THE EFFECT OF PENSION ASSETS INVESTED IN BONDS ON ALL SHARE INDEX IN NIGERIA FINANCIAL MARKET

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ABSTRACT

Investment in Bonds as Pension fund asset is held over a long period of time and it provides abundant funds to the financial market in the long term rather than providing short-term speculative capital. Data for the study were collected from quarterly reports of National Pension Commission and Central Bank of Nigeria Statistical Bulletin covering a period of 24 quarters from 2014 to 2019. The population of this study constitutes 50 firms. The research design was ex-post factor and correlational. Ordinary Least Square was used in analyzing the data collected which was from secondary source. Findings revealed that pension fund investment in bonds negatively influences financial market as proxies by All-Share Index (ASI). The study recommends that investment in bonds as pension assets should be discouraged in the interim until there is improvement in the performance of bonds in financial market performance.

Keywords: Bonds, Financial Market Pension, Asset, ASI, Victor, Falack.

INTRODUCTION

In Nigeria, the pension liabilities grew as high as two trillion Naira making its continuous funding obviously impossible, it became eminent that the pension scheme was inevitably unrealistic which gave rise to the Pension Reforms in 2004 in which the Defined Benefit Scheme (DBS) metamorphosed to a contributory pension scheme (CPS) where both employer and employee are required by law to make contributions towards an employees retirement. The total contributions from both the public and private sectors as at 2015 amounted to ₦3.29trillion and rose to ₦10.218trillion as at 2019. While there are substantial amounts of pension fund assets in Nigeria, there was strong demand for investigation into how the investments of bonds affect the performance of the financial market in Nigeria.

Statement of the Research Problem

The problem facing the administration of pension fund assets in Nigeria is the inadequacy of investment outlets as the investments of Pension fund administrators seem suboptimal (Nwanne, 2015, National Pension Commission Annual Reports, 2011-2016). There seem not to be a selection of the right type of investment outlet that increases economic growth in terms of GDP. For instance, there are only 11 classes of investment available for investment of pension assets. The fear is that the limited investment outlets may not be enough to assimilate the accumulated pool of pension fund assets, indicating that the huge pension funds may be chasing relatively few quality investments to realize increase in financial market performance (Abdullahi, 2019). Globally Pension fund assets like bonds is acclaimed to be essential towards growth of the financial market especially in developed countries, could this however be said of developing countries like Nigeria as well.

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LITERATURE REVIEW

Pension funds have both quantitative and qualitative effects on financial market performance. Quantitatively, pension fund increases the capital supply to financial markets. Larger financial markets are located in countries with large pension funds to GDP ratios. Qualitatively, the managing organizations of pension funds are institutional investors who influence corporate governance and information disclosure, and therefore help establish financial markets and improve the efficiency and depth of information. There is evidence supporting this point. In 2011, the weighted average ratio of pension funds to GDP for all OECD countries was 72.4 percent.

Olaniyan & Ekundayo (2019) revisited the effects of government bonds for the growth on the Nigerian capital market. Utilising time-series data obtained from the Nigeria Stock Exchange (NSE) annual reports for the period from 2010 to 2017. This study through the Generalised Method of Moments (GMM) regression estimator found that the value and the number of listed government bonds' positively and significantly affect capital market growth in Nigeria (Pencom, 2010). Furthermore, low capitalisation of government bonds negatively affects the growth of the market. The study concluded that government bonds have positive and significant effects on the growth of the Nigerian capital market, thus government bonds have made the NSE All-Share Index grow over the period under investigation. The study however recommended based on the findings that there should be more issuance of government bonds to the public to enhance the efficiency of the capital markets.

METHODOLOGY

Research Design

Ex post-facto and correlation research designs are employed for this study. The justification for using ex-post factor research design (after the fact) design is that the source of data is historical in nature. It also explains the causes and effect of one variable over another. Impliedly, this study tends to employ an existing data rather than new data specifically gathered for the study. Correlation research design is employed to explain relationships between the independent and dependent variables. The financial data of the banks were generated from annual reports of the selected banks obtained from the Nigerian Stock Exchange (NSE).

Model Specification refers to the description of the process by which the dependent variable is generated or influenced by the independent variable.

Functional Relationship:

$$ASI = f(INVBOND) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

Mathematical form of the model:

$$ASI = \beta_0 + \beta_1 INVBOND \quad \ldots\ldots\ldots\ldots\ldots\ldots 2$$

The Econometric Version of the model:

This is a functional model that includes the stochastic error term.

$$ASI = \beta_0 + \beta_1 INVBOND + \mu \quad \ldots\ldots\ldots\ldots\ldots\ldots 3$$

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The ARDL Version of the model:

This is an Econometric Model that includes the lag variable of some independent variables qualifying it as an ARDL model Table 1.

$$ASI = \beta_0 + \beta_1 INVBOND + ECM(-1) + \mu \ldots\ldots\ldots\ldots\ldots\ldots\ldots 4$$

Apriori Expectation or Theoretical Expectation:

$$\beta_1 > 0$$

Data Presentation, Analysis and Interpretation

Data Presentation

Table 1
DATA PRESENTATION

Period	INVBOND	ASI
2014m1	1,809,876.95	40,571.62
2014m2	0	39,558.89
2014m3	1,929,947.92	38,748.01
2014m4	1,955,112.89	38,492.13
2014m5	1,982,405.10	41,474.40
2014m6	2,043,055.37	42,482.48
2014m7	2,048,504.05	42,097.50
2014m8	2,120,555.19	41,532.31
2014m9	2,174,118.29	41,210.10
2014m10	0	37,550.24
2014m11	2,367,788.85	34,543.05
2014m12	2,396,548.41	34,657.15
2015m1	2,423,368.36	29,562.07
2015m2	2,578,227.04	30,103.81
2015m3	2,594,819.19	31,744.82
2015m4	2,491,107.87	34,708.11
2015m5	2,488,029.40	34,310.37
2015m6	2,537,683.98	33,456.83
2015m7	2,587,269.15	30,180.30
2015m8	2,706,863.30	29,684.84
2015m9	2,776,506.89	31,217.77
2015m10	2,898,666.72	29,177.72
2015m11	2,959,121.70	27,617.45
2015m12	3,515,176.61	28,642.25
2016m1	3,057,210.68	23,916.15
2016m2	3,111,533.11	24,570.73
2016m3	3,235,760.93	25,306.22
2016m4	3,157,571.55	25,062.41
2016m5	3,312,070.18	27,663.16
2016m6	3,379,228.01	29,597.79
2016m7	3,415,876.99	28,009.93

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2016m8	3,373,325.76	27,599.03
2016m9	3,499,974.71	28,335.40
2016m10	3,539,153.16	27,220.09
2016m11	3,535,623.31	25,333.39
2016m12	3,669,195.04	26,874.62
2017m1	3,574,707.54	26,036.24
2017m2	3,706,402.35	25,329.08
2017m3	3,738,188.55	25,516.34
2017m4	3,617,028.99	25,758.51
2017m5	3,800,305.44	29,498.31
2017m6	3,832,289.24	33,117.48
2017m7	3,800,430.43	36,864.71
2017m8	3,792,692.05	35,504.62
2017m9	3,874,986.37	35,439.98
2017m10	4,005,694.75	36,680.29
2017m11	4,021,544.47	37,944.60
2017m12	4,044,364.75	38,243.19
2018m1	3,955,607.26	44,343.65
2018m2	3,973,628.50	43,330.54
2018m3	3,861,079.88	41,504.51
2018m4	3,995,162.72	41,268.01
2018m5	3,961,399.65	38,104.54
2018m6	4,040,307.80	38,278.55
2018m7	4,081,848.53	37,017.78
2018m8	4,218,831.24	34,848.45
2018m9	4,326,145.03	32,766.37
2018m10	4,337,942.00	32,466.27
2018m11	4,439,561.29	30,874.17
2018m12	4,534,365.23	31,430.50
2019m1	4,484,888.57	30,557.20
2019m2	4,494,832.95	31,721.76
2019m3	4,458,806.38	31,041.42
2019m4	4,475,400.95	29,159.74
2019m5	4,531,477.81	31,069.37
2019m6	4,438,879.32	29,966.87
2019m7	4,489,870.12	29,851.29
2019m8	4,524,806.18	27,525.81
2019m9	4,476,590.84	27,630.56
2019m10	4,578,476.67	26,355.35
2019m11	4,858,731.64	27,002.15
2019m12	5,352,998.97	26,842.07

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Diagnostics Test

Table 2 ADF UNIT ROOT STATISTICS					
Variable	**Level**	**t-statistic critical value 5%**	**First Difference**	**T-statistics critical Value 5%**	**Order of integration**
ASI	-1.66	-2.9	-7.35	-2.9	I(1)
INVBOND	-7.16	-3.47	-	-	I(0)

Source: Author's computation, 2021; Using E-View 09

The ADF unit root test result presented in Table 2. Establishes that the data series of All Share Index is stationary at first difference, that is integrated of order one i.e. the absolute value of the ADF test statistic of the variable is greater than the value of the 5% critical value of the ADF statistic. While the data series of Investment in Bond is stationary at level i.e. integrated of order zero. Having established the order of integration of the data series we proceed to estimate the parameters of the specified model using the ARDL model. Thus, one of the strongest conditions for applying ARDL model is when we have mixture of both 1(0) and 1(1).

Bound Test for Co-Integration Analysis

Having conducted the unit root test, F-statistic test for co-integration is required to determine whether there is co-integration among the variables captured in the ARDL model. This has been estimated using the bound testing approach and the results presented in Table 3.

Table 3 BOUND TEST RESULT		
Dependent Variable		**F-statistics**
ASI		3.901802
Asymptotic Critical Value for Rejecting Null Hypothesis		
Critical value	@5%	@10%
Lower Bound	2.62	2.26
Upper Bound	3.79	3.35

Source: Author's Computation Using E-views 9.0

From Table 3, the bound test results reveal the existence of co-integrating equations among the variables. The null hypothesis that there is no co-integration between pension fund assets and financial market is rejected at both 5% and 10% as the F-statistics, 3.091802 is greater than the critical value, 3.79 and 3.35 at the upper bound indicating there is co-integration between bonds as pension fund asset and development of financial market. In a nutshell, the bound testing has indicated the existence of strong co-integrating equations among the series as revealed by the F-statistic and the critical values; meaning that there is long-run relationship among the variables.

Inferential Statistics (Long Run Estimation Result)

Table 4 LONG RUN ESTIMATION RESULT: DEPENDENT VARIABLE (ASI)				
Variable	Co-efficient	Standard Error	t-Statistic	Probability
C	55703.49	8996.2	6.3030	0.000
INVBOND	-0.005811	0.001040	-5.590010	0.0000

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Adj. R^2	0.61
F-statistic	23.331
Prob. (F-stat.)	0.000

Source: E-views 9

The long run relationship between Pension Fund Assets investment in bonds and Financial Market in Nigeria was estimated in Table 4. The long-run analysis indicates that the coefficient of Pension Fund Investment in Bond (-.0005811) exact negative impact on financial market as proxy by All share Index (ASI). This negative influence is significant at 5%.

The R^2 value of 0.63 indicates that the influence of all the explanatory variables jointly explain the variations or changes in the dependent variable (All Share Index) to the tune of 63% while the remaining 37% captured by the error term explained other variables not included in the model. The Adjusted R^2 of 0.61 also explains the changes of the dependent variable due to the explanatory power of the independent variables after taking care of degree of freedom (D.F). The p-value of the f-statistics 0.000 indicates that the model has a goodness of fit and can be used for planning and forecasting.

Estimation of Short Run Relationship Based on ARDL Model

Table 5
SHORT RUN ESTIMATION RESULT: DEPENDENT VARIABLE (ASI)

Variable	Co-efficient	Standard Error	t-Statistic	Probability
C	-210.9797	256.2345	-0.823385	0.4133
D(INVBOND)	-0.000913	0.000880	-1.037568	0.3034
ECT(-1)	-0.115601	0.078990	-1.463504	0.1482
R^2	0.08			
Adj. R^2	0.00			
F-statistic	1.03			
Prob. (F-stat.)	0.41			
Durbin-Watson	2.48			

Source: Author's Computation using E-views 9

The short-run relationship between investment in bonds and financial marketing Nigeria is estimated using the error correction model and the results are presented in Table 4.5 as follows. From Table 5, the Error Correction Coefficient (ECM), which is approximately -0.11 has the expected negative sign but it is also statistically insignificant at all conventional level considering the probability value which is 0.1482. The value of the ECM implies a fairly slow speed of adjustment to equilibrium after a shock. Approximately 11 per cent of disequilibria from the previous year's shock converge back to the long-run equilibrium in the current year (Central Bank of Nigeria, 2014).

The short-run results shows that pension fund investment in Bond (INVBOND) has a negative and insignificant impact on financial market.

DISCUSSION OF FINDINGS

Finding from the study reveals that pension fund investment in bond negatively influences financial market as proxies by ASI. The implication of this is that, a unit increase in investment in Bond will invariably lead to a corresponding unit decrease in All Share Index by 0.0058 units.

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CONCLUSION

Consistent with the findings from the analysis conducted and the hypothesis, the study concludes that there is a significant negative relationship between pension funds investments in bonds and the performance of capital market in Nigeria. Specifically, the study concludes that total bonds investments in Nigeria retrogresses or decreases the performance of the Nigerian capital market.

Recommendations

Based on the major findings of the study, the following recommendations are suggested:

1. Investment of pension assets in bonds should be discouraged in the interim until there is improvement in the performance of bonds in financial market performance. This will help to protect the investments of pensioners who may not have other sources of income.
2. Government should ensure good and stable monetary policy in Nigeria so as to strengthen investment in bonds.

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