Effect of Pension Fund Administration on Capital Market Development in Nigeria

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Abstract

This study assesses the effect of pension scheme fund administration on capital market development in Nigeria.Investments are required for the growth and the sustainable development of any economy and the capital market provides such a platform for the mobilization and allocation of savings critical to growth and development. The pension fund is a long-term retirement benefit for employee thus, the objective of the study is to examine the connection between pension fund and capital market development in Nigeria using the ex-post facto research design. Data used for the study was sourced from the CBN annual statistical bulletin. The Ordinary Least Square Regression (OLS) was used in the analysis of data. Findings from the study revealed that pension scheme fund significantly impact on the market capitalization (MCAP), all share index (ASI), volume of transaction (VOT). The study recommends the need for the use of Information Communication Technology (e-channel payments) for expansion of collection and disbursement methods.

Keywords: Pension Fund, Capital Market Development, Defined benefit, Fund management, Performance measurement

INTRODUCTION

The concept of pension has often been a subject of debate. This is primarily because pension issues are connected to many areas of economic and social policies, thus making their reform and administration a difficult task to undertake. Pension scheme was borne out of a desire to help households achieve an allocation of life resources by smoothing consumption over lifespan, thus providing payment that ensures that a retiree's standard of living is not much different from what was obtained in the period immediately preceding his retirement. This is achieved by transferring resources from one's working life to post-retirement when income dries up (Modigliani and Muralidhar, 2004). Reischaver (1988) in Ugwoke and Ogoegbunam (2013) stated that the primary reasons for a state to provide a pension scheme is the belief that many citizens are myopic, thus lacking the information necessary to enable them accumulate adequate resources for retirement. More so, there exists an absence of developed insurance markets owing to informal deficiencies and capital markets that put annuities beyond the reach of the average man. Moreover, among the low income group, their lifetime incomes may be too low to cover minimally adequate consumption levels during their retirement as well as their working years

The attention of policymakers in Nigeria is now on pension fund as a means of facilitating infrastructural development that will facilitate economic growth and development. In line with this, Ministry for Works, Power and Housing in Nigeria suggested that government should access the contributory pension for infrastructural development. The pension fund has grown to over N2 Trillion in 2016. Pension funds have been known to be one of the most important institutional investments in the world capital markets. The colonial administration introduced the administration of pension in Nigeria by 1951 through the legislation of the Pension Ordinance (retroactively from January 1946). The Ordinance provided the opportunity of gratuity and pension payment during retirement for retirees of public establishments (Ahmad,2006). In 1961, a scheme known as the National Provident Fund (NPF) was introduced as the foremost retirement benefit structure that caters to pension issues in private organizations and it made provision for single lump sum retirement benefit for the employees in the private organisations in Nigeria. In Nigeria, the pension system prior to 2004 was characterized with many problems which make the payment of the retirement benefit a failure in Nigeria. Koripamo-Agari (2009) and Yunusa (2009) pointed out that the major weaknesses of pension scheme was lack of adequate and timely budgetary provision coupled with rising life expectancy, increasing number of employers, poor implementation of pension

scheme in the private sector due to inadequate supervision and regulation of the system and too many private sector employees were not even covered by the form of pension scheme. These problems associated with payment of pension in Nigeria necessitated the government during Obasanjo regime to be reformed or reviewed which gave birth to the pension reform Act of 2004. Elumelu (2005) posits the 2004 Pension Reform Act established a uniform contributory; private sector managed and fully funded pension system for both the public and private sector of the country.

According to Edogbanya, (2013), the Pension Reform Act 2004 was also established to address the manifested loopholes in the old defined benefit pension scheme and provide adequate resources to retirees after retirement from the service. The large capital pool demands that there should be sound and uniform investment decision making to ensure that value is added to Retirement Saving Account (RSA) contribution. Investment is normally done in the presence of numerous risk mostly political, markets and economic in nature. Investment and market analysis of these Pension Fund Administrators (PFAs) are always propelled to ensure that there is safeguard and safety of these pension assets. The fund accounting organ of PFAs record every bit of inflow and outflow of pension assets in and out of the entity fund. In light of the foregoing, this study seeks to assess primarily, the impact of pension scheme fund on the economic growth of Nigeria. Economies require investments for sustainable growth and development. The capital market offers the avenue for mobilization and allocation of savings and investment critical to the sustainable growth and development of any economy (Alile 1984 & 1997; Anyanwu 1998; Equakun 2005; Osaze 2000 The capital market mobilizes the savings of economic agents like pension funds and allocate such to long-term investment in the economy by providing avenue for firms and governments to sell stocks and bonds for self-sustained economic growth (Iyola, 2004; Nwaolisa, Kasie&Egbunike 2013). The market is a major institution where long-term funds from the surplus sectors are mobilised, channelled to funding firms and government programmes that can propel economic growth and development (Chinwuba& Amos 2011; Nyong 1997; Osaze and Anao 1999; Ilaboya and Ibrahim 2004). The Nigerian stock market has continued to grow from the market capitalization of ₦5billion in 1981 comprising ₦3.1billion of government stock and ₦1.9billion equities which has increased to ₦5,248billion of government bond, ₦145billion of company's bond, ₦4.5billion of Exchange Trust Fund (ETF) which was introduced in 2011 and ₦11,477.7billion of equities with a total market capitalization of ₦16,875.1billion in December 2014 (CBN, 2014).

Despite the growth of the Nigerian capital market, the expected effect on long term projects like housing scheme, power, road and medical facilities are still underdeveloped. Nigeria still lacks basic infrastructural facilities such as good road networks, portable water, affordable housing scheme, proper education and facilities, adequate power supply and medical facilities (Tule, Okafor, Obioma, Okorie, Oduyemi, Muhammad & Olaoye 2015). As a result of the foregoing discussion, the objective of the paper is to examine relationship of pension fund and capital market development to ascertain the significance of the relationship. Capital market provides the mechanism for the mobilisation and channelization of surplus funds for firms and government to foster economic growth and development while pension fund is a long term retirement benefit for the employee, pension fund can be therefore be accessed to finance long term projects. So, the contribution of the study is that it takes into account the contributory pension fund period, study the association among pension fund and capital market development in Nigeria and fills the gap of few research studies from Nigeria on pension and capital market development. The empirical model used quarterly data over the periods of 2006-2018, consisting of total pension fund assets and market capitalisation as proxy for pension fund and capital market development respectively. The study employed the Auto-Regressive Distributive Lag (ARDL) co-integration procedure to capture the long-run relationship and rate at which disequilibrium is corrected.

LITERATURE REVIEW

Conceptual Issues

The Contributory Pension Scheme (CPS) was established in 2004 to cover public and private sector employees in Nigeria. Minimum of 8% is contributed by the employee and a minimum 10% is contributed by the employer from the employee's monthly emolument. The employer may contribute to the staffs but the total contribution should not be more than or equal to 20% of the employee's monthly emolument. The scheme allows for voluntary contributions to the retirement savings account. In addition to the retirement contributions, there employer should also maintain a group life insurance policy of not less than three folds of the annual emolument of employee. The Contributory Pension Scheme came into effect in Nigeria when the pension law was reformed in 2004 with the objectives as stated in PRA 2014 and PENCOM 2007 to include the establishment of identical rules, regulations and standards for management and payment of gratuity and pension for public and private sector workers; ensure that retiree receives his/her gratuity and pension regularly; enable employees the freedom to appoint their preferred licensed Pension Fund Administrator to manage their pension assets; support workers to save for their maintenance during retirement in order to reduce old-age poverty; and ensure strong regulatory and supervisory structure for the pension industry. Every employee opens a Retirement Savings Account with an accredited Pension Fund Administrator of choice and notifies the employer of the chosen administrator which specifies a Pension Fund Custodian for the employee. The employee's monthly contribution is remitted into the retirement savings account in 7 working days after the salary payment day. Upon receiving retirement savings, the pension fund custodian will notify pension fund administrator to credit retirement savings account of the employee.

Concept of Pension scheme fund

Pension represents the amount of money paid to retirees for economic maintenance for past services rendered to the organization (Ijeoma&Nwufo, 2015). Pension is a vital social security scheme for employees in both public and private sectors of the economy. 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 under development. According to Adebayo and Dada (2012) pension consists of lump sum payment paid to an employee upon his disengagement from active service. Pension provides an employee a level of economic benefit when he or she retires from employment. Moreover, Ilesami (2006) opines that pension schemes are social security maintenance plan for workers after their disengagements as employees through retirement. In addition, Ogwumike (2008) opined that over the years, existing pension schemes in Nigeria were bedevilled by many problems; the most prominent of these problems included the inability to pay pension to retirees as and when due, and the huge preliminary and non-preliminary costs associated with the implementation/administration of the schemes which evidently made them unsustainable.

Pension Fund Operator

Pension Fund Administrators (PFAs) and Pension Fund Custodians (PFCs) are the two (2) main pension fund operators as stipulated in PRA 2014. Additionally, to cater for the previous pension arrangement, the Nigeria Social Insurance Trust Fund (NSITF) and Closed Pension Fund Administrators continue to exist under the supervision of Pension Commission and subsequent employees shall join the new scheme PRA 2014. Employees are provided Personal Identity Number (PIN) after opening their retirement savings account with a licensed pension fund administrator. Pension fund administrator will manage and invest the pension fund assets, keep related books of account on pension fund assets, provide regular information (investment, returns, account balances, statements and performance indicators) to PENCOM and beneficiaries, pay gratuity and pension to retired employees (Amoo 2008 in Gunu 2012).

Pension Fund Custodian

The pension fund custodian is a duly licensed private institution that is in-charge of the pension funds and assets on behalf of the beneficiary. Their function includes receiving of the total pension contributed and remitted by the employer, notifying the pension fund administrator of the remittance. Also, settle the

transactions and perform other activities relating to the administration of pension fund investments on behalf of the pension fund administrator, provide data, information and statistical analysis of investments and returns to the PFA and PenCom.

The Concept of Capital Market

The capital market is basically a framework for exchange. In traditional Africa and in most other societies markets have precise locations, and trading activities takes place at precise times. The capital market is not really a market in the traditional sense. To Gaumnitz et al, (1995) capital market is a complex of institutions and mechanisms through which intermediate funds and long term funds are pooled and made available to business, government, and individuals already outstanding are transferred. Capital market is defined as the market where medium to long-term finance can be raised (Akingbohungbe, 1996).
The instruments traded in the market are government securities, corporate bonds and shares (stock). Capital market offers a variety of financial instruments that enable economic agents to pool, price and exchange risk. Through assets with attractive yields, liquidity and risk characteristics, it encourages saving in financial form. This is very essential for government and other institutions in need of long term funds (Nwankwo, 1999).

Empirical Review

The literature onimpact of the Pension scheme fund on the Nigerian Capital Market has been building up over time and this section reviews these existing studies in this regard. In their research, Meng and Pfau (2010) employed a panel regression model in investigating the impact of pension funds on capital market development across 32 developed and emerging market countries. The result revealed a positive relationship between pension fund and capital market development. However, their regression result went further to evidenced that the impact of pension fund on capital market development is only significant for countries with high financial development, and Pension funds do not impact capital market development in the countries with a low level of financial development. The results suggest that countries with 'low' financial development should reconsider the management approach and investment strategies for their pension funds. In Nigeria, Gunu and Tsado (2012), analyzed the contribution of pension scheme fund to economic growth in Nigeria for the year 2007-2010 using descriptive statistics, percentage and charts, they found that gradual increase in the proportion of pension fund to total market capitalization is 2.36% in 2007 and raised 4.5% in 2010, which is an indication that pension scheme fund has enhance mobilization of saving which translate to economic growth. This also agrees with submissions of the other studies.

Contrary to the findings of the other studies, Madukwe, Obinna Darlington, (2012) investigated the Effect of Pension scheme fund on Capital Market in Nigeria. Thetime series data used in this study were for a period of seven years (2006 - 2012). To capture the objective of thestudy, the researcher employed Pairwise Correlation model to determine the significance of the relationshipbetween the Pension Assets under Management (AUM) and Market Capitalization (MC), and Local OrdinaryShare (LOS) of the Pension scheme fund and Market Capitalization (MC) in Nigeria. The Coefficient ofDetermination (r2) was used to determine the actual effect of Pension Assets under Management (AUM) on MarketCapitalization (MC). It was also used to determine the effect of Local Ordinary Share (LOS) of the Pension scheme fund on Market Capitalization in Nigeria. The econometric results indicated that AUM had nosignificant effect on MC in Nigeria. The econometric result also evidenced that LOS of the Pension scheme fund had no significant effect on MC as majority of the pension fund asset is held by Federal Government as bond. The insignificance effect of AUM on MC could also be as a result of economic meltdown that strikes theNigeria economy between the periods of 2008 to 2010. From the result of the analysis, the researcher discoveredthat Pension scheme fund had no significant impact on Capital Market in Nigeria. It was establishedthat the pool of funds accumulated by the national Pension scheme fund were invested and spread amongdifferent assets, but it had no significant effect on the growth of the Nigeria Capital Market during the periodunder review.

Sule and Ezugwu (2009) sought to evaluate whether or not the application of the Pension scheme fund has an impact on employee retirement benefits of quoted firms in Nigeria. In line with this objective, a hypothesis was formulated. The population of the study was the one hundred and eighty-two (182) firms quoted on the first-tier market of the Nigeria Stock Exchange and ten (10) quoted firms selected as sample size based on judgmental sampling. The study utilized data from secondary source. Data were obtained from the annual accounts and reports of the (10) quoted firms that make up the sample of the study. The time frame for the study was ten years, covering the period 1996-2005. The technique of analysis in the study was the Student's t – test for paired observations. They concluded that even though the application of the pension scheme fund has positive impact on employee retirement benefits of quoted firms in Nigeria, the study recommends an effective monitoring/ supervision and enforcement of the provisions of the Pension Reform Act, 2004.

Madukwe (2015) investigated the Effect of Pension scheme fund on Capital Market in Nigeria. The time series data used in this study were for a period of seven years (2006 - 2012). To capture the objective of the study, the researcher employed Pairwise Correlation model to determine the significance of the relationship between the Pension Asset under Management (AUM) and Market Capitalization (MC), and Local Ordinary Share (LOS) of the Pension scheme fund and Market Capitalization (MC) in Nigeria. The Coefficient of Determination (r2) was used to determine the actual effect of Pension Asset under Management (AUM) on Market Capitalization (MC). It was also used to determine the effect of Local Ordinary Share (LOS) of the Pension scheme fund on Market Capitalization in Nigeria. The econometric results indicated that AUM had no significant effect on MC in Nigeria. The econometric result also evidenced that LOS of the Pension scheme fund had no significant effect on MC as majority of the pension fund asset is held by Federal Government as bond. The insignificance effect of AUM on MC could also be as a result of economic meltdown that strikes the Nigeria economy between the periods of 2008 to 2010. From the result of the analysis, the researcher discovered that Pension scheme fund had no significant impacted on Capital Market in Nigeria. It was established that the pool of funds accumulated by the national Pension scheme fund were invested and spread among different assets, but it had no significant effect on the growth of the Nigeria Capital Market during the period under review.

METHODOLOGY

The study used simple linear regression to define the dependent variables using the explanatory variables with the t-test statistics used to test the study's hypotheses. Data analysis here was done with the aid of Econometric view (E-views), version 9. Furthermore, descriptive statistics was utilized to summarize the collected data in a clear and understandable way using numerical approach. The study further adopts the use of correlation analysis to ascertain the relationship between the dependent and explanatory variables, and to investigate the direction of such relationship.

RESULT AND DISCUSSION

In a bid to undertake this study, various descriptive statistics of the data used were examined. The descriptive statistics of data series gives information about simple statistics such as mean, median, minimum value, maximum value and the distribution of the sample measured by skewness, kurtosis and the Jaque-Bera statistic. Table 4.2 presents the descriptive statistics of data employed in this study. It is worthy of note that all data series used for econometric investigation ranged from 1990 to 2015.

Table 4.1: Descriptive Statistics

	MCAP	ASI	VOT	PS
Mean	5100.515	208253.5	896437.8	77.64057
Median	1062.100	163150.6	536783.5	45.62303
Maximum	19077.40	605096.4	3535631.	346.2200
Minimum	16.30000	5083.900	39270.00	0.000000

Std. Dev.	6454.912	180130.1	1010800.	88.47026
Skewness	0.949897	0.693518	1.248669	1.220450
Kurtosis	2.390747	2.501211	3.726479	4.224166
Jarque-Bera	4.312104	2.353713	7.328181	8.077953
Probability	0.115781	0.308246	0.025627	0.017615
Sum	132613.4	5414590.	23307382	2018.655
Sum Sq. Dev.	1.04E+09	8.11E+11	2.55E+13	195674.7
Observations	26	26	26	26

Source: *Researcher's Computation Using E-view, Version 9*

Table 4.2 shows that all the series display a high level of consistency as their mean and median values are perpetually within the maximum and minimum values of these series. Besides, the standard deviation revealed that actual data in the series are not really different from their mean value. The skewness and kurtosis statistics provide useful information about the symmetry of the probability distribution of various data series as well as the thickness of the tails of these distributions respectively. These two statistics are particularly of great importance since they are of use in the computation of Jarque-Bera statistic, which is used in testing for the normality or asymptotic property of a particular series. As a basic assumption usually made in econometric modeling, testing for the normality or asymptotic property of data series becomes necessary since most probability distribution and other test statistics, such as t, F and x^2 are based on this assumption. From Table 4.2, all data are normally distributed at either 1% or 5% level of significance. The normality assumption is further buttressed by the nearness of the mean and median values for these series. The closer the mean and median values of a data series, the greater the probability that such series will be normally distributed.

Unit Root Test

It is not unusual to discover that most time-series variables are non-stationary in their levels and that several of these variables are therefore, represented in their first difference. These time-series are therefore said to be integrated of order one and are denoted by I(1). The level of some variables can be so large or small that they not revert to their mean as expected, hence the need for stationarity test which is also known as unit root test. In view of the fact that the stationarity of a time series affects the consistency of the estimates of the error correction model, it becomes necessary to examine the order of integration of data employed in this study. In testing for the stationarity of variables, the Augmented Dickey-Fuller unit root test was adopted. The Augmented Dickey-Fuller test adopted lag 1. The a priori expectation when using the ADF test is that a variable is stationary at zero level of stationary I(0) when the value of the ADF test statistic is less than the critical value at 1%, 5% and 10%. The table below shows that the ADF test statistics for the entire variable are less than the critical values of 1%, 5% and 10% for all the variables. This implies that all the variables are stationary at level zero (0).

Table 4.2: Summary Result of ADF Test

Variables	ADF Test	Mackinnon 1%Critical Values	Mackinnon 5%Critical Values	Mackinnon 10 % Critical Values	Order of Stationarity	Remark
MCAP	-0.077976	-3.724070	-2.986225	-2.632604	1(0)	Stationary
ASI	-1.473013	-3.724070	-2.986225	-2.632604	I (0)	Stationary
VOT	-2.099767	-3.724070	-2.986225	-2.632604	1(0)	Stationary
PS	1.465572	-3.769597	-3.004861	-2.642242	1(0)	Stationary

Source: *Researcher's Computation Using E-view, Version 9.*

Regression Result of the Estimated Models
Model 1
$MCAP_t = 249.1873 + 62.48444PS_t$
Table 4.3: Ordinary Least Square (OLS) Result.
Dependent Variable: MCAP
Method: Least Squares
Date: 01/22/17 Time: 19:11
Sample: 1990 2015
Included observations: 26

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PS	62.48444	7.689434	8.126014	0.0000
C	249.1873	895.2168	0.278354	0.7831

R-squared	0.733428	Mean dependent var	5100.515
Adjusted R-squared	0.722321	S.D. dependent var	6454.912
S.E. of regression	3401.431	Akaike info criterion	19.17558
Sum squared resid	2.78E+08	Schwarz criterion	19.27236
Log likelihood	-247.2826	Hannan-Quinn criter.	19.20345
F-statistic	66.03210	Durbin-Watson stat	1.835590
Prob(F-statistic)	0.000000		

Source: *Researcher's Computation Using E-view, Version 9.*

The regression line as shown in the result above reveals an intercept of -249.1873. This simply implies that when all the other variables are not considered, MCAP is insignificantly estimated at 249.1873 occasioned by factors not incorporated in this study. However, the estimated model reveals a positive coefficient of 62.48444 in respect to pension scheme fund (PS) indicating a positive impacts on the market capitalization (MCAP) of Nigeria. This implies that, a unit change in value pension scheme fund (PS) will lead to a significant increase in the market capitalization (MCAP) by 62.48444. On the ground of apriori expectation, the positive relationship between the slope coefficient of PS (b_1) and the intercept (b_0) goes in line with apriori expectation. The implication is that, pension scheme fund positively influence the market capitalization of Nigeria.

The coefficient of determination (R^2) is estimated at 0.733428. This suggests that 73.3% of the variation in market capitalization (MCAP) can be explained by the explanatory variable pension scheme fund (PS) while the remaining 26.7% can be explained by other variables not included in the model. Our indicator of generalizability is the adjusted R Square value, which is adjusted for the number of variables included in the regression equation. This is used to estimate the expected shrinkage in R Square that would not generalize to the population because our solution is over-fitted to the data set (Gujarati &Sangeetha, 2007).If the adjusted R Square value is much lower than the R Square value, it is an indication that our regression equation may be over-fitted to the sample, and of limited generalizability.For the problem we are analyzing, R Square = 0.733428 or 73.3% and the Adjusted R Square = 0.722321 or 72.2%. These values are very close (i.e. 73.3-72.2 = 1.1), thus anticipating minimal shrinkage based on this indicator (Gujarati &Sangeetha, 2007).

Also, the F-statistics which is used to test for stability in the regression parameter estimate when sample size increases, as well as the overall significance of the estimated regression model is estimated at 66.03210. This indicates that the predictor variable was as a whole contributing to the variation in the dependent variable and that there exist a statistically significant relationship at 0.000000 (see prob f-stat in table 4.3) between the market capitalization and the predictor variable (PS). This indicates that the overall equation is significant at 0.000% which is below the 5% generally acceptable level of significant

in social sciences. This further indicates that the econometric model is fit at 5%. Finally, the Durbin-Watson statistics is estimated at 1.835590. This indicates that the assumption of independent error is not tenable for this study since this figure is less than 2. This shows that the model is not suffering from incidence of autocorrelation so there is no possibility of spurious regression (Durbin & Watson, 1951).

Model 2

$ASI_t = 857113.12 + 1578.303PS_t$

Table 4.4: Ordinary Least Square (OLS) Result

Dependent Variable: ASI
Method: Least Squares
Date: 01/22/17 Time: 19:21
Sample: 1990 2015
Included observations: 26

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PS	1578.303	262.5570	6.011276	0.0000
C	85713.12	30567.33	2.804076	0.0098

R-squared	0.600901	Mean dependent var	208253.5
Adjusted R-squared	0.584272	S.D. dependent var	180130.1
S.E. of regression	116142.4	Akaike info criterion	26.23683
Sum squared resid	3.24E+11	Schwarz criterion	26.33360
Log likelihood	-339.0787	Hannan-Quinn criter.	26.26469
F-statistic	36.13543	Durbin-Watson stat	1.226881
Prob(F-statistic)	0.000003		

Source: *Researcher's Computation Using E-view, Version 9.*

The regression line as shown in the result above reveals an intercept of -85713.12. This simply implies that when all the other variables are not considered, ASI is significantly estimated at 85713.12 occasioned by factors not incorporated in this study. More so, the estimated model reveals a positive coefficient of 1578.303 in respect to pension scheme fund (PS) indicating a positive impacts on the all share index (ASI) of Nigeria. This implies that, a unit change in pension scheme fund (PS) will lead to a significant increase in the all share index (ASI) by 1578.303. On the ground of apriori expectation, the positive relationship between the slope coefficient of PS (b_1) and intercept (b_0) goes in line with apriori expectation. The implication is that, pension scheme (PS) positively influence the all share index of Nigeria.

The coefficient of determination (R^2) is estimated at 0.600901. This suggests that 60.1% of the variation in ASI can be explained by the explanatory variable pension scheme fund (PS) while the remaining 39.9% can be explained by other variables not included in this model. Our indicator of generalizability is the adjusted R Square value, which is usually adjusted for the number of variables included in the regression equation. This is used to estimate the expected shrinkage in R Square that would not generalize to the population because our solution is over-fitted to the data set (Gujarati &Sangeetha, 2007).If the adjusted R Square value is much lower than the R Square value, it is an indication that our regression equation may be over-fitted to the sample, and of limited generalizability.For the problem we are analyzing, R Square = 0.600901 or 60.1% and the Adjusted R Square = 0.584272 or 58.4%. These values are very close, thus anticipating minimal shrinkage based on this indicator (Gujarati &Sangeetha, 2007). Also, the F-statistics which is used to test for stability in the regression parameter estimate when sample size increases, as well as the overall significance of the estimated regression model is estimated at 36.13543. This indicates that the predictor variable was as a whole contributing to the variation in the

dependent variable and that there exist a statistically significant relationship at 0.000003 (see prob f-stat in table 4.4) between the all share index and the predictor variable pension scheme fund (PS). This indicates that the overall equation is significant at 0.000% which is below the 5% generally acceptable level of significant in social sciences. This further indicates that our econometric model is fit at 5%. Finally, the Durbin-Watson statistics is estimated at 1.226881. This indicates that the assumption of independent error is not tenable for this study since this figure is not more than 2 which is the standard value. This shows that the model is not suffering from incidence autocorrelation so there is no possibility of spurious regression (Durbin & Watson, 1951).

Model 3

$VOT_t = 337225.7 + 7202.575PS_t$

Table 4.5: Ordinary Least Square (OLS) Result

Dependent Variable: VOT
Method: Least Squares
Date: 01/22/17 Time: 19:23
Sample: 1990 2015
Included observations: 26

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PS	7202.575	1810.393	3.978460	0.0006
C	337225.7	210769.0	1.599978	0.1227

R-squared	0.397411	Mean dependent var	896437.8
Adjusted R-squared	0.372303	S.D. dependent var	1010800.
S.E. of regression	800829.5	Akaike info criterion	30.09849
Sum squared resid	1.54E+13	Schwarz criterion	30.19526
Log likelihood	-389.2803	Hannan-Quinn criter.	30.12636
F-statistic	15.82814	Durbin-Watson stat	1.600247
Prob(F-statistic)	0.000556		

Source: *Researcher's Computation Using E-view, Version 9.*

The regression line as shown in the result above reveals an intercept of 337225.7. This simply implies that when all the other variables are not considered, VOT is significantly estimated at 337225.7 occasioned by factors not incorporated in this study. More so, the estimated model reveals a positive coefficient of 7202.575 in respect to pension scheme fund (PS) indicating a positive impacts on the all share index (ASI) of Nigeria. This implies that, a unit change in pension scheme fund (PS) will lead to a significant increase in volume of transactions (VOT) by 7202.575. On the ground of apriori expectation, the positive relationship between the slope coefficient of PS (b_1) and intercept (b_0) goes in line with apriori expectation. The implication is that, pension scheme (PS) positively influence the volume of transactions (VOT) of Nigeria. The coefficient of determination (R^2) is estimated at 0.397411. This suggests that 39.7% of the variation in VOT can be explained by the explanatory variable pension scheme fund (PS) while the remaining 60.3% can be explained by other variables not included in this model.

Our indicator of generalizability is the adjusted R Square value, which is usually adjusted for the number of variables included in the regression equation. This is used to estimate the expected shrinkage in R Square that would not generalize to the population because our solution is over-fitted to the data set (Gujarati &Sangeetha, 2007).If the adjusted R Square value is much lower than the R Square value, it is an indication that our regression equation may be over-fitted to the sample, and of limited

generalizability.For the problem we are analyzing, R Square = 0.397411 or 39.7% and the Adjusted R Square = 0.372303 or 37.2%. These values are very close, thus anticipating minimal shrinkage based on this indicator (Gujarati &Sangeetha, 2007). Also, the F-statistics which is used to test for stability in the regression parameter estimate when sample size increases, as well as the overall significance of the estimated regression model is estimated at 15.82814. This indicates that the predictor variable was as a whole contributing to the variation in the dependent variable and that there exist a statistically significant relationship at 0.00055 (see prob f-stat in table 4.4) between the all share index and the predictor variable pension scheme fund (PS). This indicates that the overall equation is significant at 0.001% which is below the 5% generally acceptable level of significant in social sciences. This further indicates that our econometric model is fit at 5%. Finally, the Durbin-Watson statistics is estimated at 1.600247. This indicates that the assumption of independent error is not tenable for this study since this figure is not more than 2 which is the standard value. This shows that the model is not suffering from incidence autocorrelation so there is no possibility of spurious regression (Durbin & Watson, 1951). This study assesses the impact of pension scheme fund on the performance of the Nigerian capital marketover the period of 1990-2015, using the Ordinary Least Square Regression (OLS) in examining the variables. The empirical results are summarily put as follows; Pension scheme fund (PS) significantly impact on the market capitalization (MCAP) of the Nigerian capital market; Pension scheme fund (PS) significantly impact on the all share index (ASI) of the Nigerian capital market and; Pension scheme fund (PS) significantly impact on the volume of transaction (VOT) of the Nigerian capital market.

CONCLUSION AND RECOMMENDATION

The study analyzes the relationship between pension scheme fund and the Nigerian capital market over the period of 1990 to 2015. The empirical findings shows that pension fund scheme significantly impact on Nigeria's capital market. The result shows that pension scheme fund (PS) significantly impact on the market capitalization (MCAP), all share index (ASI), volume of transaction (VOT) of the Nigerian capital market. It should be taken into consideration that Nigerian's capital market growth is not only influenced by pension scheme but by other factors that were not put into consideration in this research, such factors are shares, bonds etc. This study unequivocally concludes that pension scheme fund has the potential to assist in the diversification of Nigerian capital market revenue sources, thereby providing enough funds for the market growth and development. Based on the findings of this study, the following recommendations are hereby made:

i. The use of Information Communication Technology should be adopted (e-channel payments) for expansion of collection and disbursement methods.
ii. The Pension Fund Administrators (PFAs) should actively engage cooperatives and other bodies in order to lean the best ways for serving low income clients or civil servants'

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