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Pension Fund Administration and Infrastructure Financing in Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The study investigated the relationship between pension fund administration and infrastructure financing in Nigeria. The study answered four research questions and also tested four hypotheses. The correlational research design was used for the study. The population of the study consisted of all the licensed pension fund administrators in Nigeria. A simple random sampling was used to select 108 respondents for the study. The secondary data and questionnaire was used to elicit information from the respondents after the reliability and validity test. The research questions were analyzed using descriptive statistics, while the hypotheses were tested using Pearson Products moment correlation vie SPSS at 95% level of confidence. Findings from the study show that there is Relationship between Retirement Pension Account and Return on Economic and Social Infrastructural Financing; also the study found that there is a significant Relationship between Superannuation Pension Account and Economic and social Infrastructural Financing in Nigeria. With the pool of pension funds, investment in infrastructure projects will be very meaningful and relevant to the growth of Nigeria's economy.

Keywords: Pension fund administration; infrastructure financing; economic growth.

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1. INTRODUCTION

Infrastructure financing in Nigeria is novel to both economic watchers and researchers alike, as it has become a topical global issue of very robust economic discuss. Similarly, infrastructure development as in developed economies is a major gateway in enhancing economic growth. However, the current state of physical infrastructure in Nigeria is challenging for the achievement and realization of the lofty objective of being among 20 top economies of the world and the biggest in Africa.

But financing of infrastructure through budgetary provision of the Federal government is hardly enough to support the infrastructure need of any nation, thus, the need for an alternative funding by government among several funding sources. Pension fund is believed to be more suited if it could be well managed to finance infrastructure development in Nigeria.

[1] asserts that infrastructure represents those types of capital goods that serve the activities of many industries. These include paved roads, rail roads, sea port, communication networks, financial systems and energy supplies that support production and marketing for industries within the nation.

Infrastructure development in Nigeria is very key to the economic development of the country, because it will accelerate growth in other sectors of the economy through employment opportunities, income generation, increase household participation in economic activities, encourage new investment across the economy and growth.

Financing infrastructure is urgently needed to maintaining an inclusive, healthy, and productive cum robust workforce involved in large scale investment with significant environmental impacts that can generate a range of externalities in the production and consumption pattern of the Nigeria economy. [2] has estimated Nigeria's infrastructure default to be over N2.0 trillion per annum for a decade. Although, infrastructure financing is seen as being within the purview of government responsibilities, the trend in government capital expenditure indicates a short fall in its capacity to bridge this default. There is an increased clamour by various stakeholders to close this gap by exploring the use of long term assets, which are normally provided by pension funds and insurance companies. In fact, the provision of such long term financing has been attractive to pension funds because it met their appetite for robust portfolio mix, with varieties of options.

Financing infrastructure with pension funds, are better protected when there are adequate de-investment of the infrastructure portfolio and the investment yield long term and predictable revenue streams, which match the long term liabilities of pension funds. This has been the position of the National pension Commission (PENCOM) and is the focus of its medium to long term perspective with regards to the role of pension funds in the development of Nigeria economy. [3] sees infrastructure from the perspective of social and economic perspective whose investment enhances a countries economic potentials, productivity, trade and investment aimed at the overall wellness of the people and the economy.

Infrastructure as the basic facilities which are necessary for the development of the Nigeria nation can be classified into social and economic infrastructure. Economic infrastructure is the combination of basic facilities which are helpful in economic development of any economy and business. It includes facilities like telecommunication, electricity, roads, railway, airport, energy while social infrastructure is also the combination of basic facilities which are necessary in human development. It includes health care (Hospitals) education (schools) Housing, civil and utilities (sports facilities, water and waste water treatment) correction and justice (pension, courts).

According to [4] sponsored by Oliver Wyman's global Risk center, a growing infrastructure gap threatens the long term development of emerging and developing economies, due to a combination of aging infrastructure, years of under-investment by governments, and expanding populations. It is estimated that $53 trillion in infrastructure investment will be needed through 2030 to support global economic growth. Unfortunately, strained public finance, weak debt and equity markets, and restrictive commercial bank capital requirement are limiting traditional financing sources for infrastructure projects.

Pension fund with estimated assets of over $65 trillion in organization for economic co-operation and development (OECD) countries at the end of

2009, have the potential to be much greater source of capital for urgently needed massive investment in infrastructure. But their investment must be supported by transparent and long term regulatory frameworks.

Pension funds have recently enlarged its investment universe to include new assets classes in order to attract an increase in yield. Infrastructure financing is one type of assets class that appeared to strike a chord with many pension plans and pension funds investors. In Nigeria, robust-economic growth, diversification and sustainable development cannot be achieved without a deliberate policy to match the long term pension assets with infrastructure financing. Investing in infrastructure has become a new topic for pension funds in recent years. Institutional investors have started to spread their investment across a much wider spectrum of investments beyond the traditional assets classes of equities, bonds, cash, and real estate.

A number of studies have investigated the administration of pension funds in the developed economy [5-7] but only a few researches have examined the association between pension fund administration and sustainable infrastructure financing in less developed economy. It is possible that in less developed country like Nigeria, pension fund administration which took after the Chilean model of 1981 is not as efficient in attaining a near optimality in the objectives of the model, given its potential to match long-term pension assets with infrastructure financing. Arguably, weak institutional support, investor characteristics, transition problem, economic instability, payment options, limited scope of coverage, asset management and marketing are suggested to be some of the constraints to pension funds and infrastructure financing in many Anglophone Africa countries.

In Nigeria, few studies have investigated the relationship between pension fund administration and infrastructure financing, but none used economic and social infrastructure as measures of infrastructure financing. [8] examined pension administration and capital formation in Nigeria. The finding revealed that earnings on pension funds are not accessible to retirees due to weak legislative laws on pension.

Previous study by olumiyiwa also examined the Nigeria's infrastructure investment opportunity for fiduciaries of pension funds. The study observed a significant relationship between private infrastructure financing of pension funds and the regulatory framework, thus, indicating that pension funds have shown interest in increasing their exposure to investment in infrastructure.

Since Nigeria has reported an impressive economic growth rate with the invigorated fight against corruption and has shown transparency in governance by the government of President Buhari, therefore, to sustain this growth, Nigeria need significant investment in infrastructure through pension funds.

The main aim of this study is to ascertain the degree of association between pension funds administration and infrastructure financing among licensed pension funds administration in Nigeria.

2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

2.1 The Concept of Pension Fund Administration in Nigeria

The issues of pension fund administration had received significant attention in many countries over the recent past decades. There are changes in the way pension assets are managed and benefits distributed to beneficiaries due to the difficulties associated with the pension schemes existing in each country. Many countries have opted for different forms of contributory pension scheme, in which employees and their employers are expected to pay a certain percentage of the employee's monthly earnings to Retirement Savings Account (RSA), from which they would be drawing their pension benefits after retirement [9]. In Nigeria, [10] prescribed that an employee should make minimum contribution of 8% and employer 10% if the employment is that of the government. The contributions provided an income (pension) on retirement that is treated as earned income and is taxed at the investors' marginal rate of income tax.

The pension system and administration in Nigeria has experienced some modest growth since the introduction of the defined contributory scheme to replace the pre-reformed defined benefit scheme. Pension assets have grown from ₦265 billion in 2006 to ₦1.6 trillion in 2012. Registered contributors have also increased from 932,435 in 2006 to 5,888,491 in 2012. Nigeria's pension industry portends great opportunity for industrial growth.

Pension Fund Administrators are private organizations that have been duly licensed to open retirement savings accounts for employees, they invest and manage the pension funds in fixed income securities listed and other instruments as the commission may from time to time prescribe; maintain all books of accounts on all transactions relating to the pension funds managed by it, provide regular information by it; provide regular information on investment strategy to the employees or beneficiaries and pay retirement benefits to employees in accordance with the provisions of the Act.

[11] defined pension fund to represent savings for payment of employees' retirement benefits. Thus, an employee who leaves employment before the required retirement period, losses all retirement benefits.

2.2 The Retirement Savings Account (RSA)

As specified under section 11 of Pension Reform Act (PRA) 2014, a retirement savings account (RSA) is a deliberate account mandated by law to be opened with a PFA by an employer with more than 5 employees. Under the new Act the employer and employee contributed into the RSA of the employee. An employer may however elect to contribute the entire 18% on behalf of its employees. Prior to the recent announcement, for an employee to gain access to RSA, must be above 50 years of age. With the announcement, holders can negotiate the mode of withdrawals or annuity. There is also provision for initial lump sum withdrawal. An RSA holder can gain temporary access to the account before retirement only when out of job for six months but the RSA balance would be withdrawn before the age of 50 years. An employee may also choose to retire before 50 years on medical grounds in line with the terms and conditions of employment. In Nigeria, the RSA is currently #4.4 trillion [12].

2.3 The Superannuation Savings Account

Under section 11 of PRA 2014, a superannuation savings account is a pension protection fund which has been created under the new act to include an annual subvention of 1% of the total monthly wage bill payable to employees of the fund. It is to guarantee a minimum benefit to contributors in the event of any shortfall in the investment of pension funds. It is a requirement that a superannuation fund be an indefinitely contributing fund. The responsibility for the administration of the release of benefits is the domain of the superannuation fund trustee.

In his classification of pension fund, [13] opined that superannuating pension is granted a worker who retires at the government prescribed limit. In her paper – "understanding the retirement savings account and retirement benefits calculation under the contributory pension scheme", Dr. (Mrs.) Tonia Smart said upon retirement, a pensioner decides how he would employ his pension assets. An annuity, which is a financial product, enables one to access the RSA as it involves payment of pension benefits by a licensed life insurance company. The PFA pays out the lump sum and transfers the RSA balance to the life Assurance company which then makes the monthly pension payment to the retiree. It can also be indexed to carter for inflation such that the amount received each year increases by a certain percentages. They may be guaranteed for a few years or for life, which contains a bequest motive as it "allows" the retiree to bequeath some portion of his assets to a surviving spouse or children or retailers. In retirement savings, this is the essence of superannuation – money set aside over the working life to provide for retirement. [14] shows that an annuity pays a guaranteed income for the rest of one's life, which continue during the life of the annuitant. This type of investment for life is recommended for people with money-purchase occupational pension, he added.

The disadvantage of an annuity is that the payment is fixed and the real value may be eroded by future inflation. However, the guaranteed income for life still makes the annuity a valuable part of retirement planning.

2.4 The Nature of Infrastructure Financing in Nigeria

Infrastructure is the lifeblood of any economy as no economy can grow and develop without a reasonable stock of critical infrastructure in transportation (roads, rail, ports and airports), energy, water, sanitation and communication. Where infrastructure is inadequate or ineffective, growth is affected and people's standard of living is negatively impacted.

The current state of infrastructure in Nigeria is inadequate to drive the country's development aspirations. Nigeria's core infrastructure stock is 35 – 40 percent of GDP which remains below international benchmark of 70 percent of GDP [15]. Institutional investors are interested in wider spectrum of investments by searching beyond the traditional asset classes of equities, bonds, cash and real estates [16]. In the 1990s, strong stock markets were supportive of the development of funded pensions and the allocations to equities were increased by pension funds in many countries. The boost of the TMT-bubble in the early 2000s and the subsequent recession led to substantial funding and solvency problems for pension funds. Both sides of the balance sheet were affected. Not only did asset prices fall but also pension liabilities rose at the same time [17].

Nigeria's low infrastructure profile is attributed to historically low public and private spending. Roads, rails, aviation, maritime, energy, ICT, manufacturing, agriculture, water, mining, housing, education, health, security, among others, require huge infrastructure spending that will muzzle the limited and dwindling revenues of the federal government amid falling oil prices, incredible stories of oil theft and decline in oil and non oil exports [18].

This event led to a major rethink of the asset allocation of pension funds. Investors realized that they were often not well protected against market volatility, inflation and interest rate risks. At the same time, investment experts reduced the long-term return forcers for mainstream equities and government bonds. As a result, many pension funds started to look for new investment opportunities [19]. According to [20], investors enlarged their financing universe to include corporate and high yield bonds. In addition, the investment industry started to offer new and alternative asset classes for pension funds such as hedge funds, commodities, private equity, currency and tactical asset allocation overlays, commercial loans, infrastructure financing, forestry products, microfinance and other rich areas. Infrastructure financing seemed to strike a chord with many pension plan directors and members.

The introduction of the Contributory Pension Scheme (CPS) in 2004 has made a large pool of long term funds available for investment. Pension fund assets increased significantly from ₦815.18 billion ($6.09 billion) in 2007 to₦3.62 trillion ($22.89 billion) as at May, 2013, which indicated a 232 per cent increase with an average annual growth of 31.34 per cent. Similarly, the number of registered contributors under the CPS increased by 97.19 per cent from 2.8 million in 2007 to 5.6 million in May, 2013. As at 2014 the total pension assets was N5 trillion, according to Mrs chinelo Anohu, Director General, National Pension Commission of Nigeria.

Thus, lack of funding and financing for infrastructure is a symptom of deeper problems that require new form of funds from pension assets. This will lead us to the World Bank estimates that a 1 per cent increase in a country's infrastructure stock leads to a 1 per cent increase in the level of GDP.

Initially, the Regulation on Investment of Pension Fund Assets allowed for investment of pension fund assets in only core asset classes, namely, Ordinary Shares, Money Market, Corporate Bonds, Federal Government Bonds and Open and Close End Funds. Subsequently, in view of the need to ensure a more diversified investment portfolio and the need for investments in the real sector of the economy, the Regulation was amended in 2010 to allow investments in infrastructure Bonds and Funds as well as other alternative asset classes (Supranational Bonds, and Private Equity Funds). However, for pension funds to be invested in infrastructure, certain conditions have to be met to ensure safety and fair returns on investment, such as Infrastructure Funds and Infrastructure Projects.

2.4.1 Economic infrastructure in Nigeria

The following presents an assessment of the state of Economic infrastructure in Nigeria.

2.4.1.1 Power sector

Power supply in Nigeria is an exclusive responsibility of the Federal Government. After independence, the National Electric Power Authority (NEPA) managed the power sector for 75 years. Due to poor performance, the government decided to deregulate the sector and NEPA was transformed into a company called Power Holding Company of Nigeria (PHCN) through the electric power sector Act of 2005. The company is to manage the power sector and is fully deregulated with several private companies emerging to handle different aspects such as generation, transmission and

distribution. For poor implementation, at the moment, Nigeria faces a serious energy crisis due to declining electricity generation from domestic power plants. Power outages are frequent and the sector operates well below its estimated capacity. The current power generation in the country is about 4000mw. Nigerian electricity consumption per capital is 111 kwh, which is one of the lowest in sub-Saharan Africa. This low level of consumption is the result of suppressed demand raised by deteriorated electricity supply infrastructures. Nigeria has 5900 mw of generation capacity, three hydro-based and five thermal plants [21].

[22] Observed that power is currently provided in Nigeria at the cost of ₦23 billion and sells for only ₦9 billion, hence full deregulation of the sector is planned by government. Also, the projected Peale national energy demand is put at between 28,000-31,000mw by 2015. While the Electricity council of Nigeria (ECN) has indicated that at the growth rate of 10% required to meet the MDGS, Nigeria's peak demand will be in the range 175,000-192,000mw by 2030. The poor state of power and other infrastructure in the country has indirectly increased the cost of doing business, consequently many industries have relocated. These imply loss of job and revenue to the government.

2.4.1.2 Transport

Nigeria's transport infrastructure is in need of modernization. Weak transport infrastructure has a detrimental impact on the economy, raising business costs and increasing time to market, as well as reducing investor confidence. In the road sector alone, the OECD estimated in 2006 that inadequate investment and maintenance could lead to US$570 million in vehicle operating costs and road accidents. Assessment of the transport sector in many modes show that the country has fallen well behind international benchmarks. The decay of the transport infrastructure is as a result of many years of under-investment and bulk of maintenance. For instance, the Lagos-Ibadan expressway (a federal road) was opened to the public in 1981 and considered for maintenance 30years later. Nigeria has a total road length of 193,200km. This comprises of 34,123km federal roads, 30,500km state roads and 129,577km local government roads. At 2005 budget estimate, it was projected that over the next 10 years, ₦300 billion will be required to maintain national roads. Again, the country's rail system has almost leased to function although efforts are on to revive the railway system in Nigeria. The railway now accounts for less than 1% of land transport with 98% of goods transported by road. The Air transport in Nigeria also suffers similar fate of decay. To address the issue, the federal government as well as state governments is engaging in programmes of development in cooperation with private sector.

2.4.2 Social infrastructure

2.4.2.1 Education and health

It is observed that education sector in Nigeria has experienced considerable neglect occasioned by a confluence of factors acting in tandem but especially the decline in infrastructure. A cursory look at the health sector in Nigeria shows that the sector suffers from inadequate health facilities. The first empowerment of the people is their health. Health is the basis from which economic growth can happen. Businesses need healthy people to grow and be productive. The total expenditure on health care is currently 4.6% of GDP. In 2011, when the population of the country was a little above 160 million, there were 13,703 public primary health care centres in the country and 904 tertiary health care centres. Only 45.9% of the population has access to medical facilities in the county (National Bureau of statistic, 2008).

2.4.2.2 Water and sanitation

Water and sanitation are also critical to economic growth. A study of the provision of improved drinking water, households connected with water and sanitary facilities in Nigeria in comparison with other 60 top economics showed that the country ranked among the lowest (FGN, 2009). National Bureau of statistics records, that an average household in Kogi State of Nigeria have no access to good water and sanitation based on WHO standards. The study showed that a household in Nigeria spends an average of 65minutes per day, 445 minutes per week, 1820 per month and 21840 minutes per year to fetch water. Also between 1990 and 2008, access to improved sanitation declined from 39% to 36% (National Bureau of Statistics, 2008).

2.5 The Role of Infrastructure in Economic Development

Infrastructure is an umbrella term for many activities usually referred to as "social overhead

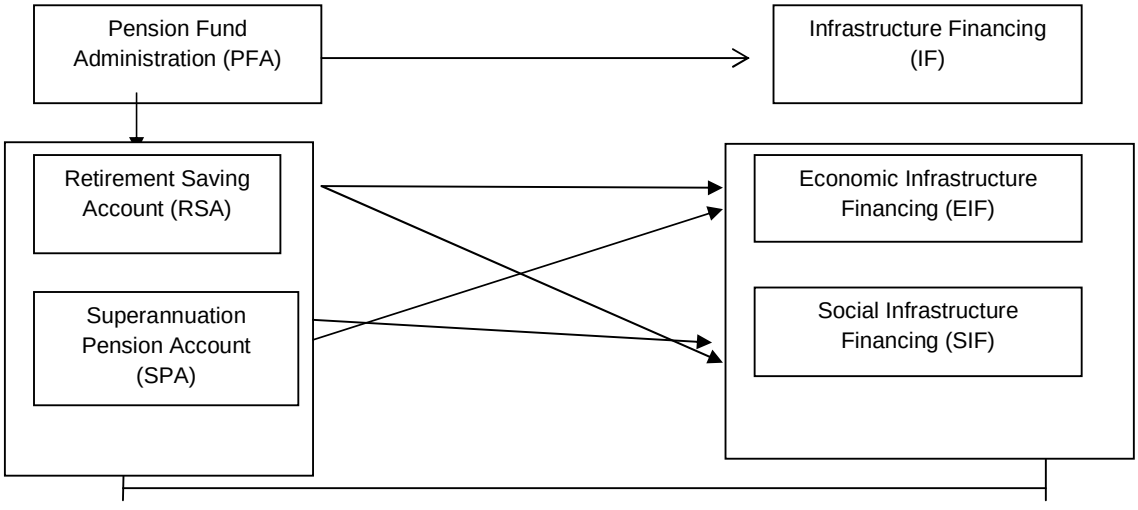
capital" by development economists. Precisely, infrastructure refers to a network of transport, communication and public services, all functioning as a system or as a set of interrelated and mutually beneficial series provided for the improvement for the general wellbeing of the citizens [23]. The adequacy of infrastructure helps to determine a country's success or failure in diversifying production, coping with population growth, reducing poverty and improving environmental conditions. Indeed, socio-economic development can be facilitated by the presence of infrastructure. Several studies have investigated the administration of retirement savings account. The findings revealed that the strategic financing of infrastructure from pension funds scheme would generate multiple economic benefits [24].

Pension funds can have positive impact on the economy through: generation of savings that leads to capital accumulation and hence promotes investment. Transfer of resources in favor of long-term assets would have significant impact on GDP growth. Shift to long-term assets tend to reduce the cost of capital and increase the availability of equity and long-term debt financing to companies, and hence promotes growth.

Contributory pension fund administration could amongst other increase demand for new investment outlets, stimulate innovation and development of new long term instruments, Increase market integrity/ transparency and corporate governance, re-enforcement of Improved regulation and supervision of the market and its efficiency, Creation of domestic institutional investors (PFAs/CPFAs) with long term focus, moderate stock market and price volatility and trigger the modernisation of capital market infrastructure such as clearing and settlement.

Similarly when pension funds are invested and managed by pension funds administrators, it brings about increase in capital investment and labour productivity, development of labour intensive -low productivity "informal sector" to a capital intensive, high productivity "formal sector". Availability of long-term financing will simplify government deficit financing through the issuance and purchase of government securities. Furthermore, there is an international portfolio of investment which lead to risk reduction to pension funds, reduction of volatility of returns and as well as qualitative developments in the financial markets, financial innovation, development of corporate bonds market, development of indexed instruments, better accounting and auditing and better information disclosure and efficient provision of liquidity.

Conceptual Framework



Source: Conceptualized by the Researcher, 2014

Based on the above literature, the following hypotheses are formulated.

HO_1: There is no significant relationship between retirement saving account (RSA) and economic infrastructure financing (EIF).
$H0_2$: There is no significant relationship between retirement saving account (RSA) and social infrastructure financing (SIF).
$H0_3$: There is no significant relationship between superannuation pension account (SPA) and economic infrastructure financing (EIF).
$H0_4$: There is no significant relationship between superannuation pension account (SPA) and social infrastructure financing SIF).

3. RESEARCH METHODOLOGY

The target population for this study includes all licensed pension fund administrators (PFAS) in Nigeria. A total of 25 licensed PFAs were identified as posted on the web portal of the National Pension commission (Pen Com). Due to the difficulty of conducting a meaningful study on the entire population due to lack of data, the researcher decided to restrain the study to an accessible population using the simple random sampling technique. Consequently, the accessible population of this study constitutes the eight (8) licensed and certified PFAs located in Rivers State. They include:

1. ARM Pension managers PFA Ltd
2. Fidelity Pension Managers PFA Ltd
3. Aiico Pension
4. IBTC Pension managers PFA Ltd
5. Leadway Pension PFA Ltd
6. Sigma Vaughn sterling pension Ltd
7. Oak Pension Managers Ltd.
8. Premium Pension Ltd.

The Taro Yamen's formula can be used to determine initial sample size from a heterogeneous population (Baridam, 2008). Therefore, the sample size for this study from a population of 148 employees is derived through the Taro Yamen's formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = sample size sought

N = population size
e = level of significance (0.05)

Applying the above formula, the sample size is given as;

$$N = \frac{148}{1+148\,(0.05)^2}$$

n = 108.02
n = 108

One hundred and eight (108) copies of the questionnaires were distributed to the respondents (employees). The respondents in this study are mainly managers of the company who understand the purpose of investing pension funds assets as enshrined in the guidelines issued by the National pension commission (NPC). Thirteen (13) copies of the questionnaires were sent to each of the companies except IBTC and Premium pension that has fifteen copies each. Both companies have large asset base comparable to others.

The data used in this study were collected from both primary and secondary sources.

Primary data were obtained from respondents through the administration of well-structured questionnaires.

Secondary data were obtained from the annual audited financial statements of the PFAs. The study data covered a period of five (5) years from 2009-2013.

The questionnaire was structured using the 5-point insert scale ranging from strongly agree to strongly disagree.

The reliability of the survey instrument was evaluated using test re-test technique, which shows that the instrument has a coefficient of 0.88.

Also the audited annual financial statements of the PFAs and the PRA (2004) fact book as amended are highly reliable data base instrument for obtaining secondary data because of the consistency of their content.

3.1 Model Specification

To empirically explore the accounting implication of pension fund administration and infrastructure financing among PFAs in Nigeria, the economic model to capture the nature of the relationship between the variables is stated in the functional form as follows:

EIF = f (RPA) - 1
EIF = f (SPA) - 2
SIF = f (RPA) - 3
SIF = f (SPA) - 4

From the above functional relationship, the economic model is:

EIF = $\alpha_0 + \alpha_1$ RPA + U_1, t – 5
EIF = $\beta_0 + \beta_1$ SPA + U_2, t – 6
SIF = $\lambda_0 + \lambda_1$ RPA + U_3, t – 7
SIF = $q_0 + q_1$ SPA + U_4 t -8

Using equations 5 to 8 above, the mathematical form of the model are specified as:

EIF = $\alpha_0 + \alpha_1 \quad RPA - 9$
EIF = $\beta_0 + \beta_1 \quad SPA - 10$
SIF = $\lambda_0 + \lambda_1 \quad RPA - 11$
SIF = $q_0 + q_1 \quad SPA - 12$

Where

EIF = Economic infrastructure financing
SIF = Social infrastructure financing
U_i, t = Error term
$\alpha_0, \ \beta_0, \ \lambda_0, \ q_0 = \text{intercepts}$
$\alpha_1, \ + \ \beta_0, \ \lambda_1, \ q_1 = \text{slope or coefficients}$

From equations 9 to 12, it is expected that $\alpha_1, \ \beta_1, \ \lambda_1 \ and \ q_1 > 0$.

That is an increase in
RPA to increase EIF and SIF
SPA to increase EIF and SIF
The hypotheses were analyzed using Pearson Product Moment Correlation Coefficient and tested at 0.05 alpha level of significance, through the use of SPSS.

4. RESULTS AND DISCUSSION

The result of hypothesis one shows a correlation coefficient ® = .368, P=.001 and significant at .005 for two tail test (< .05). The findings indicate that retirement saving accounts would positively influence financing of economic infrastructure in Nigeria by 36.8 %. (Appendix 2)

Appendix 2 also revealed ® = .586, P = .002 for hypotheses two which shows that social infrastructure financing is positively signed to Retirement Saving account by 58.6%. Also, a correlation ® = .566, P = .001 for hypothesis three. This result indicates that 56.6% of economic infrastructure is funded by superannuation pension account in Nigeria. Hypothesis four shows that ® = .517 P = .000, thus 51.7% of social infrastructure is funded by superannuation Pension Account.

This finding in hypothesis one is consistent with the finding of (3), which showed that pension funds could unlock the economic gridlock of creative and innovative investments. This suggests that pension funds are veritable sources of long term funding of various developmental projects in Nigeria such as infrastructure and housing development and multiple benefits in [24].

The result of hypothesis two shows that retirement savings account (RSA) is positively related to social infrastructural financing.

The economic implication of this result is that for every unit increase in social infrastructure financing (SIF), Retirement savings Account (RSA) increases by wide margin. This is the "marginal effect" of Retirement savings Account on social infrastructure financing. This finding is supported by [25] which show that pension fund investments in domesticated equities have improved the Nigerian economy.

Financing social infrastructure enhances human capital development and healthy living standard. A vibrant economy must be supported by educated and healthier workforce.

The result of hypothesis three indicates that superannuation savings account has a strong, positive and significant correlation with economic infrastructure financing. This is the marginal influence of superannuation savings account on economic infrastructure financing; the finding of this study is supported by the findings of [23].

This result of hypotheses four in Appendix 2 shows that superannuating pension account is positively related to social infrastructural financing.

It indicates that superannuation saving account has a strong positive and significant correlation with social infrastructure financing. The result of this finding corroborates the previous findings of Gunu [25]. Social infrastructure projects deliver

public infrastructure assets and services in exchange for a revenue stream paid directly by the public sector, as opposed to 'economic' infrastructure, which collects revenues from end users. Examples of social infrastructure include schools and hospital buildings, local services such as street lighting and waste management and even public transport. Instead, economic infrastructure tends to include toll road, ports, airports or power generation.

Whereas, there is positive correlation between pension assets and infrastructure financing in Nigeria, the level of infrastructure investment is still low. When asked, the Director General, National Pension commission in the world pension summit, Africa special 2014, she said Pencom was exercising a lot of caution, while also thinking of how to channel the fund into social needs. "We are trying to see how we can leverage domestic financing for sustainable infrastructure growth". She explained that while the commission was looking for infrastructure instrument to invest the fund in, there was a need for government to provide some form of guarantee for owners of the fund. People might be worried as a result of the new government of President Mohamadu Buhari, there was a need to create an enabling environment for investors. Youth unemployment is high, jobs needs to be created in Nigeria. The perception of some investors is that Nigeria is still negative. There is the issue of corruption and the security situation which the current administration is determined to solve.

Efficient allocation of scarce resources in a large pool of needs is a settled economic principle. To achieve this, Nigeria needs infrastructure investment in pension funds. A good pension fund management with a mandate to operate, pool all local government, state governments, and federal government resources in infrastructure will have the scale to direct developments across all spheres of the Nigerian economy.

5. CONCLUSION

The importance of increased funding for capital infrastructural projects cannot be overstated. It is also important to create efficient mechanisms in the way the various tiers of governments invest in infrastructure. Since infrastructure financing is a complicated type of loan, Bankers see this type of loan as very risky. Pension funds are most suitable for primary and building of major infrastructure in Nigeria.

With the pool of long-term funds through pension funds, investment in infrastructure projects will be very meaningful and relevant to the growth of Nigeria's economy. Government should put an enabling environment to ensure transparent and efficient management of pension funds in order to protect the interest of various stakeholders. There should be strong regulatory enforcement to punish offenders of pension management and capacity building to manage infrastructure investment. The hope is that a strong political will and action plan will open a new era of innovation and development of Nigeria's infrastructure.

6. RECOMMENDATIONS

We therefore recommend as follows: Government should,

1. Provide a sound institutional and regulatory environment for infrastructure financing, including facilitating access to infrastructure funds.
2. Decide on the utility and nature of potential infrastructure asset.
3. Ensure public, private and institutional support for the infrastructure and choice of financing.
4. Make public/ private partnership work by promoting transparency and good contractual arrangement.
5. Remove unnecessary restrictive quantitative limits such as asset category ceilings.
6. Encourage improvement in knowledge and understanding of pension fund stakeholders, and supervisors on infrastructure assets.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Tanwi I. Infrastructure importance to the economic development of an economy; 2008.
   Available:www.studymade.com/essays
2. World Bank. Averting the old age crises polices to protect the old and promote growth, the World Bank, Washington D.C; 2011.

3. Olamuyiwa A. Nigeria's infrastructure investment opportunity for fiduciaries of pension funds; 2011.
4. OECD. Pension funds investment, sponsored by Oliver Wymar's global Risk center (USA); 2009.
5. Samwick. Patience, pensions and savings darmouth college and NBER 6106 rockfeller hull hanover, NH03755; 2003.
6. Blake D. Financial system requirements for successful pension reform. Henry Stewart Publications. 2003;9(1). Pensions.
7. Daykin C. Annuities and alternative ways of providing retirement income, paper presented at the institute of actuaries of australia's pension benefits and social security (PBSS) Seminar 31 October – 5 November; 2004.
8. Akpan IT, Ukpong MS. Pension administration and capital formation in Nigeria, the challenges. European Journal of Business and Management. 2014;6(6).
9. Ahmed MK. The contributory pension scheme; institutional and legal framework. CBN Bulletin. 2006;30(2).
10. Pension reform act; 2014.
11. Myners P. Institutional investment in the UK. Journal of Economic Review. 2001;8(4).
12. Pen; 2011.
13. Balogun A. Understanding the new pension reform Act (PRA, 2001). CBN Bulletin. 2006;30(2).
14. Amoo BAG. Maximizing the impact of the new pension scheme in Nigeria: Issues, prospects and challenges. CBN Bulletin. 2008;32(2).
15. Business Day Wednesday 8th August; 2013.
16. Foldary FE. Infrastructure, optional private and Government funding and provision. Journal of Economic Affairs. 2005;25(1).
17. Fraser-Sampon G. Private equity as an asset class. Wiley, Chichester; 2007.
18. Business day, Wednesday July 22; 2015.
19. Fresh fields, is: outlook for infrastructure, fresh fields Bruck halls Derringer; 2008.
20. Halligan L. A conspiracy of silence in PFI. Daily Telegraphy; 2006.
21. Available:http//www.gasandoil.com/goc/news/nta30428.htm
22. Business day we September 9; 2014.
23. Bawa C Abdullahi, Wan Nor Azriyati. The role of private sector participation in achieving anticipated outcomes for low income group: A comparative analysis of housing sector b/w Malaysia and Nigeria. African Journal of Business Management. 2011;5(16):6859-6890.
24. Ayegba Automated internal revenue processing system: A panacea for financial problems in Kogi State; 2013.
25. Gunu. Pension fund investment in social infrastructure; insights from 2012 reform of the private finance initiative in the United Kingdom. Edhec Risk Institute; 2012.

APPENDIX 1

Summary of ratings obtained from the 140 respondents on infrastructure financing in 8 licensed Pension Fund Administrator (PFAs) in Nigeria

S/N	Pension Fund Administrators		Economic infrastructure financing							Social infrastructure financing						
			2009	2010	2011	2012	2013	Total	Aveg.	2009	2010	2011	2012	2013	Total	Averg.
1	ARM PFA LTD	10	142	125	160	108	160	695	139	154	190	147	153	215	859	171.8
2	AIICO PFA LTD	17	99	170	125	114	105	613	122.6	160	141	110	161	175	747	149.4
3	FIDELITY PFA LTD	12	160	127	175	104	184	750	150	144	170	184	121	108	727	145.4
4	LEADNACY PFA LTD	14	171	210	155	195	116	847	169.4	200	183	183	114	107	787	157.4
5	OAK PFA LTD	12	300	106	185	180	300	1075	215	125	111	102	120	103	561	112.2
6	PAL PFA LTD	24	119	126	170	109	144	668	133.6	150	109	109	200	105	673	134.6
7	PREMIUM PFA LTD	5	170	106	109	108	102	595	119	160	136	110	214	107	727	145.4
8	TRUST FUND PFA LTD	10	134	120	126	136	138	654	130.8	153	109	183	216	129	792	158.4
	TOTAL	**104**	**1295**	**1090**	**1209**	**1054**	**1249**			**1248**	**1149**	**1128**	**1299**	**1049**		

Summary of data on pension fund administration in 8 licensed Pension Fund Administrator (PFAs) in Nigeria

S/N	Pension Fund Administrators (PFA)	Superannuation savings account SSA							Retirement savings account RSA						
		2009	2010	2011	2012	2013	Total	Averg.	2009	2010	2011	2012	2013	Total	Averg.
1	ARM PFA LTD	3.772	9.930	12.867	12.918	12.919	52.406	10.481	0.195	0.905	1.922	2.039	1.042	6.103	1.220
2	ALLCO PFA LTD	1.537	1.538	1.539	1.540	2.766	8.920	1.784	0.181	0.182	0.183	0.184	0.247	0.977	0.197
3	FIDELITY PFA LTD	0.303	0.290	0.407	1.150	1.564	3.714	0.743	(0.226)	0.002	0.006	0.001	0.002	(0.215)	(0.043)
4	LEADNACY PFA LTD	9.296	9.297	9.298	9.299	12.737	49.927	9.985	1.450	1.451	1.452	1.453	1.007	7.412	1.482
5	OAK PFA LTD	29.562	29.563	123.750	124.750	125.750	433.375	86.675	0.426	0.427	1.892	1.893	1.894	6.532	1.306
6	PAL PFA LTD	0.323	0.324	0.326	0.327	0.535	1.835	0.367	0.292	0.297	0.395	0.978	1.978	3940	0.788
7	PREMIUM PFA LTD	0.504	0.986	0.629	1.019	1.020	4.158	0.831	1.021	1.022	1.032	1.042	1.152	5.269	1.053
8	TRUST FUND PFA LTD	1.423	3.557	2.849	7.694	1.277	16.800	3.360	0.432	0.693	0.945	1.674	2.411	6.155	1.231
	TOTAL	**46.720**	**55.485**		**158.697**	**158.568**			**295.47**	**4.979**	**7.827**	**9.264**	**10.333**		

APPENDIX 2

Correlations

[DataSet5] C:\Users\EMERALD INSTITUTE\Documents\Obah.Godspowe.sav

	Descriptive Statistics		
	Mean	**Std. Deviation**	**N**
RSA	30.06	5.44	108
Eco. Infrastr. Fin	29.46	4.46	108
Social Financing	31.06	4.61	108
SPA	32.10	4.41	108

Correlations

		RSA	Eco. Infrastr. Fin	Social Financing	SPA
RSA	Pearson Correlation	1	.368**	.586**	.576**
	Sig. (2-tailed)		.001	.002	.000
	N	108	108	108	108
Eco. Infrastr. Fin	Pearson Correlation	.368**	1	.437**	.566**
	Sig. (2-tailed)	.001		.005	.001
	N	108	108	108	108
Social Financing	Pearson Correlation	.586**	.437**	1	.517**
	Sig. (2-tailed)	.002	.005		.000
	N	108	108	108	108
SPA	Pearson Correlation	.602**	.566**	.517**	1
	Sig. (2-tailed)	.000	.001	.000	
	N	108	108	108	108

**. Correlation is significant at the 0.01 level (2-tailed).

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