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Impact of Inflation on Pension Fund of the Nigerian Pension Industry

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ABSTRACT

This study was on the impact of inflation on the pension fund of the Nigerian pension industry. The specific objectives were to investigate the impact of inflation rate on private sector contribution to total pension fund' to examine the impact of inflation rate on public sector contribution to the total pension fund, and to analyze the impact of inflation rate on a total pension contribution. The study used Ex-post facto research design. Three hypotheses were formulated and tested using Ordinary least square regression as an analytical technique. It was found that the inflation rate did not significantly impact on private sector contribution to the total pension fund; inflation rate did not significantly impact on public sector contribution to the total pension fund, and inflation rate did not significantly impact on a total pension contribution. Based on the findings of the study it was concluded that the inflation rate did not significantly impact on pension fund of the Nigerian pension industry. It was recommended that effort should be put in place to reduce the level of inflation in Nigeria. This will reduce the strain on disposal income of people who due to high prices of goods and services are pressured to spend almost all they earn to feed. By reducing inflation, the public would have more savings and be able to contribute to a pension fund. In addition, the pension industry should invest in only inflation-adjusted financial instruments. This will minimize the pull of inflation on the income from such investment. By such investment, the industry would have put the contributions they generate to significant use

Keywords: Inflation; Nigerian Pension Industry; Pension Fund

1. Introduction

With the advent of the Pension Reform Act (PRA 2004) and subsequently the Pension Reform Act (PRA 2014), the pension industry witnessed improved developments on various grounds. The industry witnessed an inflow of contributions and transfer of assets from both the public and private sectors. In the public sector, the annual contributions had grown from N15.60 billion in 2004 to N80.63 billion in 2007. It grossed N168.29 billion from commencement in July 2004 up to December 2007 (PENCOM, 2007). Indeed, monthly contributions from the public sector to the pension industry averaged N5.61 billion in the period July 2004 to December 2007. The private sector had also contributed N91.34 billion into the RSAs since inception to 31 of December 2007. The total pension fund in the industry was N815.18 billion as of 31 December 2007 (PENCOM, 2007).

PENCOM (2017) reports that total membership of pension schemes increased by 6.42 percent from 7,412,653 as of 31 December 2016 to 7,888,559 as of 31 December 2017. The total Retirement Savings Account (RSA) registration in the private and public sectors recorded an increase of 475,883 as total registration moved from 7,348,028 in 2016 to 7,823,911 in 2017, representing an increase of 6.48 percent. In 2017 the total pension contributions into the RSA of employees in both the private and public sectors amounted to N610.84 billion (PENCOM, 2017). The public sector accounted for N257.11 billion, which represents 42.09 percent of total pension contributions in the year. Accordingly, total pension contributions had cumulatively amounted to N4,487.40 billion as of 31 December 2017. This was made up of N2,297.57 billion contributions from the public sector, which represents 51.20 percent of total contributions, and N2,189.83 billion from the private sector, which represents the remaining balance of 48.80 percent. The total value of Pension Fund Assets based on unaudited valuation reports stood at N7.61 trillion as of 31 December 2017 (PENCOM, 2017). This represented a net growth of N1.35 trillion (22 percent) when compared with the value of N6.16 trillion as of 31 December 2016.

The pension industry recorded a 1.65 percent growth in the scheme membership during the third quarter of 2018, moving from 8.20 million contributors at the end of the preceding quarter to 8.34 million. The growth in the industry membership was driven by the Retirement Savings Account (RSA) Scheme, which had an increase of 135,746 contributors (PENCOM, 2018). The total value of pension fund assets grew from N8.23 trillion as of 30 June 2018 to N8.35 trillion as of the end of September 2018 representing a growth of 1.39 percent (N114.22 billion) (PENCOM, 2018). The pension industry recorded a 1.78 percent growth in the scheme membership during the second quarter of 2019, moving from 8.63 million contributors at the end of the preceding quarter to 8.79 million (PENCOM, 2019b). The total value of pension fund assets based on unaudited valuation reports grew from N9.03 trillion as of the end of March 2019, to N9.33 trillion as of June 2019, representing a growth of 3.27 percent (N 294.91billion) (PENCOM, 2019b).

This success story of the pension industry is without challenges. The pension business can be affected by several factors. Among such is the economic environment in which they operate (Napier, 2015). This environment is largely shaped by macroeconomic variables. A macroeconomic variable is a factor that is pertinent to a broad economy at the regional or national level and affects a larger population rather than a few select individuals. Inflation is a macroeconomic variable that easily affects a larger population. Inflation is the rate of increase in prices over a given period of time (Oner, 2010). Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. But it can also be more narrowly calculated for certain goods, such as food, or services, such as a haircut, for example. Whatever the context, inflation represents how much more expensive the relevant set of goods and/or services has become over a certain period, most commonly a year.

Real money balances normally fall substantially during an inflation crisis. Also, real wages were found to suffer during the inflation crisis (Fashagba, 2016). Maku and Adelowokan (2013) see the impact of inflation as a lesser quantity being consumed tomorrow than consumed today with the same amount. The same amount of income simply purchases lesser goods and services necessitating adjustment of consumption. Thus the continuous rise in the price of consumer's goods and services has an unpleasant result on the real income of the fixed income earners. It reduces the value of money they have at hand. In relation to the Contributory Pension Scheme in Nigeria, it is seen that contributors (both from the private and public) face the same challenge. PENCOM (2019a) 1st Quarter report points out that the inflation rate declined in the quarter under review, relative to the fourth quarter, 2018. The inflation

figure stood at 11.25 percent at the end of the first quarter of 2019 has dropped from 11.44 percent, thus representing a 1.66 percent decline over the previous quarter. A comparison of this with the corresponding quarter in 2018, which recorded 13.34 percent resulted in a decline of 11.58 percent. The decline in headline inflation was largely from food items as the core inflation decreased in the period under review. Given that pensions are such a crucial preparation for retirement, it is worth looking at how they can be affected by the rate of inflation in the economy. It is on this basis that this study is carried out.

Statement of the Problem

Despite the good intention of the Contributory Pension Scheme, it may not be free of crises as inflation which cannot be separated from economics seem not to be adequately considered in the design of the Contributory Pension Scheme as currently operated in Nigeria. The continuous rise in the price of consumer goods and services has unpleasant results on the real income of the fixed income earners both in the private and public sectors. Consequently employees, as fixed-income earners, are one of the major victims of the falling currency value resulting from inflation.

The pension industry in Nigeria primarily generates pension funds. This is contributed by those in both the private and public sectors. As inflation cannot be taken away from an economy, it is obvious that pension funds as contributed are affected by it. Given that inflation facilitates continuous fall in currency value, the pension fund generated will be losing value. As private sector and public sector workers contribute to the fund, their contributions are already subject to the ravages of inflation. This creates a pension fund of considerable deficit in value. Given that pensions are such a crucial preparation for retirement, it is worth looking at how they can be affected by changes in the rate of inflation.

Objectives of the Study

The main objective of the study is to assess the impact of inflation on the pension fund of the Nigerian pension industry. The specific objectives of this study are:

- 1. To investigate the impact of inflation rate on private sector contribution to total pension fund
- 2. To examine the impact of inflation rate on public sector contribution to total pension fund
- 3. To analyze the impact of inflation rate on total pension contribution

Scope of the Study

The pension scheme being practiced presently in Nigeria is the Contributory Pension Scheme which came into place in the year 2004. However, available data on the variables of the study as provided by PENCOM started from the year 2007. Therefore, the period of the study spanned from 2007 to 2019. The study is industry-wide in coverage.

2. Review of Related Literature

Theoretical Framework

The theoretical basis for this study is Arbitrage Pricing Theory (APT). This theory was proposed by Stephen Ross in 1976. It is an asset pricing theory that states that the expected return of an investment or a financial asset can be modeled as a linear relationship of various macroeconomic variables or where the degree of correlation to changes in each variable is represented by a beta coefficient. The model-derived rate of return will then be used to obtain the price or value of the asset correctly. The asset value should equal the expected end-of-period asset value or future cash flows discounted at the rate implied by the model. If the asset value changes, arbitrage should bring it back to the line. According to Ross (1976), a heuristic argument for the theory is based on the preclusion of arbitrage. Ross's formal proof shows that the linear pricing relation is a necessary condition for equilibrium in a market where agents maximize certain types of utility. There is the assumption of the preclusion of arbitrage or the equilibrium of

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utility-maximization. A linear relation between the expected returns and the betas is tantamount to an identification of the stochastic discount factor (SDF).

In relation to this study, the pension industry raises contributions from both the private and public sectors. However, these contributions are exposed to the influence of macroeconomic variables such as inflation. It affects the present value of the contributions raised, making it challenging for both Pension Fund Custodians and Pension Fund Administrators to put the contributions into an investment that will give high returns.

Empirical Review

Gathimba (2017) investigated the factors that affect the growth of pension fund assets. The study used multiple regression analysis. It was established that equity growth and interest rates have a positive and influence on the growth of Pension Fund Assets in Kenya. The data also suggest that inflation movements do not stop the growth of pension fund assets.

Estrada, Khan, Staniewski, and Mansor (2017) evaluate how inflation and the exchange rate affect the real value of pension plan systems: the case of Malaysia. This research uses an alternative multi-dimensional graphical approach (The Mega-Dynamic Disks Multivariable Random Coordinate Space in Vertical Position) and a large database from the World Bank (WB) to build the Pension Real Value Box (PRV-Box). The study confirmed that inflation and the exchange rate strongly affect any pension system in the long run.

Fashagba (2016) assessed the influence of inflation on pension income with the contributory pension scheme in Nigeria. The study found that the inflation rate is an issue to pension benefits. Wages are continuous, to keep pace with the rate of inflation growth. This ensures that workers' standard of living is not rapidly depleted.

Kemboi (2014) evaluated the effect of macroeconomic variables on the net asset values of equity: empirical evidence from pension funds in Kenya. Johansen cointegration test was done, a multivariate vector error correction (VEC) model and the estimates obtained. Empirical results showed that the net asset values of equity pension funds formed a significant positive relationship with inflation, weighted interest rate, and the Nairobi Stock exchange index and a negative significant relationship with the money supply. The error correction model also indicated that the net asset value of equity pension funds adjusted by 44.3 % in one quarter and takes six months to eliminate the disequilibrium. Variance decomposition tests and impulse response functions indicate that approximately 81% of changes or variance in the net asset value of equity pension fund was explained by its shocks and innovations. The implication of this study is that fund managers and scheme participants should know that the macroeconomic variables under consideration in this study and the stock exchange index indeed form a long-term equilibrium relationship with the net asset value of equity pension funds and be concerned especially with changes in the money supply.

Wanjiku (2014) examined the effect of macroeconomic variables on portfolio returns of the pension industry in Kenya. A multivariate regression model was employed in the study. To further ensure the model's significance and goodness of fit, an F test and Analysis of Variance (ANOVA) were used. The study findings established exchange rates, inflation rates, and interest rates to be the macroeconomic factors that have an inverse relationship with pension funds' returns, with GDP growth having a direct relationship.

Tari (2014) investigated the key determinants of scheme design in occupational-defined contribution schemes in Kenya. Descriptive statistics were used to profile respondents, describe sample characteristics, and a logistic econometric model was applied to evaluate the determinants of scheme design. The study showed that the key employer-related determinants of scheme design were the employer 's budgetary constraint and recognition of the length of service of scheme members, while the key trustee-related determinant of scheme design was investment strategy. The results also revealed that the key regulatory-related determinant of scheme design was the existence of a separate public pillar. Gender was important but was mostly associated with poor scheme designs. From the findings, it was recommended that employers should consider pensionable salary, budget constraint, length of

service, retirement age, and occupation in designing schemes while trustees should consider investment returns, target pension, charges by service providers, annuity rates, and the investment strategy.

Lastly, regulatory agencies should consider incentives for participation, taxation rules, the existence of a separate pillar, and gender in the design of occupational-defined contribution schemes. This would guarantee members a reasonable standard of living after retirement.

Eliya (2014) analyzed factors that determine the investment income of Pensions Funds, taking into account only one Pensions Fund among seven in Tanzania. He used time-series data and the ordinary least square method for model estimation. The study findings revealed that members' contributions, investment in fixed deposits, and Government Securities are significantly and positively related to the growth of investment income.

Gap in Empirical Review

In relating the pension industry with inflation, lots of empirical studies tend to represent the industry operations of the industry, using variables like investments of the industry (Seulean and Moş, 2010), total pension fund (Kemoi, 2014), and pension assets under management (Gathimba, 2017). Consideration was not given to the contributions that were made by those enrolled in the scheme as another variable for representing the operations of the pension industry. It is the use of this variable that is the gap addressed by this study.

3. Methodology

Secondary data were used in the study. Data were taken from the annual reports of the National Pension Commission and Central Bank of Nigeria Statistical Bulletin of various years.

Thereby, the following models were applied to each hypothesis of this study:

Hypothesis One Model

Hypothesis one states that the inflation rate did not significantly impact on private sector's contribution to the total pension fund. The functional relation of hypothesis one model is given as:

PRC = f(INF)

The linear function is stated as:

PRC = $\beta_0 + \beta_1 INF + \mu$

Where

PRC = Private sector contribution to total pension fund

INF = Inflation rate

 β_0 = constant parameter

 β_1 = coefficient of INF

 μ = error term

Hypothesis Two Model

Hypothesis two states that the inflation rate did not significantly impact public sector contribution to the total pension fund. The functional relation of hypothesis two model is given as:

PUC = f(INF)

The linear function is stated as:
$PUC = \beta_0 + \beta_1 INF + \mu$
Where
PUC = public sector contribution to total pension fund
INF = Inflation rate,
β_0 = constant parameter,
β_1 = coefficient of INF,
μ = error term

Hypothesis Three Model

Hypothesis three states that the inflation rate did not significantly impact on Total pension contribution to the total pension fund. The functional relation of hypothesis three model is given as:

TPC = f(INF)

The linear function is stated as:

TPC = $\beta_0 + \beta_1 INF + \mu$

Where

TPC = Total pension contribution to total pension fund

INF = Inflation rate,

 β_0 = constant parameter,

 β_1 = coefficient of INF,

 μ = error term

Description of Research Variables

Dependent Variables

Private sector contribution to total pension fund: This is the monetary value of contribution to the pension fund from the private sector.

Public sector contribution to total pension fund: This is the monetary value of contribution to the pension fund from the public sector

Total contribution to total pension fund: This is the monetary value of all contributions to the pension fund

Independent Variable

Inflation rate: This is the rate of inflation in the Nigerian economy for the period of the study.

4. Data Analysis Technique

A unit root test is run using the Phillips Perron method to determine the stationarity of the data. Thereafter, the hypotheses were tested using Ordinary Least Squares. This is a method for estimating the unknown parameters in a linear regression model, with the goal of minimizing the differences between the observed responses in some arbitrary dataset and the responses predicted by the linear approximation of the data (visually this is seen as the sum of the vertical distances between each data point in the set and the corresponding point on the regression line - the smaller the differences, the better the model fits the data).

These tests are carried out at a 5 percent level of significance. Statistical significance is measured using a p-value. The rule holds that where the p-value is greater than the level of significance (0.05%) there is no statistical significance. On the other hand, if the p-value is less than 0.05% there is statistical significance. The decision rule holds that where t-calculated is higher than t-tabulated the null hypothesis is rejected and it's alternative is accepted. On the other hand, where t-calculated is lower than t-tabulated the null hypothesis is not rejected.

Unit Root Test

Table 4.1 Result of Unit Root Test

Table 112 Result of Giffe Rose Fest					
Variable	Test statistic @ 5%	Calculated value	P-value	Order of integration	
Inflation	-3.012363	-21.23989	0.0000	1(1)	
Private	-3.012363	-7.422811	0.0000	1(1)	
Public	-3.012363	-7.540788	0.0000	1(1)	
Total	-3.012363	-7.501073	0.0000	1(1)	

Source: Researcher's calculation using Eviews 9

Table 4.1 reveals that all the time series were stationary at first difference. This is evidenced by its Phillips-Perron test statistic at first, the difference being less than their respective Critical value @ 5%. This is corroborated by their respective p-values being lower than 0.05 (the level of significance) which shows statistical significance.

Table 4. 2 Results of Descriptive Statistics

	Inf	Pri	Pub	Total
Mean	1.030762	10.03939	10.32781	10.48647
Median	1.079181	10.86160	11.11529	11.30774
Maximum	1.376577	11.62233	11.85086	12.05249
Minimum	-0.698970	1.255273	1.255273	1.255273
Std. Dev.	0.397514	2.821238	2.905319	2.955641
Skewness	-3.762368	-2.738111	-2.766306	-2.768529
Kurtosis	17.09177	8.911814	9.016440	9.022667
Jarque-Bera	244.5662	62.23277	64.02370	64.14271
Probability	0.000000	0.000000	0.000000	0.000000
Sum	23.70753	230.9059	237.5395	241.1888
Sum Sq. Dev.	3.476390	175.1065	185.6993	192.1879
Observations	16	16	16	16

Source: Researcher's calculation using Eviews 9

The mean values of the respective variables are low showing that they do aggregate easily. The median values of the respective variables are also low showing that they are not spread widely. The dispersion of the respective variables surrounding the mean is low given that difference between each variable's minimum and the maximum value is low. The standard deviation of each variable in relation to its respective mean was lower. This shows that their volatility is low. The mean values are less than their respective median values showing that all variables are skewed to the left. All kurtosis values are higher than 3. It shows that the tails of the other variables distribution do differ from the tails of a normal distribution.

Hypotheses Tests

Table 4.3 Result of Hypothesis one test

Table 4.5 Result of Hypot					
Dependent Variable: D(
Method: Least Squares					
Date: 16/12/21 Time: 0	09:53				
Sample (adjusted): 1 16					
Included observations:	16 after adjustme	nts			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
С	0.069259	0.712041	0.097269	0.9235	
D(INF)	-0.684813	1.237163	-0.553535	0.5860	
R-squared	0.015089	Mean depen	ndent var	0.072322	
Adjusted R-squared	-0.034157	S.D. depend	S.D. dependent var		
S.E. of regression	3.339668	Akaike info	criterion	5.336128	
Sum squared resid	223.0676	Schwarz crit	Schwarz criterion		
Log likelihood	-56.69741	Hannan-Qui	Hannan-Quinn criter.		
F-statistic	tic 0.306401 Durbin-Watson s			2.001754	
Prob(F-statistic)	0.586033				

Source: Researcher's calculation using Eviews 9

From Table 4.3 it is seen that t-calculated is -0.553535. On the other hand, t-tabulated is derived using $t \approx /2(n-k)$ with values drawn from percentage points of the t-Distribution table.

Where:

t∞/2 = level of significance divided by two;

n = number of rows in data of variables being tested in hypothesis one;

k = number of columns in data of variables being tested in hypothesis one

Therefore t (0.05/2)(23-2) = (0.025)(21) = 2.080

Decision: Given that t-calculated at -0.553535 is less than t-tabulated at 2.080 the null hypothesis is not rejected. Therefore, it is concluded that the inflation rate did not significantly impact on private sector's contribution to total pension fund.

Table 4.4 Result of Hypothesis two test

Dependent Variable: [
Method: Least Squares					
Date: 16/12/21 Time: 09:53					
Sample (adjusted): 11	6				
Included observations	: 16 after adjustmen	ts			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
С	0.066184	0.701969	0.094283	0.9258	
D(INF)	-0.668952	1.219664	-0.548472	0.5894	
R-squared	0.014818	Mean depen	Mean dependent var		
Adjusted R-squared	-0.034441	S.D. depende	S.D. dependent var		
S.E. of regression	3.292429	Akaike info o	Akaike info criterion		
Sum squared resid	esid 216.8018 Schwarz criterion			5.406822	
Log-likelihood	-56.38400	Hannan-Quii	5.331001		

F-statistic	0.300822	Durbin-Watson stat	2.005728
Prob(F-statistic)	0.589438		

Source: Researcher's calculation using Eviews 9

From Table 4.4 it is seen that t-calculated is -0.548472. On the other hand, t-tabulated is derived using $t \infty / 2(n-k)$ with values drawn from Percentage points of the t-Distribution table.

Where:

 $t\infty/2$ = level of significance divided by two;

n = number of rows in data of variables being tested in hypothesis one;

k = number of columns in data of variables being tested in hypothesis one

Therefore t (0.05/2)(23-2) = (0.025)(21) = 2.080

Decision: Given that t-calculated at -0.548472 is less than t-tabulated at 2.080 the null hypothesis is not rejected. Therefore, it is concluded that the inflation rate did not significantly impact on public sector contribution to the total pension fund

Table 4.5 Result of Hypothesis three test

Table 4.5 Result of Hypothesis three test					
Dependent Variable: D					
Method: Least Squares	;				
Date: 16/05/21 Time:	09:54				
Sample (adjusted): 11	6				
Included observations	: 16 after adjustme	ents			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
С	0.076188	0.676552	0.112613	0.9115	
D(INF)	-0.663532	1.175501	-0.564468	0.5787	
R-squared	0.015681	Mean depe	ndent var	0.079156	
Adjusted R-squared	-0.033535	S.D. depend	dent var	3.121309	
S.E. of regression	3.173214	Akaike info	criterion	5.233875	
Sum squared resid	201.3857	Schwarz cri	terion	5.333060	
Log-likelihood	-55.57262	Hannan-Qu	inn criter.	5.257240	
F-statistic	0.318624 Durbin-Watso		son stat	1.993023	
Prob(F-statistic)	0.578712				

Source: Researcher's calculation using Eviews 9

From Table 4.5 it is seen that t-calculated is -0.564468. On the other hand, t-tabulated is derived using $t \infty / 2(n-k)$ with values drawn from Percentage points of the t-Distribution table.

Where:

 $t\infty/2$ = level of significance divided by two;

n = number of rows in data of variables being tested in hypothesis one;

k = number of columns in data of variables being tested in hypothesis one

Therefore t (0.05/2)(23-2) = (0.025)(21) = 2.080

Decision: Given that t-calculated at -0.564468 is less than t-tabulated at 2.080 the null hypothesis is not rejected. Therefore, it is concluded that the inflation rate did not significantly impact the total pension contribution.

Discussion of Findings

In hypothesis one test the p-value at 0.5860 is higher than the level of significance of 0.05. This shows that there was statistical insignificance. In other words, there was not enough evidence against the null hypothesis. This corroborates the decision in Table 4.3 that the inflation rate did not significantly impact private sector contributions to the total pension fund. The decision establishes that private sector contributions to the total pension fund are to a large extent not influenced by the inflation rate in the country. The coefficient of inflation rate at -0.684813 shows it has a negative relationship with private sector contribution to the total pension fund. It implies that a -0.684813-basis point decrease in inflation is required before there can be a percent increase in private sector contributions to the total pension fund. An Adjusted R-square of -0.034157 shows that in the model used inflation can explain only 3.4157 percent of any variation in private sector contributions to the total pension fund. The result of hypothesis one test agreed with the findings of Wanjiku (2014) who established that the inflation rate has an inverse relationship with the pension fund.

In hypothesis two test the p-value at 0.5894 is higher than the level of significance of 0.05. This shows that there was statistical insignificance. In other words, there was not enough evidence against the null hypothesis. This corroborates the decision in Table 4.4 that the inflation rate did not significantly impact public sector contributions to the total pension fund. The decision establishes that the size of public sector contributions to the total pension fund is to a large extent not influenced by the inflation rate in the country. The coefficient of inflation rate at -0.668952 shows that it has a negative relationship with public sector contributions to the total pension fund. Also, it implies that a -0.668952-basis point decrease in inflation is required before there can be a percent increase in public sector contributions to the total pension fund. An Adjusted R-square of -0.034441 shows that in the model used, inflation can explain only -3.4441 percent of any variation in public sector contributions to the total pension fund. The result of hypothesis two test disagreed with the findings of Kemboi (2014) who concluded that the net asset values of equity pension funds formed a significant positive relationship with inflation,

In hypothesis three test the p-value at 0.5787 is higher than the level of significance of 0.05. This shows that there was statistical insignificance. In other words, there was not enough evidence against the null hypothesis. This corroborates the decision in Table 4.5 that the inflation rate did not significantly impact total pension contributions in Nigeria. The decision establishes that the size of total pension contributions in Nigeria is to a large extent not influenced by the inflation rate in the country. The coefficient of inflation rate at -0.663532 shows that it has a negative relationship with total pension contributions in Nigeria. It implies that a -0.663532 basis point decrease in inflation is required before there can be a percent increase in total pension contributions in Nigeria. An Adjusted R-square of -0.033535 shows that in the model used, inflation can explain only -3.3535 percent of any variation in total pension contributions in Nigeria. The result of hypothesis three test agreed with the findings of Gathimba (2017) whose findings suggest that inflation movements do not stop the growth of pension fund assets.

Summary of Findings

The following are the findings of the study:

- 1. Inflation rate did not significantly impact the private sector's contributions to the total pension fund.
- 2. Inflation rate did not significantly impact the public sector's contributions to the total pension fund.
- 3. Inflation rate did not significantly impact the total pension contributions.

5. Conclusion

Inflation represents how much more expensive the relevant set of goods and/or services has become over a certain period, most commonly a year. It is believed that while high inflation is bad for an economy because of its adverse effect on economic performance, zero inflation is equally harmful because it will lead to eventual stagnation of the economy since its presence at a mild level is needed for economic growth. Inflation facilitates a negative impact on the general price level. This will likely pose a problem for the pension industry as its capacity to operate may be reduced. It was based on this assertion that this study took a look at the impact of inflation on the pension fund of the Nigerian pension industry. Based on the findings of the study it was concluded that the inflation rate did not significantly impact on pension funds of the Nigerian pension industry.

6. Recommendations

The following are the recommendations of the study:

- Efforts should be put in place to reduce the level of inflation in Nigeria. This will reduce the strain on disposal
 income of people who due to high prices of goods and services are pressured to spend almost all they earn
 to feed. By reducing inflation, the public would have more savings and be able to contribute to pension
 funds.
- 2. The pension industry should invest in only inflation-adjusted financial instruments. This will minimize the pull of inflation on the income from such investment. By such investment the industry will put the contributions they generate to significant use.
- 3. The pension industry should not commit a larger percentage of its investment to local financial instruments given the high inflation exposure we have in our economy. Instead, the industry should invest in international financial instruments in economies with the low inflation rate.

References

- Adeoti, J., Gunu, U. & Tsadu, E. (2012). Determinants of pension fund investment in Nigeria: the critical factors. International Journal of Human Resource Studies, 2(4): 1-13.
- Bassey, N., Etim, O. & Asinya, F. (2010). An overview of the Nigerian pension scheme from 1951-2004. *Global Journal of Humanities*, 7(1&2): 61-70.
- Eliya, S. (2014). Determinants of the growth of investment income of pensions fund schemes: the case of LAPF in Dodoma. Unpublished PhD dissertation, Mzumbe: Mzumbe University.
- Fapohunda, T. M. (2013). The pension system and retirement planning in Nigeria, *Mediterranean Journal of Social Sciences*, MCSER-CEMAS Sapienza University of Rome, 4(2): 12-23.
- Fashagba, M. O. (2016). Influence of inflation on pension income with the contributory pension scheme in Nigeria. Afro Asian Journal of Social Sciences, VII (II): 1-13.
- Gathimba, J. (2017). Factors affecting the growth of pension fund assets in Kenya. A research project report submitted to the Chandaria School of business in partial fulfillment of the requirement for the Degree of Masters in Business Administration.
- Kemboi (2014). Effect of macroeconomic variables on the net asset values of equity: empirical evidence from pension funds in Kenya. A dessertation submitted in partial fulfillment of the requirements for the award of Master of Science in Commerce degree in the School of Business and Public Management at KCA University.
- Maku, A.O. & Adelowokon, O.A. (2013). Dynamics of inflation in Nigeria: An Autoregressive Approach. *European Journal of Humanities and Social Sciences*, 22 (1).
- Musembi, G. (2014). Factors influencing asset growth of retirement benefits schemes: a case of CFC life assurance managed scheme. *International Journal of Innovative Research & Development*, 3(4): 222-238.
- Napier, H. (2015). An empirical analysis of macroeconomic factors and the effects on insurance demand and profitability. Accessed February 18, 2020, from witsbusinessschool.edu.
- Njuguna, C. & Arnolds, C. (2012). Determinants of pension fund efficiency in Kenya: an exploratory study. *African and Asian Studies*, 11(1-2): 182-218.
- Oluoch, M. A. (2013). The determinants of performance of pension funds in Kenya. A research project submitted in partial fulfillment of the requirement for the award of the degree of Master of Business Administration School of Business, University of Nairobi.
- Oner, C. (2010). What is inflation? Accessed February 18, 2020, from www.imf.org.
- Onyango, D. A. (2011). The relationship between investment strategies and financial performance of pension funds in Kenya. A research project submitted in partial fulfillment of requirements of master of business administration in the Department of the Business Administration University of Nairobi.
- PENCOM (2007). Annual Report 2017. Accessed February 18, 2020, from www.pencon.gov.ng.
- PENCOM (2017). Annual Report 2017. Accessed February 18, 2020, from www.pencon.gov.ng.
- PENCOM (2019a). 1st Quarter report. Accessed February 18, 2020, from www.pencon.gov.ng.

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PENCOM (2019b). 2nd Quarter report. Accessed February 18, 2020, from www.pencon.gov.ng.

- Seulean, V. & Moş, L. (2010). Determinant factors of the investment performance of voluntary pension funds in Romania. *Annales Universitatis Apulensis Series Oeconomica*, 12(1): 477-42.
- Tari, J. (2014). Determinants of scheme design in occupational defined contribution schemes in Kenya. A research thesis submitted to the school of business in fulfillment of the requirements for the award of the Degree of Doctor of Philosophy in Business (Actuarial Science and Insurance) of Kenyatta University.