Contributions from Public Sector (PFCPS), Pension Fund Administration with Pension Fund Contributions from Private Sector (PFCVS) and Total Pension Fund Contributions (TPFC) as proxies. Data for the dependent variable (RGDPPC) were computed from RGDP figures sourced from Central Bank of Nigeria Statistical Bulletin (2019) and Population figures sourced from Index Mundi (2019); while data for the independent variables (PFCPS, PFCVS, TPFC) were sourced from the National Pension Commission (PENCOM) Annual Report (2019).

Data collected were subjected to normality test using Jarque-Bera statistics to establish their validity for a reliable analysis. Chow Regression Statistics was employed to regress the independent variables on the dependent variable while comparing the 2004 and 2014 PRAs. Chow statistics was used in this study because it measures the structural break or the effect of a change in any given policy. The study focuses on the pension fund administration as it affects the economic wellbeing of the Nigerian populace based on the Pension Reform Acts (PRAs) of 2004 and 2014. Notably, the relegation of the 2004 PRA the replacement with 2014 PRA obviously introduced a new approach to pension fund administration in Nigeria; thus, Chow statistics is suitable for analysis of data that encompasses the two periods. The analyses were carried out using the following linear regression models, which were developed to enable the comparative regression analysis so as to achieve the specific objectives of the study as well as provide statistically based decisions for the hypothesis:

$$RGDPPC_{04} = \lambda_0 + \lambda_1 PFCPS_{04} + \lambda_2 PFCVS_{04} + E \ldots\ldots 1$$

$$RGDPPC_{14} = \lambda_0 + \lambda_1 PFCPS_{14} + \lambda_2 PFCVS_{14} + E \ldots\ldots 2$$

$$RGDPPC_{p} = \lambda_0 + \lambda_1 PFCPS_{p} + \lambda_2 PFCPS_{p} + E \ldots\ldots\ldots 3$$

Where:

$RGDPPC_{04}$ means Real Gross Domestic Product Per Capita under the 2004 Pension Refund Act

$RGDPPC_{14}$ means Real Gross Domestic Product Per Capita under the 2014 Pension Refund Act

$RGDPPC_p$ means Pooled Real Gross Domestic Product Per Capita under the two periods

$PFCPS_{04}$ means Pension Fund Contributions from the Public under the 2004 Pension Refund Act

$PFCPS_{14}$ means Pension Fund Contributions from the Public under the 2014 Pension Refund Act

$PFCPS_p$ means Pension Fund Contributions from the Public under the 2014 Pension Refund Act

$PFCVS_{04}$ means Pension Fund Contributions from the Private under the 2004 Pension Refund Act

$PFCVS_{14}$ means Pension Fund Contributions from the Private under the 2014 Pension Refund Act

$PFCVS_p$ means Pension Fund Contributions from the Private under the 2014 Pension Refund Act

λ_0 means the intercept of the regression lines

λ_1, λ_2 are the coefficients of the independent variables (public and private sectors' contributions)

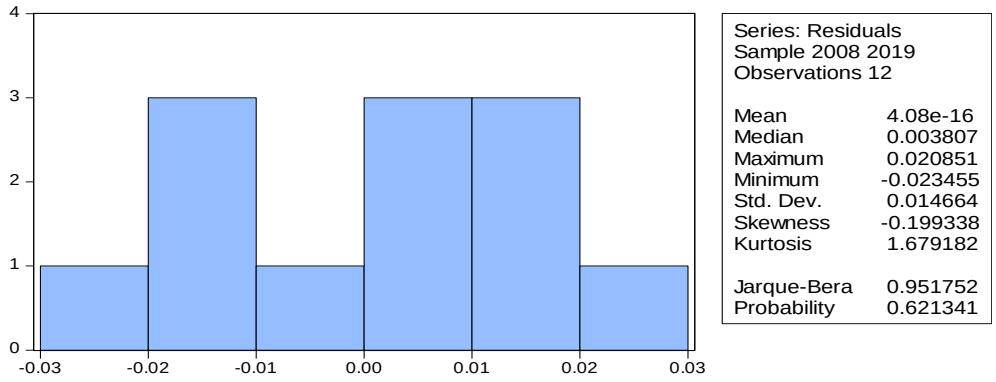
E is the error term or the stochastic variable of the equations

It is to be noted that in analyzing the models, the natural logarithm of the variables in the models were used; this is to ensure that all variables are brought to same basis which supports a more valid result.

4. DATA ANALYSIS AND RESULTS

A. Normality Test: The Jarque-Bera statistics result is presented in fig.1

Fig.1: Jarque-Best Normality Test



Source: *E-View (Version7) Output, 2020.*

The result in fig.1 reveals that the p-value of Jarque-Bera statistics is 0.62. The rule of thumb is that if p-value is greater than 0.05, the null hypothesis which states that the residuals of the model are normally distributed is accepted while if the p-value is less than 0.05, the alternative hypothesis which states that the residuals of the model do not follow normal distribution will be accepted. Therefore, with the p-value being 0.62, the null hypothesis is accepted; the implication therefore is that the data collected and used in the analysis are normality distributed and support valid decisions and inferences from the findings of the analysis.

B. Heteroskedasticity Test:

The Breusch-Pagan-Godfrey Heteroskedasticity test was conducted in this study to check whether the error variance of each observation is constant or not. Non-constant variance can cause estimated model to yield biased result. The Breusch-Pagan-Godfrey heteroskedasticity test result is presented on table 3.

Table 3: Result of Heteroskedasticity Test

HETEROSKEDASTICITY TEST
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.223747	Prob. F(2,9)	0.1641
Obs*R-squared	3.968764	Prob. Chi-Square(2)	0.1375
Scaled explained SS	0.758113	Prob. Chi-Square(2)	0.6845

Source: *E-View (Version 7) Statistical Output, 2020.*

The result of the Breusch-Pagan-Godfrey test shows that the p-values of the F-statistic is 0.16 which is greater than 0.05, thus, the null hypothesis that the residuals of the estimated models are free from heteroskedasticity is accepted; indicating that there exists no heteroskedasticity in the residuals of the estimated model which further support the validity of the findings of the study.

C. Regression Analysis

The results of the regression analyses of the three models formulated in this study are presented as appendix; however, the results of the key parameters are summarized on table 4.

Table 4: Summary of Regression Results

Parameter	Model 1 2004 PRA Era (2008-2013)	Model 2 2014 PRA Era (2014-2019)	Model 3 Pooled Data (2008-2019)
λ_1 (PFCPS)	0.13	-0.16	0.07
λ_2 (PFVPS)	0.03	0.08	0.06
P-value (PFCPS)	0.10	0.09	0.17
P-value (PFCVS)	0.71	0.44	0.08
R^2	0.92	0.66	0.71
Adj. R^2	0.87	0.43	0.65
Durbin Wat. Stat.	2.05	1.52	1.58
F-Stat (Prob)	0.02	0.20	0.00

Source: *Deductions from appendix*

Based on the results summarized on table 4, the coefficient of the two independent variables in model 1 (2004 PRA era) are 0.13 and 0.03 for public and private sector contributions respectively. This implies that pension fund contributions from each of the two sectors has positive impact on the economic wellbeing of the people under the 2004 PRA period. However, the corresponding p-values for the two variables are 0.10 and 0.71, which are all individually greater than the level of significance of 0.05; therefore, we can deduce that pension fund contributions from public sector as well as private sector have no significant impact on the people's economic wellbeing under the 2004 PRA regime. The F-statistics result for model 1 indicated that pension contributions from the two sectors jointly impact on the people's economic wellbeing significantly. This is shown in the F-stat.(prob) value of 0.02 which is less than the significant level of 0.05.

Table 4 also reveals that the coefficients of the two independent variables in the second model are -0.16 and 0.08 for public sector and

private sector contributions respectively. This indicates a negative relationship between pension fund contributions from the public sector and economic wellbeing of the people under the 2014 PRA era on the one hand, and a positive relationship between pensions fund contributions from the private sector on economic wellbeing on the other hand during the same period. However, the corresponding p-values of 0.09 and 0.44 for public and private sectors respectively indicate that the relationships are not significant because each of the p-values is greater than the significance level of 0.05. The F-statistic (prob) for the second model is 0.20 which is greater than 0.05; thus, indicating that during the 2014 PRA periods, both public and private sectors contributions showed no significant joint impact on the people's economic wellbeing.

The result of the third model (from table 4), which utilizes the pooled data, reveals that the coefficients of the two independent variables are 0.07 and 0.06 for public sector pension contributions and private sector contributions respectively; which are all positives. These indicate a positive impact of each of public and private sectors' contributions on the Nigerian populace economic wellbeing within the entire periods covered in this study. However, the p-values of each of the two variables (0.17 and 0.08 for PFCPS and PFCVS respectively) show no significant impact on the people's economic wellbeing. But the F-stat (p-value) of 0.00 indicates a joint significant impact of the two variables (taken together) on economic wellbeing of the Nigerian populace.

The results of the Durbin Watson statistics for the three models are 2.05, 1.52 and 1.58 for models 1, 2 and 3 respectively. DW shows whether the time series data are free from autocorrelation. The rule of thumb is that test statistics vales in the range of 1.50 to 2.50 are relatively normal. Therefore, we infer that the data series used for the variables represented in the models are free from autocorrelation and thus support valid policy decisions made from the findings of this study.

D. Test for Structural Break using Chow Statistics

To establish the likely effect of the change in pension reform acts (from 2004 Act to 2014) on the pension fund administration in Nigeria against the backdrop of its likely impact on the populace economic wellbeing, Chow test was conducted; the result of the test is presented on table 5.

Table 5: Result of Chow Statistics

Chow Breakpoint Test: 2014
Null Hypothesis: No breaks at specified breakpoints
Varying regressors: All equation variables
Equation Sample: 2008 2019

F-statistic	5.046191	Prob. F(3,6)	0.0444
Log likelihood ratio	15.11208	Prob. Chi-Square(3)	0.0017
Wald Statistic	15.13857	Prob. Chi-Square(3)	0.0017

Source: *E-View (Version 7) Statistical Output, 2020.*

The result of table 5 shows that both F-statistics and Wald Statistics are significant with p-values of 0.04 and 0.00 respectively which are individually less that the significance level of 0.05. This clearly indicates that a structural break existed in the values of pension funds contributions in Nigeria as a result of the relegation of the 2004 PRA for 2014 PRA.

5. SUMMARY AND DISCUSSION OF FINDINGS

From the analysis conducted, this study found that pension fund contribution by public

sector has no significant impact on the economic wellbeing of Nigerian populace under the 2004 and 2014 Pension Reform Acts (PRAs). In the same vein, pension fund contributions by private has no significant relationship with economic wellbeing of the Nigerian populace under the 2004 and 2014 PRAs.

The total pension fund contributions (public & private sectors contributions) significantly impacted on the economic wellbeing of the people during the 2004 PRA regime but has not shown any significant impact during the 2014 PRA regime. This finding supports Nwanne (2015) to the extent of their finding that pension funds have significant impact on economic growth but disagrees with the study to the extent that the significant impact is negative.

Total Pension fund contributions since the 2004 PRA to date has exerted significant impact on economic wellbeing of Nigerians. This finding is consistent with Ijeoma and Nwufu (2015) who found that there exists a strong positive linear relationship between the contributory pension expenditure and the gross domestic product in Nigeria; it also agrees with Tijani and Adekunle (2018) who found that a contributory pension funds asset has significant impact on Nigeria economic growth while population of pensioners has no significant impact on the growth of Nigeria economy.

A structural change existed in pension fund administration in Nigeria due to the relegation of 2004 PRA for 2014 PRA. Comparatively, pension fund contributions under 2004 PRA regime supported economic wellbeing better than the 2014 PRA periods.

6. CONCLUSION AND RECOMMENDATIONS

Based on the findings from the analysis, the study concludes that pension fund administration in Nigeria since the enactment of the 2004 Pension Reform Act (PRA) has supported better economic fortunes of the Nigerian populace; however, the replacement of the 2004 PRA with the 2014 PRA resulted to a structural change in the administrations of pensions in Nigeria. Comparatively speaking therefore, the pension fund contributions in Nigeria under the 2004 PRA regime support the economic wellbeing of the Nigerian populace better than what is obtainable under the current pension refund act (2014 PRA), despite the numerous provisions in the 2014 PRA aimed at enhancing pension fund administration in Nigeria.

In view of the foregoing, the study recommends as follows:

i. The national pension commission (PENCOM) should carry out more awareness campaign on the operations of pensions schemes in Nigeria.
ii. A more targeted approach should be adopted to increase the total number of persons within the pension net particularly from the private sector.
iii. PENCOM should consider reviewing some sections of the Act that tend to affect the number of persons under the pension scheme, especially from the private sector; for instance, the minimum threshold of 15 employees for private sector employers to participate in the Scheme (which was previously 5 under the 2004 PRA); this would the number of participants in the scheme.

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APPENDIX

OLS REGRESSION ANALYSIS RESULTS

For Model 1

Dependent Variable: LOGRGDPPC04
Method: Least Squares
Date: 10/27/20 Time: 18:24
Sample: 2008 2013
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.701569	0.148602	31.63873	0.0001
LOGPFCPS04	0.131775	0.057141	2.306132	0.1044
LOGPFCVP04	0.026987	0.064994	0.415228	0.7059

R-squared	0.922518	Mean dependent var	5.533477
Adjusted R-squared	0.870864	S.D. dependent var	0.030177
S.E. of regression	0.010844	Akaike info criterion	-5.903484
Sum squared resid	0.000353	Schwarz criterion	-6.007604
Log likelihood	20.71045	Hannan-Quinn criter.	-6.320286
F-statistic	17.85938	Durbin-Watson stat	2.053694
Prob(F-statistic)	0.021567		

Source: *E-View (Version 7) Statistical Output, 2020.*

For Model 2

Dependent Variable: LOGRGDPPC14
Method: Least Squares
Date: 10/27/20 Time: 18:27
Sample: 2014 2019
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.967714	0.502622	11.87317	0.0013
LOGPFCPS14	-0.157978	0.066147	-2.388276	0.0969
LOGPFCVP14	0.081240	0.091025	0.892503	0.4379

R-squared	0.655405	Mean dependent var	5.563926
Adjusted R-squared	0.425675	S.D. dependent var	0.013599
S.E. of regression	0.010306	Akaike info criterion	-6.005406

Sum squared resid	0.000319	Schwarz criterion	-6.109526
Log likelihood	21.01622	Hannan-Quinn criter.	-6.422208
F-statistic	2.852940	Durbin-Watson stat	1.515040
Prob(F-statistic)	0.202285		

Source: *E-View (Version 7) Statistical Output, 2020.*

For Model 3

Dependent Variable: LOGRGDPPC_POOLED
Method: Least Squares
Date: 10/27/20 Time: 18:31
Sample: 2008 2019
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.884794	0.175221	27.87798	0.0000
LOGPFCPS_POOLED	0.069426	0.046842	1.482130	0.1724
LOGPFCVP_POOLED	0.055322	0.027542	2.008659	0.0755

R-squared	0.713597	Mean dependent var	5.548701
Adjusted R-squared	0.649952	S.D. dependent var	0.027401
S.E. of regression	0.016212	Akaike info criterion	-5.193807
Sum squared resid	0.002365	Schwarz criterion	-5.072580
Log likelihood	34.16284	Hannan-Quinn criter.	-5.238689
F-statistic	11.21215	Durbin-Watson stat	1.582296
Prob(F-statistic)	0.003601		

Source: *E-View (Version 7) Statistical Output, 2020.*