Effect of Contributory Pension Funds on Capital Market Performance in Nigeria

BAKARE, Joyce Lade

Department of Accounting,
Bingham University,
Karu, Nasarawa State
E – Mail:joycebakare18@gmail.com, Phone No: +234 7039258601

Abstract

Using time series secondary data retrieved from the National Pension Commission and the Nigerian Exchange Group for the periods 2005 Q1 through 2019 Q4, this study explores the effect of contributory pension funds on capital market performance in Nigeria. The study's particular goals were to look into the effect of pension funds investment in government securities, corporate securities, and real estate property in Nigeria on capital market performance. Market capitalization is a proxy for capital market performance. It used an ex post facto research approach, and the data were subjected to a stationarity test, which revealed that they were stationary at first difference. The study uses the Johansen co-integration test to conduct a co-integration test, the results of the cointegration test demonstrated that the variables have a long-term relationship. Pension funds' investments in government and corporate securities have a significant positive effect on capital market performance in Nigeria in both the long and short run, whereas pension funds' investments in real estate property have no significant effect on capital market performance in Nigeria in the long or short run. The study suggests that pension fund investments have had a favorable effect on the expansion of the Nigerian stock market. According to the study, administrators of pension funds should allocate more assets and investments in government securities because they are a less hazardous and safer investment option. In order to expand Nigeria's capital market expansion, pension fund administrators should invest more funds in relatively high corporate debt securities that give high yields, such as banks. Finally, Nigerian Pension Fund Administrators should gradually lower their investment exposure to real estate property, as our study has indicated that investing in real estate property has not benefited Nigeria's capital market performance.

Keywords: Capital Market Performance, Corporate Securities, Pension Funds Investments, Real Estate Property

INTRODUCTION

The growth of the capital market is linked to an increase in the volume and supply of various asset kinds from a bigger number of issuers, as well as deeper and more liquid markets. Furthermore, when the capital market grows in size, economies of scale allow for lower information costs for participants, lower trading expenses, and the development of efficient mechanisms for executing securities transactions. Improvements in capital market performance provide pension funds with more alternatives for portfolio diversification in the capital market (Walker & Lefort, 2002). The capital market facilitates the inflow of required domestic and international capital into the country. However, in most African countries, including Nigeria, a lack of long-term capital has created a significant impediment to capital market performance. Long-term funding are available in a variety of ways, including through pension plans (Ekundayo, 2002). Pension funds are long-term investment vehicles because they are managed by professionals who have more knowledge than individual investors. In this regard, it is predicted that pension funds will contribute to the capital markets' performance by accumulating capital, raising funds, enhancing liquidity, and increasing financial innovation (Enache, Milos & Milos, 2015). According to the National Pension Commission (PENCOM), the influence of pension funds on capital market performance has arisen primarily due to the investing of resources in various securities.

Nigeria has a contributing pension system in place. An employer, as well as the employee, contributes to the employee's retirement account on a regular basis under this plan. The contributions are frequently set as a predetermined percentage of compensation, though this percentage does not have to remain constant during a career. The employee is frequently offered a choice in how his account is invested. Contributions may be invested in any security in theory, but most plans limit investment possibilities to a variety of

bond, stock, and money-market funds in fact. The employee receives either a lump payment or an annuity at retirement, the quantity of which is determined by the accumulated value of the funds in the retirement account. Apart from paying a regular contribution, the employee has no further obligations. Contributory pensions allow pension funds to build up assets that can be invested in the stock market. Pension funds have incentives to invest more in illiquid and long-term assets that generate greater yields because of their accumulating assets and the longer-term nature of their liabilities, and so provide a long-term supply of cash to the capital markets (Mesike & Ibiwoye, 2012). Extensive research has been undertaken to highlight the impact of pension funds on capital markets across countries (Hu, 2012; Raisa, 2012; Enache et al., 2015; Chovancova, Hudcovsky & Kotaskova, 2019). These are cross-country studies, and there are geographical variations between Nigeria and these countries, as well as political and economic environments that distinguish them. Furthermore, the results are only applicable in these nations. To study the relationship between pensions and capital market performance, empirical findings have benefited from panel regression and causality analysis. Because the studies mentioned above are cross-country studies with limited application to the Nigerian setting, this study aims to fill a vacuum in the realm of past research.

Most studies on the effect of pension funds on capital market performance are country specific, even if they are undertaken outside of Nigeria's borders, are of particular interest (Thom, 2014; Kyando, 2014; Moleko & Ikhide, 2018). These studies are being carried out in Tanzania and South Africa. These are international studies having minimal relevance to the Nigerian context. Few research on pension fund investment and capital market performance have been conducted in Nigeria; such studies are empirical works of (Madukwe, 2014; Madukwe, Obinna & Darlinton, 2015; Eke & Onafalujo, 2015; Zubair, 2016; Okparaka, 2018; Usman & Nwala, 2019; Nwannebuike & Chidimma, 2019). Only Usman and Nwala (2019) used disaggregated value of pension fund assets, but they did not include pension fund investment in real estate property as part of investment outlets of pension fund assets investment, resulting in the gaps in variable measurement. The main objective of this study is to assess the effect of contributory pension funds on capital market performance in Nigeria. This study embraces the effect of contributory pension funds on capital market performance in Nigeria, while covering the period of fifteen years ranging from 2005-2019 and the data used are quarterly data, which translates to sixty observations.

LITERATURE REVIEW

Conceptual Framework

Contributory Pension Fund Investment

Pension can be thought of as a regular payment paid by an employer to a retired employee, usually until the employee's death; such payments may also be made to the pensioner's next of kin for a set amount of time. Pension, according to Chizueze, Nwosu, and Agba (2011), is money paid on a regular basis by the government or any establishment to someone who is formally regarded retired from active service after serving for a specified period of time, usually 10 years to thirty-five years. Pension plans might be contributory or noncontributory, fixed or variable benefits, group or individual, insured or trustee, private or public, single or multi-employer, according to Ozor (2006). A contribution pension scheme is a type of retirement plan in which the employer's annual contribution is fixed.

According to the most recent changes and modifications to the new pension law, the employee must open a Retirement Savings Account (RSA) in his name with a personal identification number with a Pension Fund Administrator of his choice, into which all of his contributions and investment returns are paid (Pension Reform Act, 2014). According to the Act, the employer must contribute ten percent (10%) and the employee must contribute eight percent (8%) of the employee's current basic salary, housing, and transportation allowance to be paid to the PFCs, who are responsible for warehousing the pension fund assets (Pension Reform Act, 2014).

Capital Market Performance

The capital market is a part of the financial system that allows long-term funds to flow from surplus to deficit economic units, promoting capital formation and socioeconomic growth. The market brings together those who have and those who need funds at usually competitive prices and conditions that are acceptable to both parties, providing efficient resource allocation while fostering economic growth, by mobilizing funds for channeling into productive projects (Onyiuke, 2008). This study compares market capitalization to capital market performance. The importance of measuring capital market performance is that it serves as a guideline for forecasting market performance (Naceur, Ghazouani & Omran, 2007). There are also some more variables that can be used to assess capital market performance. These include the number of listed shares on exchanges, market capitalization, the value of traded shares, the volume of traded shares, and the number of trades completed.

Empirical Review

Pension Fund Investment in Government Securities and Capital Market Performance

Hu (2012) looked at the impact of Asian pension funds on a number of major transmission channels, including pension reform and financial development. The study used quarterly data from 1985 to 2013 to examine financial data from ten Asian and Pacific economies. A substantial positive relationship between pension fund assets and market capitalisation was found using the panel error correction model. Pension assets have a long-term positive impact on market liquidity in Asia's less developed nations, but not in the more developed economies, according to the study. Raisa (2012) investigated the effects of pension funds on stock markets in 15 European nations. In the case of the former EU member states, the study presented new empirical evidence for the link between pension reform and domestic stock market development. After controlling for additional explanatory variables, the study employed a panel data regression. The findings revealed a positive relationship between pension funds and the stock market. The impact of pension funds on the expansion of the South African stock market was studied by Thom (2014). Market capitalization, liquidity, and volatility were used to gauge the progress of the stock market. According to the conclusions of the study, South African pension funds have enhanced liquidity and reduced stock market volatility. Kyando (2014) evaluated the impact of pension funds on Tanzania's capital market development. The findings revealed that pension funds only own a modest portion of the market capitalisation. Finally, the findings revealed that government bonds, bank deposits, and loans make up the majority of a pension fund's portfolio. Enache et al. (2015) used a sample of eleven Central and Eastern European nations to investigate the link between pension reform and capital market development. The results of the study, which used a single equation ECM, verified the existence of a substantial positive short-term influence as well as a smaller positive long-term effect of pension funds' assets on market capitalization. Ijeoma and Nwufo (2015) investigated the stability of Nigeria's contributory pension program. They used a simple regression analysis method. The contributory pension program, according to the report, has had a substantial impact on the development of the Nigerian capital market. Madukwe (2015), on the other hand, used secondary data to investigate the impact of a contributory pension program on the Nigerian capital market. The data was analyzed using Pearson correlation, and it was discovered that the contributory pension system has not contributed considerably to the expansion of the Nigerian capital market.

Zubair (2016) investigated the impact of pension fund investments on Nigeria's capital market performance. The study used the Autoregressive Integrated Moving Average regression technique to conduct a time series analysis that spanned the years 2009 to 2016. The findings of the study indicated that there is a favorable association between pension fund investments and capital market performance in Nigeria. Okparaka (2018) investigated the impact of a contributory pension program on the Nigerian stock exchange. It was discovered that the Nigerian pension industry's assets under management have a

favorable and considerable impact on the Nigerian capital market's overall market capitalization. Furthermore, the value of pension assets under administration in the Nigerian pension industry has no positive or significant impact on the total value of deals done in the Nigerian Capital Market each year. Usman and Nwala (2019) looked at the impact of pension fund investments in listed securities, such as Local Ordinary Share Capital, Federal Government Bonds, and Corporate Debt Securities, on the development of the Nigerian Capital Market as measured by Market Capitalization. Quarterly data from 2011 to 2018 was analyzed using VECM. The research concluded that pension fund investments in listed securities had both positive and minor short-term effects on the Nigerian capital market. Bonds issued by the federal government have a large inverse effect over time. Corporate Debt Securities has a large favorable impact. The relationship between stock market capitalization and pension fund assets was investigated by Nwannebuike and Chidimma (2019). From 1981 to 2016, secondary data was gathered from the CBN Statistical Bulletin 2017 and the Global Financial Development Bulletin 2017. The findings revealed that stock market capitalization to GDP had a positive but non-significant effect on economic growth in Nigeria, whereas pension fund assets to GDP had a positive but non-significant effect.

Pension Funds Investment in Real Estate Property and Capital Market Performance

Akowe, Ocheni, and Daniel (2015) examined the impact of new contributory pension fund portfolios on Nigerian GDP and the linkages between pension portfolios and GDP. The research period was from 2007 to 2012. The data was analyzed using OLS in this study. The results demonstrated that the pension fund's Real Estate Property contributed positively to Nigeria's gross domestic product throughout the time under consideration. Micah and Obah (2016) looked on the connection between Nigerian pension fund administration and infrastructure financing. The study's 108 participants were chosen using a basic random sampling method. Pearson Products Moment Correlation was used to test the hypotheses. The study indicated that there is a substantial association between superannuation pension account and economic and social infrastructural financing in Nigeria, as well as a relationship between retirement pension account and return on economic and social infrastructural financing. Eke, Ndubuisi, and Eleagu (2018) investigated the relationship between housing infrastructure investment and the safety-equity factor in the management of Nigeria's public pension funds. Ex post facto research design was used for this study. The study's findings revealed that public pension funds had substantial links to fund safety and equity returns.

Pension Funds Investment in Corporate Securities and Capital Market Performance

Moleko and Ikhide (2018) investigated the impact of pension fund assets on South Africa's total capital market development. The findings revealed a link between pension savings and stock market performance. The study identified only a one-way association between pension fund savings and stock market development using the VECM framework. Okparaka and Makwe (2019) looked at the impact of pension industry investment in Nigeria's financial intermediation. The analysis technique employed was OLS regression. Pension fund investment in Federal government bonds has a positive and no significant effect on financial intermediation in Nigeria; pension fund investment in State government bonds has a negative and no significant effect on financial intermediation in Nigeria; and pension fund investment in Private sector bonds has a positive and no significant effect on financial intermediation in Nigeria, according to the findings.

Chovancova et al. (2019) looked at how the stock and bond markets affect the pension fund. The study looked into the relationship between the stock market, bond market, and pension funds. The research was based on data from the Organisation for Economic Cooperation and Development's pension statistics. The bond market had a greater impact on pension fund performance.

Theoretical Framework

Life Cycle Theory

Franco Modigliani created the Life-cycle Theory in 1957. According to the hypothesis, people try to spread their consumption out over their lives by borrowing during times of low income and saving during times of high income. The most widely utilized theory in the research of pension contributions and capital market performance is life cycle theory. Using the life cycle theory, it was determined that a pension fund's development may be divided into three stages: start-up, growth, and maturity. The theory highlights that an individual's income fluctuates during his or her life, and that by saving, an individual may smooth their income so that consumption remains constant regardless of whether income is high or low. Individuals are thus planning their lifetime spending patterns in order to consume all of their accessible wealth. As a result, savings fluctuate across a person's lifespan. A person often does not save prior to starting a job, saves while working, and then quits saving after retirement. This indicates that in a country with a big working population, those who save exceed those who do not, and therefore the country generates savings.

METHODOLOGY

This study adopted the *ex post facto* research design. The population of this study is 21 registered pension funds administrators in Nigeria. This study used aggregate data on pension funds asset invested in Government securities, real estate property and corporate debt. Because the data required for this study are aggregate data, the study census the 21 registered pension funds administrators, therefore, no sampling technique and sample size for this study as all the population is census. The secondary data on contributory pension fund investment in government securities, real estate property and corporate securities were sourced from pension commission annual reports while data on capital market performance proxy with market capitalization was sourced from Nigerian Exchange Group Reports. These data were collected for the periods of fifteen years (15) years, covering the periods of 2005Q1 to 2019Q4. The data used are quarterly data, which translate to sixty observations. The study adopted the Vector Error Correction Model (VECM) to estimate and analyse the long and short-run effect of contributory pension funds on capital market performance in Nigeria.

Model Specification

Vector Error Correction Model

The Vector Error Correction Model (VECM) shows the speed of adjustment from short-run to long run equilibrium. The a priori expectation is that the VECM coefficient must be negative and significant for errors to be corrected in the long run and the higher the VECM, the more the speed of adjustment. Based on the objectives of the study the VECM model which is specified as:

$$\Delta MCAP_t = \alpha_0 + \sum_{g=1}^{k-1} \square \beta_g \Delta MCAP_{t-i} + \sum_{h=1}^{k-1} \square \phi_h \Delta PFGS_{t-i} + \sum_{i=1}^{k-1} \square \partial_i \Delta PFCS_{t-i} + \sum_{j=1}^{k-1} \square \partial_i \Delta PFRE_{t-i} + \lambda_1 ECT_{t-1} + \varepsilon_{1t}$$

$$\Delta PFGS_t = \sigma_0 + \sum_{g=1}^{k-1} \square \beta_g \Delta PFGS_{t-i} + \sum_{h=1}^{k-1} \square \phi_h \Delta PFCS_{t-i} + \sum_{i=1}^{k-1} \square \partial_i \Delta PFRE_{t-i} + \sum_{j=1}^{k-1} \square \partial_i \Delta MCAP_{t-i} + \lambda_2 ECT_{t-1} + \varepsilon_{2t}$$

$$\Delta PFCS_t = \delta_0 + \sum_{g=1}^{k-1} \square \beta_g \Delta PFCS_{t-i} + \sum_{h=1}^{k-1} \square \phi_h \Delta PFGS_{t-i} + \sum_{i=1}^{k-1} \square \partial_i \Delta PFRE_{t-i} + \sum_{j=1}^{k-1} \square \partial_i \Delta MCAP_{t-i} + \lambda_3 ECT_{t-1} + \varepsilon_{3t}$$

$$\Delta PFRE_t = \delta_0 + \sum_{g=1}^{k-1} \square \beta_g \Delta PFRE_{t-i} + \sum_{h=1}^{k-1} \square \phi_h \Delta PFCS_{t-i} + \sum_{i=1}^{k-1} \square \partial_i \Delta PFRE_{t-i} + \sum_{j=1}^{k-1} \square \partial_i \Delta MCAP_{t-i} + \lambda_4 ECT_{t-1} + \varepsilon_{4t}$$

Where;

MCAP= Market Capitalisation
PFGS = Pension Fund Investment in Government Securities
PFRE = Pension Fund Investment in Real Estate Property
PFCD = Pension Fund Investment in Corporate Securities
t = Periods covered by the study

ECT_{t-1} = the error correction which is the lagged value of the residuals obtained from the co-integrating regression of the dependent variable on the regressors.
Δ= denotes the first difference operator,
σ is the drift component,
ε_t= Error Term
t_{-i}= Lag value
λ = Speed of adjustment parameter with a negative sign
$\sum$ = Summation
K-1 = the lag length
γ_i= Short run dynamic coefficients of the model's adjustment to long run equilibrium

RESULT AND DISCUSSION

Descriptive Statistics

Table 1: Descriptive Statistics

Descriptive Statistics	MCAP	PFGS	PFRE	PFCS
Mean	15482.43	4848.663	3115.119	1065.867
Maximum	19550.15	11115.45	7011.82	2630.450
Minimum	10303.07	1039.430	132.02	284.6500
Std. Dev.	2335.985	2713.801	1187.181	787.0123
Jarque-Bera	1.943722	3.161139	4.771157	7.042325
Probability	0.378378	0.205858	0.092036	0.029565
Observations	60	60	60	60

Source: E-view 10 Output, 2022.

Table 1 above shows the average value of market capitalization, pension funds invested in government securities, pension funds invested in real estate property and pension funds invested in corporate securities. The average value of market capitalization is 15482.43; the average value of pension funds invested in government securities is 4848.663; pension funds invested in real estate property is 3115.119 while that of corporate securities is 1065.865.

Stationarity Test

Table 2: Augmented Dickey-Fuller Unit Root Test

LEVEL			FIRST DIFFERENCE			
Variables	ADF Test Statistic	Critical Value @ 5%	ADF Test Statistic	Critical Value @ 5%	Max Lag	Order of Integration
PFGS	-1.586543	-2.918778	-3.394614	-2.918778	3	1(I)
PFRE	-0.738020	-2.918778	-2.991480	-2.918778	3	1(I)

PFCS	-1.073423	-2.916566	-10.99489	-2.916566	3	1(I)
MCAP	-0.344445	-2.918778	-6.279514	-2.918778	3	1(I)

Source: E-view 10 Output, 2022.

At level, pension funds invested in government securities, in real estate property, in corporate securities and market capitalization are not stationary because their absolute value of the ADF test statistic of -1.586543; -0.738020; -1.073423 and -0.344445 are less than the critical values of -2.918778; -2.918778, -2.916566 and -2.918778 at 5% level of significance respectively. After first difference, pension funds invested in government securities, pension funds invested in real estate property, pension funds invested in corporate securities and market capitalization became stationary as their ADF test statistics values of -3.394614, -2.991480, -10.99489, and -6.279514 became greater than their critical value of -2.918778, -2.918778, -2.916566 and -2.918778 at 5% level of significance.

Since all the variables are integrated at the same order of I(1), that is first difference, this study proceeds to conduct the co-integration tests to determine the long run relationships among the variables.

Co-Integration Analysis

Table 3: Johansen Co-Integration

	Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue		Trace Statistics	0.05 Critical Value	Prob
None	0.409214		34.79513	29.79707	0.0122
At most 1	0.363219		18.47980	15.49471	0.0172
At most 2	0.134799		4.488598	3.841466	0.0341
At most 3	0.017255		1.009533	3.841466	0.3150

Source: E-view 10 Output, 2022.

From Tables 3, it is observed that the trace test statistics indicate at most one co-integrating equation at the 5% level of significance. Based on this evidence, we can safely reject the null hypothesis of no co-integrating vectors and conveniently accept the alternative hypothesis of the presence of co-integrating vectors among the variables in the specified error correction model. This implies that a long-run relationship exists between the variables that have entered the specified model of study. That is, there is a long-run relationship among contributory pension funds and capital market performance in Nigeria. This study proceeds to run Vector Error Correction Model because basic steps to estimate VECM requires all the series to be stationary at first difference, that is I(1), and not I(2).

Table 4: Result of Victor Error Correction Model

Vector Error Correction Estimates
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
MCAP(-1)	1.000000

PFGS(-1)	1.001483 (0.21253) [4.71220]			
PFRE(-1)	0.622522 (0.98426) [0.63248]			
PFCS(-1)	0.508179 (0.12242) [4.15105]			
C	-1671.095			

Error Correction:	D(MCAP)	D(PFGS)	D(PFRE)	D(PFCS)
CointEq1	-0.932388 (0.19525) [-4.77525]	-0.534044 (0.15760) [-3.38870]	-0.220462 (0.05490) [-4.01552]	-0.402989 (0.11587) [-3.47794]
D(MCAP(-1))	0.530864 (0.42888) [1.23780]	0.575798 (0.34616) [1.66339]	0.157306 (0.12059) [1.30443]	0.511881 (0.26890) [1.90361]
D(PFGS(-1))	0.401788 (0.11251) [3.57113]	-0.322988 (0.33303) [-0.96986]	-0.020865 (0.11602) [-0.17985]	-0.162283 (0.25870) [-0.62730]
D(PFRE(-1))	0.448180 (1.01603) [0.44111]	-0.262804 (0.82007) [-0.32047]	-0.540999 (0.28569) [-1.89365]	-0.104783 (0.63704) [-0.16448]
D(PFCS(-1))	0.436635 (0.15817) [2.76054]	-0.365178 (0.69265) [-0.52721]	0.032181 (0.24130) [0.13336]	-0.398012 (0.53806) [-0.73971]
C	120.2450 (193.945) [0.62000]	141.4336 (156.539) [0.90351]	24.81170 (54.5342) [0.45498]	50.80416 (121.601) [0.41779]

R-squared	0.325170	0.207042	0.267798	0.296398
Adj. R-squared	0.260282	0.130796	0.197394	0.228744
F-statistic	5.011281	2.715453	3.803733	4.381083
S.D. dependent	1697.459	1263.906	458.2178	1042.298

Source: E-view 10 Output, 2022.

The lagged value of ECM is negative, as expected, and statistically significant at the 5% level. The speed at which the entire system adjusts toward the long term equilibrium is revealed by the coefficient of the lagged ECM, which is negative and significant. The ECM coefficient is -0.93, indicating that the speed of adjustment from short run disequilibrium to long run equilibrium is 93 percent per year. Finally, the R-square of 0.32 indicates that contributory pension funds invested in government securities, real estate property, and corporate securities in Nigeria contribute 32% to capital market performance. The F-statistic score of 5.011 also indicates that the model is statistically significant and well-fit.

Residual Test

Table 5: Residual Tests

Test	P-Value
Serial Correlation LM Test	0.8649
Residual Normality Test	0.1370
Heteroskedasticity Test	0.8903

Source: Author's Computation from E-view 10 Results (2022)

The result as presented in the above table revealed that there were no evidences of serial correlation, heteroskedasticity and the data are normally distributed in the estimated VECM model because they have *p-values* of 0.8649, 0.1370 and 0.8903 respectively. They were found to be greater than 0.05 level of significance.

Discussion of Findings

Pension Funds Investment in Government Securities and Capital Market Pefomance

If all other variables remain equal, one unit increase in contributory pension funds invested in government securities will result in about 1.001483 unit rise in capital market performance in the long term, according to the VECM regression finding. Because the t-statistics value of 4.71220 is bigger than the essential t-value of 1.96 at the 5% level of significance, the influence of contributing pension funds invested in government securities is considerable in the long term. This suggests that pension funds investing in government securities have a long-term favorable impact on Nigeria's capital market development.

If all other variables remain constant, one unit increase in contributory pension funds invested in government securities will result in a 0.401788 unit gain in capital market performance in the short run. Because the t-statistics value of 3.57113 is bigger than the essential t-value of 1.96 at a 5% level of significance, the influence of contributing pension funds invested in government securities is considerable in the short run. This shows that pension assets are utilized to support government deficits, that a sufficient amount of pension funds are invested in government securities, and that pension regulations allow for a diversity of pension fund investments in government securities since they are safer investment options. This finding is in line with Hu (2012), Raisa (2012), Thom (2014), Kyando (2014), and Zubair (2014) studies (2016). Furthermore, the findings contradict Madukwe's research (2014).

Pension Funds Investment in Real Estate and Capital Market Performance

In the case of pension funds invested in real estate property, the coefficient is 0.622522 and the t-statistics value is 0.63248, implying that a unit rise in pension funds investment in real estate property equates to 0.622522 unit increases in capital market performance in the long term. Because the t-statistics value of 0.63248 is less than the crucial t-value of 1.96 at the 5% level of significance, the effect of contributing pension funds invested in real estate property in the long term is not significant. This shows that pension funds' investments in real estate property have no long-term impact on Nigeria's capital market performance. Furthermore, because the t-statistics value of 0.44111 is smaller than the critical t-value of 1.96 at a 5% level of significance, the short run outcome of the VECM implies that pension funds'

investment in real estate property has no meaningful effect on capital market performance in Nigeria. This evidence supports the findings of Akowe, Ocheni, and Daniel (2015); Micah and Obah (2016); Eke, Ndubuisi, and Eleagu (2016). (2018).

Pension Funds Investment in Corporate Securities and Capital Market Performance

According to the VECM regression results, pension funds' investments in corporate securities have a strong beneficial impact on capital market development in Nigeria, both in the short and long term. The coefficient of pension funds investment in corporate securities is positive (0.508179; 0.436635), implying that a unit increase in pension funds investment in corporate securities translates to 0.508179 and 0.436635 units increase in capital market performance in Nigeria, respectively, in the long and short run. The long and short term t-statistics values of pension funds' investments in corporate securities are 4.15105 and 2.76054, respectively, and these values are more than the crucial t-value of 1.96 at a 0.05 level of significance. This suggests that pension funds' investments in corporate securities have a major favorable impact on Nigeria's capital market performance in the short and long term. Moleko and Ikhide (2018); Chovancova, Hudcovsky, and Kotaskova (2018) have all found similar results (2019). Furthermore, the findings contradict Okparaka and Makwe's research (2019).

CONCLUSIONS AND RECOMMENDATIONS

The study suggests that pension fund investments have had a favorable impact on Nigeria's stock market development. As a result, pension fund investments can help the stock market thrive. In light of the findings, the study came to the following specific conclusions;

 i. The study concluded that pension funds' investments in government securities significantly accounted for capital market performance in Nigeria, both in the long and short run.

ii. The study shows that pension funds investing in corporate securities in Nigeria boosts capital market performance in the short and long term.

iii. The study shows that pension fund investments in real estate property in Nigeria have a weak positive link with capital market performance in both the short and long term.

This study makes the following recommendations;

i. Administrators of pension funds should allocate more assets and investments in government securities because they are a less risky and safer investment window. This study's empirical findings imply that investing in government securities by pension funds boosts capital market performance.

ii. In order to expand Nigeria's capital market expansion, pension fund administrators should invest more funds in relatively high corporate debt securities that give high returns, such as banks.

iii. Finally, Nigerian Pension Fund Administrators should gradually lower their investment exposure to real estate property, as our study has indicated that investing in real estate property has not benefited Nigeria's capital market performance.

References

Akowe, A., Ocheni, S. I., & Daniel, A. (2015). Evaluation of the contribution of portfolios of the new contributory pension scheme in Nigeria economy. *European Journal of Accounting, Auditing and finance research, 3*(10).

Chibueze, C. I., Nwosu, U. W., & Agba, A. M. O. (2011). Contributory Pension Scheme, Civil Servants Commitment, Retention and Attitude towards Retirement in the Nigerian Civil Service. *Global Journal of Management and Business Research*, *11*(4), pp 123-156.

Chovancova, B., Hudcovsky, J., & Kotaskova, A. (2019). The impact of stocks and bonds on pension fund performance. *Journal of Competitiveness, 11*(2), 22-35.

Eke, O.A., Ndubuisi, P., & Eleagu, G.I. (2018). Public pension asset and investment in housing infrastructure: Rethinking the safety-equity net in Nigeria. *Global Journal of Arts, Humanities and Social Sciences, 6*(8), pp.43-63.

Eke, P. O., & Onafalujo, A. K. (2015). Interest rate, capital market and pensions management: Lessons from Nigeria. *African Journal of Business Management*, 9(13), 542-552.

Ekundayo, I. K. (2002). Creating a conducive environment for investment in the Nigerian capital market. Paper presented at public enlightenment on Opportunities in the Capital Market for Industrial Development, at Lokoja, Kogi State on 29th March to1st April.

Enache, C., Milos, R.C., & Milos, M.C., (2015). Pension reform and capital market development in central and eastern European countries. *Economic Research Ekonomska Istrazivanja, Taylor Francis Group, 21*(1),75-84.

Hu, Y. (2012). Growth of Asian Pension Assets: Implications for financial and capital markets. Asian Development Bank Institute Working Paper Series, No. 360, Tokyo: Asian Development Bank Institute.

Ijeoma, N.B., & Nwufo, C.I. (2015). Sustainability of the contributory pension scheme in Nigeria. *Journal of Business & Management Studies, 1*(1), 1-15.

Kyando, W.B. (2014). Contribution of pension funds in the development of capital markets in Tanzania. A Dissertation Submitted in Partial Fulfilment of the Requirements for the Degree of Master of Business Administration of the Open University of Tanzania.

Madukwe, O. D. (2015). Effects of contributory pension scheme on capital market in Nigeria. *International Journal of Management and Commerce Innovations, 2*(2).

Mesike, G., & Ibiwoye, A. (2012). Pension reform and financial market development nexus: Evidence from Nigeria. *International Journal of Academic Research in Business and Social Sciences*, *2*(6).

Micah, L. C., & Obah, G. W. (2016). Pension fund administration and infrastructure financing in Nigeria. *Journal of Economics, Management and Trade*, *13*(2), 1-13. https://doi.org/10.9734/BJEMT/2016/22534

Modigliani, F. (1957). The life cycle hypothesis of saving, the demand for wealth and the supply of capital. *Social Research, 33*(2), 160–217.

Moleko, N., & Ikhide, S. (2016). Pension funds evolution, reforms and trends in South Africa. *International Journal of Economics and Finance Studies, 9*(2), 134-151.

Naceur, S., Ghazouani, S., & Omran, M. (2007). The determinants of stock market development in the Middle-Eastern and North African Region. *Managerial Finance, 33*(7), pp 477-489.

Nwannebuike, U.S., & Chidimma, I.E. (2019). Stock market capitalization and pension fund assets' perspectives of financial deepening in Nigeria (1981-2016). *International Journal of Business Systems and Economics, 12*(3), 01 – 15.

Okparaka, V. C., & Makwe, D.M. (2019). Effect of pension industry investments on financial intermediation in Nigeria (2006 -2017). *Advance Journal of Management, Accounting and Finance, 4*(2), 40-48.

Okparaka, V.C. (2018). Effect of contributory pension scheme on Nigerian capital market. *International Journal of Advanced Research in Management and Social Sciences, 7*(2), 266-284.

Onyiuke, O. (2008). A review of the market performance in 2008 and the outlook for 2009. Nigerian Stock Exchange Fact Book.

Ozor, E. (2006). Review of factors that slow down the processing of retirement benefits. A Paper Presented at the Workshop Organized by the Institute of Chartered Secretaries and Administration of Nigeria, Held at Modotel Enugu, between 14th and 16th May.

Raisa, M.L. (2012). Spillover effects of pension funds on capital markets: The EU-15 countries case. *Annals of the "Constantin Brâncuşi" University of Târgu Jiu, Economy Series*, 4, pp.164-170. 37.

Thom, M. (2014). The impact of pension funds on stock market development in South Africa and policy implications. Unpublished Masters thesis, University of Stellenbosch Business School.

Usman, J., & Nwala M. N. (2019). Effect of pension fund on Nigerian capital market development. *NSUK Journal of Finance and Banking Research, 4*(2).

Walker, E., & Lefort, F. (2002). Pension reform and capital markets: Are there any (hard) links? (Social Protection Discussion Paper 0201). Washington DC: The World Bank.

Zubair, A. K. I. (2016). Effects of pension funds investments on capital market performance in Nigeria. *International Journal of Economics and Business Management, 2*(9), 1-20