Pension Fund Characteristics and Financial Performance in Nigeria

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Abstract: - The objective of this study was to determine the effect of selected pension fund characteristics on the financial performance of pension funds in Nigeria. The dependent variable was financial performance measured by Unit Price while the independent variables were Age of the fund, Expenditure of the fund, Contribution Density and Idle Contributions.

The study used secondary data obtained from 11 pension fund Administrators and the National Pension Commission for a period seven years 2010 – 2016. This study made use of panel data and used multiple regression analysis to use analyze the data with the help of the Eviews9 statistical package.

The model proved to be statistically significant with a combined probability of F-statistics of 0.0000 which is below the adopted level of significance of 5%. Age of the fund was found to have a positive significant effect on financial performance of the fund with a p-value of 0.0000. Expenditure was proven to have an insignificant effect on financial performance with a p-value of 0.4819. Contribution Density was found to have a negative significant effect on financial performance with a p-value of 0.0002. Idle Contributions where proven to have a significant positive effect on the financial performance of pension funds with a p-value of 0.0131.

It was concluded that age, contribution density and idle contributions had significant effects on financial performance measured by unit price while expenditure did not have a significant effect on financial performance of pension funds in Nigeria. The study recommends that older pension funds, pension funds that manages smaller contributions and pension funds with ample idle contributions share are more likely to have better financial performance in Nigeria.

Keywords: Pension, pension funds, Pension Fund Administrators (PFAs), Contribution density, idle contributions.

I. INTRODUCTION

As at December 2017, Nigeria had N7.5 trillion of pension funds. One year before that, as at December 2016, Nigeria’s pension assets stood at N6.1 trillion (Odey, 2018). This means that pension funds grew about 18% in just one year. Nigerian pension funds are steadily increasing which is causing the rapid expansion of the pension industry in Nigeria. Pension funds play a very important role in the Nigerian Economy. They are an important stimulus to capital markets as they are reinvested in the different sectors of the economy such as Domestic shares, Federal Government of Nigeria Securities, Treasury bills, Agency Bonds. The funds are also invested in foreign shares. Pension funds have stimulated the development of capital markets in a way similar to banks.(Oluoch, 2013). Biobele (2015) also recognised that pension funds are vital for advancing the economy through the investment of current retirement savings.

In Nigeria, pension funds are privately managed by Pension Fund Administrators (PFAs) whose activities are monitored by the National Pension Commission (PenCom). In the past, Pension schemes have always been non-contributory and came from budgetary allocations. (Fapohunda, 2013). Due to the complete reliance on administration, regulation and funding by the government a lot of issues arose such as diversion of remitted or allocated fund, existence of ghost pensioners on the pension’s payroll, non-availability of records, unskilled administration, inadequate funding and delay or lack of payment after retirement (Sule & Ezugwu, 2009). The Pension Reform Act 2004 was created to address these issues by introducing introduced the Contributory Pension Scheme which is funded through monthly deductions from the employees’ salaries and the contributions by the employer.

It is important for pension funds to be managed in the most effective way possible so that they can yield good return on investments for pensioners in the future. Pension funds need to measure their financial performance against long-term optimal benchmarks (Oluoch, 2013). There are certain pension fund characteristics which indicate good financial performance of pension funds. This study hopes to address this problem by giving all interested parties insight on the financial performance of pension funds and the pension fund characteristics that have an impact on the financial performance of pension funds in Nigeria. The overall objective of this study was to establish the impact of selected pension fund characteristics on the financial performance of pension funds in Nigeria.

II. LITERATURE REVIEW

The new Contributory Pension Scheme introduced Individual Accounts called Retirement Savings Accounts (RSA) for employees and each employee is required by law to open a RSA in his name with a Pension Fund Administrator (PFA) of his choice. The financial performance of this RSA funds is what is being considered here.
These RSA funds have their own separate accounts where all their transactions are treated and recorded and at the end of the accounting period, final accounts are prepared for the pension funds. After the review of the limited information on the financial performance of pension funds, the following variables were used as the selected pension fund characteristics; Age of fund, expenditure of funds, density of contribution and the amount of idle contribution.

**Age of the fund**

Financial performance may be attributed to the age of the pension fund i.e. how long the fund has been in existence. In this case, the Age of the pension fund is synonymous with the age of the Pension Fund Administrators managing the fund. Pension funds are expected to take a while to become profitable. This is because they deal mostly in medium to long-term investments. Tijjani (2014) in his work established that the older a Pension Fund Administrator is, the more financially sustainable it is expected to be. Although the financial performance of some funds would have declined over time due to poor management. Olouch (2013) and Kigen (2016) used exit age as an independent variable, which influenced the financial performance of pension funds in Kenya. So we hypothesize;

H01: Age has no significant effect on pension funds financial performance in Nigeria.

**Expenditure of the fund**

This refers to expenses incurred for the administration and management of the fund. Expenses that may accrue specifically to the fund; professional valuation fees, trustee fees and custodial fees, fees for investment management, costs of records retention, benefit calculation, member communications, legal or consulting fees, costs to carry out governance regulations, Audit fees, bank charges and other professional costs approved by the National Pension Commission (PenCom, 2018).

Kigen (2016) in his research work looked at the effect of administrative and investment costs on the performance of pension funds in Kenya. Tijjani (2012) stated that for Pension Fund Administrators to maintain good finances over a long period of time, they must ensure that their income always outweighs the expenses. So we hypothesize;

H02: Expenditure has no significant impact on pension funds financial performance in Nigeria.

**Density of contributions**

Kigen (2016) stated that the density of contributions received by the pension funds from its contributors is a very important determinant of its financial performance. Olouch (2013) also observed that density of contributions is an essential factor that affects pension benefits. The new contributions for the employee and employers according to the Pension Reform Act of 2014 are 8% and 10% respectively. Large contributions provide the PFA with Economies of scale. Kigen (2016) found that there was a positive and significant relationship between contributions and performance pension funds. Olouch (2013) however found that the contributions did not have an effect on the performance pension funds. So we hypothesize;

H03: Density of contributions has no significant effect on pension funds financial performance in Nigeria.

**Idle Contributions**

This refers to the contributions of the beneficiaries of the fund that have not been invested and as a result, are earning no interest or investment income. In countries like Nigeria where there is constant inflation, the purchasing power of the idle contributions reduce in value over time. On the contrary, it is also very important that a substantial amount of cash is readily available for the sake of liquidity for the payments of pension benefit and other commitments. A fund manager may also choose not to invest in order to avoid investment risks, but the presence of large amount of idle contributions may not be considered good investment strategy. (Pension and Investment, 2015). So we hypothesize;

H04: Idle contributions have no significant impact on pension funds financial performance in Nigeria.

**Financial Performance of the Fund**

Unit price is used in this study as the measure of performance. Unit price a standard measure of performance of funds in the pension industry and a common concept in fund accounting. It is calculated as the net assets value of the pension funds divided by the number of units held in the pension fund. It is calculated daily to account for changes in net asset value caused by withdrawals from the fund and changes in market values of the underlying assets. Unit price can essentially be defined as an index reflecting the return on the fund assets. (Demody and Paino, 2005).

**Theoretical review**

This study made use of the following theories:

1. **The Stakeholder Theory**

This theory was founded by Edward Freeman in 1984. Stakeholders are groups and individuals who benefit from or are harmed by the decisions and actions of an Organization. They include shareholders and other financiers of the business, suppliers and creditors, the workers, consumers and the community. (Fontaine & Stefan, 2016). The main idea of the stakeholder theory is that the organization should be seen as a collection of stakeholders with the purpose of managing the needs and interests. In the case of a Pension Fund Administrator, the major stake holders are the pensioners and contributors to the retirement savings accounts.

2. **The Fund Theory**

Fund accounting theory was first established by the economist William Joseph Vatter in 1947 in his book “The Fund Theory
of Accounting and Its Implications for Financial Reports”. According to the Dictionary of Accounting Terms, fund theory is a system applied to government organizations as well as non-profit bodies such as charitable organizations and hospitals. The fund includes a group of assets on which restrictions are placed as they are intended for specific purposes. Each fund has its assets restricted for concrete purposes and liabilities determine restrictions against those assets. (Goncharenko, 2013).

3. Theory of Financial Intermediation

The theory of financial intermediation was first traced to the 1960’s in the work of Gurley and Shaw (Kigen, 2016). A financial intermediary is an entity that acts as the middleman between two parties in a financial transaction. It is important that the role of pension funds as intermediaries is examined as well as the way they enhance capital markets. The enthusiasts of current theory of intermediation stated that although pension funds may not offer liquid liabilities, they play an essential part by influencing the structure of securities markets and as a result they enhance the efficiency of the financial systems.

4. Theory of Immunization

Redington (1952) uses the word “immunization”, to indicate the investment of the assets in a manner which the existing business will be immune to a general change in the rate of interest (De Felice, 2000). Tijjani (2014) observed in his work that the supporters of this theory Lucas and Zeldes (2006) theorize that, a pension fund should have enough assets to support liabilities in such a way that the financial factors that have impact on the value of the liabilities will affect the assets in an identical manner. This theory proposes that funds should be “immunized” against loss. This simply means backing the liabilities with such a way that the fund will be protected from the occurrence of any loss.

Empirical review

Tijjani (2012) carried out a study on the determinants of financial sustainability of Pension Fund Administrators in Nigeria. The research work was carried out in an attempt to determine factors that affect financial sustainability of Pension Fund Administrators in Nigeria. The study focused on seven (7) variables which were believed by the researcher to determine the financial sustainability of pension funds. The variables included Age, Size, Net income, contribution, GDP, Board members’ composition and Board size. After the analysis of data, the researcher revealed that five of the seven variables namely; age, size, net income and board size where found to have a positive relationship and therefore a significant impact on the financial sustainability of pension funds.

Olouch (2013) conducted a study on the determinants of the financial performance of pension funds in Kenya considering three factors. The three variables studied were the age of contributors, the contributions received by the pension fund and the net value of assets of the pension funds. The findings from the research indicated that there was not a strong relationship between value of pension fund assets and the performance of the fund in Kenya. This implies that a larger asset base does not automatically means better performance of the fund. The other variables; Age of contributors and the contributions also had a weak and statistically insignificant impact on the performance of the pension funds.

Kigen (2016) conducted a study on the effect of fund size on the financial performance of pension funds in Kenya. His research covered a period of 5 years (2011-2015). The sub-variables used to represent the independent variable fund size were six in number namely; contribution density, accumulated fund assets, number of members, administration costs and investment costs. From the results, it was found that administrative expenses, investment expenses, pension contribution and accumulated fund assets all had significant effect on the financial performance of pension funds in Kenya.

Another work regarding the financial performance of pension funds was done by Were, Iravo and Wanjala (2017). The study sought to determine the effect access to capital, the impact of firm size, retained earnings and leverage has on the financial performance of Pension schemes in Kenya. The findings of the research revealed that access to capital, leverage, retained earnings and firm size are the main factors that determine of financial performance of pension funds in Kenya.

Figure 1.1 Conceptual Frameworks

in this study revealed that fund size has a significant effect on the financial efficiency of Kenyan pension funds. The research work unveiled that smaller funds were observed to be more financially efficient than the larger funds. On the other hand, fund size did not significantly influence the operational efficiency of pension funds.
III. METHODOLOGY

This research design used in this study was Ex-post Facto research design because the investigation started after the fact has occurred without interference from the researcher. The population of the study consists of 21 pension fund administrators operating in Nigeria. The study covered a period of seven years, 2010 to 2016. A sample of the funds managed by 11 Pension Funds Administrators in Nigeria was studied using the following criteria: Age, Expenditure, Density of contributions and Idle contributions. Judgement sampling also known as purposive sampling was used to arrive at the 11 PFAs chosen. The study used secondary data only.

The instruments of data collection were annual reports of the Retirement Savings Accounts (RSA) published by the Pension Fund Administrators that manage the Retirement Savings Accounts (RSA) fund. Data was extracted from the statement of income and expenditure for the year and the statement of assets and liabilities as at the year end. A multiple regression model was adopted in the study in order to investigate empirically, the pension fund characteristics that determine financial performance of pension fund in Nigeria.

Model Specification

The study used the following conceptual model:

\[ Y_{it} = \alpha + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \beta_4 x_{4it} + \ldots + \beta_n x_{nit} + \varepsilon_{it} \]

\[ \text{UnitPrice}_{it} = \alpha + \beta_1 \text{Age}_{it} + \beta_2 \text{Expenditure}_{2it} + \beta_3 \text{ContributionDensity}_{3it} + \beta_4 \text{IdleContribution}_{4it} + \varepsilon_{it} \]

Where:

- \( \alpha \) = Constant Term
- \( \beta_1, \beta_2, \beta_3 \) and \( \beta_4 \); are regression coefficients or parameters;
- \( x_1, x_2, x_3 \) and \( x_4 \); are independent variables;
- \( Y \) = the dependent variable i.e. Financial Performance and will be measured by the Unit Price. Unit price the ratio of the Net total assets of a Pension fund divided by the number of units of the pension funds during a financial year. It is calculated as: Unit Price= Net Asses Value/ no of units
- \( x_1 \) = Age of fund
- \( x_2 \) = Expenditure
- \( x_3 \) = Contribution Density
- \( x_4 \) = Idle contributions
- \( \varepsilon \) = Errors that may occur
- \( i \) = is a notation for the individual PFAs
- \( t \) = the time period

Table 1.1 Variables and measurements

<table>
<thead>
<tr>
<th>S/NO</th>
<th>CATEGORY OF VARIABLES</th>
<th>VARIABLES</th>
<th>INDICATOR</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Independent variable</td>
<td>Age of fund</td>
<td>No. of years fund has been in existence</td>
<td>Pencom records</td>
</tr>
<tr>
<td>2.</td>
<td>Independent variable</td>
<td>Expenditure of fund</td>
<td>Recorded expenditure of the fund during the year</td>
<td>Fund Income and expenditure statement for the year</td>
</tr>
<tr>
<td>3.</td>
<td>Independent variable</td>
<td>Density of contribution</td>
<td>Amount of contribution in the financial records during the year</td>
<td>Fund Statement of Assets and Liabilities at year end</td>
</tr>
<tr>
<td>4.</td>
<td>Independent variable</td>
<td>Idle contributions</td>
<td>Cash at bank in the financial records during the year</td>
<td>Fund Statement of Assets and Liabilities at year end</td>
</tr>
<tr>
<td>5.</td>
<td>Dependent variable</td>
<td>Financial performance</td>
<td>Unit price of the pension fund at year end. Calculated at Net Asset Value/ no of Units</td>
<td>Fund Statement of Assets and Liabilities at year end</td>
</tr>
</tbody>
</table>

IV. DATA PRESENTATION AND ANALYSIS

The model of the study used five variables to test the four hypotheses raised for the research work. One dependent variable (Financial Performance) and four independent variables – Age, Expenditure (EXP), Contribution Density (CONT) and Idle Contributions (IDLEC) were used for the model. The results of descriptive analysis for these variables employed are given in Table 4.1.

Table 4.1 Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>UNIT_PRICE</th>
<th>AGE</th>
<th>EXP</th>
<th>CONT</th>
<th>IDLEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.027429</td>
<td>8.363636</td>
<td>3.95E+09</td>
<td>1.13E+11</td>
<td>2.07E+09</td>
</tr>
<tr>
<td>Median</td>
<td>1.967600</td>
<td>8.000000</td>
<td>1.71E+09</td>
<td>5.22E+10</td>
<td>1.18E+09</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.108100</td>
<td>12.00000</td>
<td>4.08E+10</td>
<td>9.74E+11</td>
<td>1.57E+10</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.210000</td>
<td>3.000000</td>
<td>1.06E+08</td>
<td>1.91E+09</td>
<td>1.10E+08</td>
</tr>
</tbody>
</table>
The Standard deviation results indicate that pension schemes had unit prices around the same range. This result also indicates that there is a large variance in terms of contribution among the larger and smaller pension funds. On the basis of skewness and kurtosis, Unit Price and Age seem to be normally distributed.

The results of the Jarque Bera test indicated that all variables were normally distributed. The p-values in the table are all above the 5% significance level. Therefore the null hypothesis that says the series is normally distributed is will not be rejected.

Table 1.2 Normality test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Jarque-Bera</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIT_PRICE</td>
<td>2.808728</td>
<td>*0.245523</td>
</tr>
</tbody>
</table>

Multiple regression analysis was made use of hence, Hausman test was conducted to determine whether effect model or random effect model should be used. The probability of chi-square was 0.000, which is less than the 5% significant level therefore fixed effect model will be appropriate for this analysis.

Table 1.3 gives the summary of the result of the regression analysis for the fixed effect model:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std Error</th>
<th>t-statistics</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>3.058576</td>
<td>0.896762</td>
<td>3.410688</td>
<td>0.0011*</td>
</tr>
<tr>
<td>AGE</td>
<td>0.210682</td>
<td>0.011675</td>
<td>18.04570</td>
<td>0.0000*</td>
</tr>
<tr>
<td>LEXP</td>
<td>0.047349</td>
<td>0.066918</td>
<td>0.707570</td>
<td>0.4819</td>
</tr>
<tr>
<td>LCONT</td>
<td>-0.381328</td>
<td>0.096753</td>
<td>-3.941267</td>
<td>0.0002*</td>
</tr>
<tr>
<td>LIDLEC</td>
<td>0.093964</td>
<td>0.036793</td>
<td>2.553858</td>
<td>0.0131*</td>
</tr>
</tbody>
</table>

R-squared: 0.976222
Adjusted R-squared: 0.970853
S.E. of regression: 0.078351
F-statistic: 181.8182
Prob(F-statistic): 0.000000*
Obs: 77

* indicates significance at 5% (i.e. p<0.05) Source: Researcher’s computation using Eviews7. Dependent Variable: UNIT_PRICE

The model

\[
UNIT_{\text{PRICE}}_\text{it} = \beta_0 + \beta_1 \text{AGE}_\text{it} + \beta_2 \text{EXP}_\text{it} + \beta_3 \text{CONT}_\text{it} + \beta_4 \text{IDLEC}_\text{it} + \epsilon_\text{it}
\]

From Table 1.3, The adjusted R-square shows that about 97% of the variations in UNIT_Price can be attributed to the
pension fund characteristics and the remaining 3% variations are as a result of other factors that are not included in the model. The regression model is statistically significant which is indicated by probability of the F-statistic at 0.0000, which is below the 5% level of significance adopted for the study. The model proved to be a good predictive model. Hence, the independent variables are jointly responsible for the changes in the dependent variable, Unit Price. AGE with a p-value of 0.000 has a significant positive effect on financial performance which is measured by Unit Price while Expenditure (LEXP) with a p-value of 0.4819 does not have a significant effect on Unit Price. Contribution Density (LCONT) has a significant negative effect on Unit price and Idle Contributions (LIDLEC) has a significant effect on Unit Price with p-values of 0.0002 and 0.0131 respectively.

V. CONCLUSION

The study reveals that all the models jointly have a significant have a significant effect on financial performance, which is indicated by the probability of the F-statistics at 0.0000. The results also tells us that age, expenditure, contribution density and idle contributions of the fund are jointly responsible for about 97% of the changes in financial performance indicated by the Adjusted R-squared figure of 0.970853. The results from this research have proven that Age, Contribution Density and Idle Contributions are certainly factors to consider when assessing the performance of pension funds in Nigeria.

The following observations and recommendations are proposed, based on the results and conclusions of the research:

i. The older a fund is, the better it does financially.
ii. Funds with a smaller amount of contributions had a better financial performance
iii. In the pension industry, a larger fund does not always mean larger returns.
iv. When choosing a pension fund administrator, the expenditure the fund does not impact the financial performance of the Pension Fund Administrator.

This study hopes to enlighten future researchers on the nature of pension funds in Nigeria and the fund characteristics that determine its financial performance.

REFERENCES


