IMPACT OF PENSION FUND GROWTH AND CAPITAL MARKET DEVELOPMENT IN NIGERIA

BY

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BEING A PROJECT SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES NASARAWA STATE UNIVERSITY KEFFI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF POSTGRADUATE DIPLOMA IN BUSINESS ADMINISTRATION AND MANAGEMENT

DEPARTMENT OF BUSINESS ADMINISTRATION
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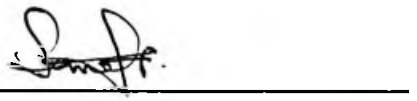
DECLARATION

I hereby declare that this project has been written by me and it is a report of my research work. It has not been presented in any previous application for Postgraduate Diploma in Business Administration and Management. All quotations are indicated and sources of information specially acknowledged by means of references.



28/07/2021

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DATE

CERTIFICATION

The dissertation titled "**Impact of Pension Fund Growth and Capital Market Development in Nigeria**" meets the regulations governing the award of Postgraduate Diploma (PGD) in Business Administration of the School of Postgraduate Studies, Nasarawa State University, Keffi and is approved for its contribution to knowledge.

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DEDICATION

dedicate this project to Almighty God.

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With grateful heart, my gratitude goes to Almighty God for his guidance, protection and provision throughout my studies, and his love and mercy to acquire the knowledge of entrepreneur as a professional and for the success of this research work.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

The issue of pension has become one of the thorniest issues today with millions of retired Nigerian workers living in abject poverty and neglect as a result of the failure of the country's pension system (Orifowomo, 2006). Indeed, pension system in Nigeria was bedeviled by many problems. The defined benefit Pay As You Go (PAYG) scheme operated in the public sector was characterised by inadequate funding, discrimination in coverage, demographic shifts, accumulation of unsuitable pension liabilities and huge pension arrears [Pension Commission (PENCOM), 2006]. Despite efforts being made by the Federal Government to mop the pension backlog, it still owes about ₦ 2 trillion to its workers before the commencement of Pension Reform Act (PRA) in 2004 (Ihonvbere, 2004 and Maiturare, 2006).

The private sector on the other hand operated a combination of defined benefits and defined contributions schemes, most of which took the nature of 'resignation' rather than retirement schemes. In some instances, many workers were not covered by any form of retirement benefits arrangement. For the new pension schemes, they were governed by diverse operational rules and standards and in some cases full of malpractices between the fund managers and trustees of the pension fund (Henshaw, 2006). Therefore, the foregoing scenarios necessitated a paradigm shift to a more sustainable defined contribution pension scheme. This culminated into the enactment of the Pension Reform Act (PRA), 2004.

Pension system reform is at the forefront of policy discussions and changes in many developing and transition economies. Recent surveys, conferences and specialised studies attest to this revival of interest in old-age saving arrangements by policy makers and academics (Corsetti and Hebbel, 1995; Dalang, 2006; Marturate, 2006). Although majority of countries worldwide adopted minor reform

through parametric reforms, Nigerian Government decided on a major reform which involved shifting from the predominantly PAYG system to a defined contribution system that is fully funded as well as reforming the overall pension system [Pension Commission (PENCOM), 2006]. It has been argued that pension fund reform improves macro stability by eliminating the political and demographic pressures that threaten the financial stability of the standard PAYG system and inducing fiscal reform during the transition (Walker and Lefort, 2003; and Reldos, 2004).

However, pension fund, given its complexity, can have potential impact on various aspects of the economy. On this premise therefore,, the possible relationships between the pension fund such as the recent one in Nigeria and capital market development has been receiving great attention from both academia and policy makers across the world. This study is motivated by the need to examine the relationship with a view to strengthening the mechanism of the effects.

1.2 Statement of the Problem

Pension systems are under increasing strain in developing countries like Nigeria. Most employees neither have any meaningful retirement benefits nor earn enough during their working life to cater for their retirement (Pencom, 2006). Although the world total dependency ratio will drop from 65 percent to 57 percent during the period of 1950 – 2050, the elderly dependency ratio is expected to rise from 9 percent in 1950 to 14 percent in 2020, then further to 25 percent in 2050; a three-fold increase. The trend is more obvious for More Developed Regions (MDRs) than Less Developed Regions (LDRs), in that by the mid of this century, the elderly dependency ratio for MDRs is 44 percent, 2 times higher than the then elderly dependency ratio for LDRs. This long term trend of population ageing across both developed and developing countries are largely caused by rising life expectancy and declining fertility rate (Munel, 2004; House of Lords, 2004). On the other hand, the extended family system and other traditional ways of supporting the old aged are already weakened

by pressures of urbanisation, industrialisation and increased mobility (PENCOM, 2006). Therefore, the need for pension fund became glaring and inevitable.

Similarly, more recently a long list of works studying the impact of financial development on economic growth, productivity and savings, have introduced the idea that pension fund reform may have a separate beneficial effect on capital market development (Walker and Lefort, 2000). For example, Davis (1995, 2000a) presents impacts of pension funds growth on European Capital Markets, while Walker and Lefort (2002) study the same issue across emerging markets. On balance, a positive relationship between pension fund growth and capital market development was found.

One main weakness relating to current literature is that most current empirical works focus either on emerging markets, notably Chile or developed economies of Europe and the United States. Therefore, the findings derived from existing studies might suffer from the drawback of incompleteness. This is because developed and developing countries are in different stages of development. Therefore pension funds growth might entail different impacts (Hu, 2005). However, due to the shortage of empirical research in the area of pension fund in developing countries such as Nigeria, this study tends to fill in this gap.

The focus of this study would be to find out what the growth pattern of the pension funds and how it is related to the development in the capital market.

1.3 Research Questions

This study attempts to address the following question;

i. What is the growth pattern of pension funds, market capitalization and All Share Index in Nigeria?

ii. To what extent have pension funds affected market capitalization in the Nigerian capital market?

iii. What is the effect of pension funds on equity price volatility in the Nigerian capital market?

iv. What are the effects of pension funds on transaction cost in the Nigerian capital market?

1.4 Objectives of the Study

The main objective of the study is to explore the relationship between pension fund growth and capital market development in Nigeria. However, the specific objectives of this study are to:

i. assess the growth pattern of pension funds, market capitalization, All Share Index in Nigeria.

ii. examine the effect of pension funds on market capitalization in the Nigerian capital market.

iii. determine the effect of pension funds on equity price volatility in the Nigerian capital market.

iv. assess effects of pension funds on transaction cost in the Nigerian capital market.

1.5 Hypotheses of the Study

The hypotheses for this study are:

H_{01}: Pension funds have no significant effect on market capitalization in the Nigerian capital market.

H_{02}: Pension funds have no significant effect on equity price in the Nigerian capital market.

H_{03}: Pension fund has not significantly reduced transaction costs in the Nigerian capital market.

1.6 Significance of the Study

Pension matters had been at the epicenter of government concern and the way to solve the problem of accumulated pension arrears in the country's public sector has been a matter of both state and academic concern. On the other hand, capital market development, being an indispensable ingredient of economic development and prosperity is treated with utmost importance.

Studies on this relationship are on their infancy in Nigeria as pension fund is a recent phenomenon. To this backdrop, this study would serve as a valuable reference to students and other researchers wishing to carryout studies in the subject area in developing countries especially Nigeria, therefore contributing to knowledge.

Furthermore, the findings of this study will help government in the future implementation of Pension policies as well as be useful to capital market operators and governments in designing both pension and capital market policies.

To the bankers and investors, this study will provide a clarification as to the contribution of pension fund to capital market development. This will enable them to be better informed and aid their investment decision in this market.

1.7 Scope and Limitations of the study

The research limit its scope to the effect of Pension fund on stock Market in Nigeria, with particular reference to bond and equity market capitalization, cost of capital, transaction cost as well as equity prices. This does not mean that other aspects or instruments of the capital market are not re evant, but it is to enable the study to focus on a particular aspect of the general problem area. Thus, the study covers the period of from June, 2004 to December, 2016 for the purpose of comparisor. using

bench mark data. In view of the above therefore, the time for looking at other aspects and instruments of the capital market is the major constraint to this study.

1.8 Definition of terms

Pension; this is an arrangement to provide people with an income when they are no longer earning a regular income from employment.

Defined Benefit (DB) plan; defined benefit (DB) plan is a plan in which the benefit on retirement is determined by a set formula, rather than depending on investment returns.

Defined Contributory (DC) plan; In a defined contribution plan, contributions are paid into an individual account for each member. The contributions are invested, for example in the stock market, and the returns on the investment (which may be positive or negative) are credited to the individual's account. On retirement, the member's account is used to provide retirement benefits, sometimes through the purchase of an annuity which then provides a regular income.

Pension fund contribution is any plan, fund, or scheme which provides retirement income.

Capital market is a market for securities (debt or equity), where business enterprises (companies) and governments can raise long-term funds.

CHAPTER TWO
LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Pension Reform

Pension Reform has been one of the recent policies around the world in the last decade. Most developing countries have reformed their pension system from the Defined Benefit system to the defined contributory system whereby employers employees contributes towards the pension benefit. The Pension Reform Act (PRA), 2004 is the most recent legislation in Nigeria to address the pension system in the country. It established a uniform pension system for both the public and private sectors.

2.1.2 The Need for Pension Reform

Most pension systems in the world do not deliver on their social objectives, they contribute to significant distortions in the operation of market economics and they are not financially sustainable when faced with an ageing population (Dalang, 2006). A PAYG programme, by definition, is unfunded. This feature implies that the government has to make up the budgetary whole or implicit debt once pension benefits could not be covered by the accumulated payroll taxes collected. Although the government could increase the contribution rate or reduce the replacement rate, obviously they both are always politically sensitive, particularly because the contribution/replacement rate might have to be raised/reduce to a prohibitably high/low level when working population is very small relative to retired population (Hu, 2005).

The underlying theory of how PAYG systems affect the demand side of labour market is that employers view PAYG contributions as one form of payroll tax, so they tend to replace labour recruitment with capital investment, therefore reducing labour demand (Hu, 2005). This issue is

particularly relevant for the industry where there is much more retirees than the regular workers. In Nigerian Railway Corporation, for example, there is unsustainable relationship between income generating and salary earners. The corporation generates ₦30 million every month; it pays ₦250 million to pensioners and ₦200 million to regular workers. Then there is the accumulated teachers' pension, itself a consequence of the same skewed pension policy. Another graphic example is the armed forces which have more officers and men on pension roll than those in active service (Amoo, 2008).

The fundamental problem with old system was that benefits were very generous. Civil servants were eligible for separation of gratuity after 5 years of service and a pension after 10 years of service. At that point, the gratuity amounted to 100 percent of final salary (Balogun, 2006). While the pension was 30 percent of salary, with each additional year of service increasing the gratuity by 8 percent and the pension benefit by 2 percent. After 35 years of service, a worker qualifies for maximum benefits that is, a gratuity equal to 300 percent of final salary (Maiturare, 2006).

Disney (2003) argues that the distortionary "tax component" of public pension contributions can also affect labor market demand if the employee can pass through the burden of contribution to consumers, for example via product prices if the market is not fully competitive. In consequence, the product demand falls and producers might consider reducing the demand for labor. Another point that is relevant here is the "lump of labour fallacy". The lump of labour fallacy is associated w th the idea that there is fixed amount of work available in the world, so far any increase in the amount of work each person can produce, there is a decreasing demand of labor. Given the rapid technological advances since world war two, many governments internationally, for example, France's socialist government tried to create more jobs by reducing the length of workweek and encouraging earlier retirement by providing generous social security provisions, of which PAYG system is particularly relevant (Hu, 2005).

Traditional PAYG systems suffer from political risk as politicians may promise benefits which are not suitable in the long run or simply change the benefit formula for whatever reason. In this context, it is claimed that funded pension systems, for example, the World Bank multi-pillar model can avoid this problem (World Bank, 1994). It is true that the funded system accounts of each individual make it harder for government to make excessive benefit promises, in that retirees will be paid from their own accumulated accounts rather than from the pool of payroll tax paid by current working population as under the PAYG systems (Hu, 2005).

However, frequent reviews of pension schemes by federal Government of Nigeria without consulting state governments and other stake holders constitute a major snag. The frequent review have caused implementation problem such as inability to secure sufficient funds to meet current rates. There is also the problem of strategic method of downsizing and rationalization of personnel in order to reduce the operating costs, labour costs and promote efficiency (Okoroni and Akeredolu, 2005). Furthermore, political instability and unstable labor policies in the past had endangered massive premature retirement thus creating an unstable labour pensioner to active worker ratio (Amoo, 2008). In addition, non availability of records, uncoordinated administration, inadequate funding, outright fraud irregularities and conflicting laws, diversion of remitted or allocated fund, presence of ineligible pensioners on the pension's payroll and incapacity to effectively implements budget and make adequate provision are the problem really constituted a setback for the PAYG scheme (Oluwatoyin and Ikechukwu, 2009).

It is argued that government is poor at pension fund administration and management (Okonfoni & Akeredolu, 2005). As about 300 parastatals schemes in Nigeria were bankrupt before the pension fund came on board, due to restrictive and sharp practices in the investment and management of pension fund (Balogun, 2006). In addition, many pension managers for example in the U.S are appointed by the government, thus they might always have political pressure to support local firms

and engage in social responsible investing (Romono, 1993). Consequently, the rate of return is lower (Mitchell & Hsin, 1997). Given this problem associated with pension fund's public management, private management is argued to be better insulated from such political risk (Hu, 2005).

The impact of the pension system on individual saving has been a concern since Feldstein's (1974) pioneering paper, which centers around the funding status of social security and in particular on the degree to which an unfunded pension system reduces private saving (Granville & Mallick, 2002). The intuition is that people do not save much under PAYG plans since they think the government will always "bail out" them if they fall in to poverty (Hu, 2005). Also, it is maintained that many people view social security systems as implicit wealth if they are confident about their ability of getting benefit later. Therefore, if contributors to public systems perceive they are entitled to secure benefit when retired they reduce discretionary savings accordingly (Disney, 2003). However, Palley (1998) is of view that the way to finance social security that has the least effect on private savings is to cut payroll taxes and finance the public pension system from general tax revenues. If the pension system is financed through payroll taxes, then wage must grow as the number of retirees increases, but if the public pension scheme is financed out of the general income tax, and if income tax receipt are proportional to GDP, then the pattern of wage growth is no longer important.

Empirical results tend to be consistent with the view that higher private savings are associated with funding than with PAYG. For example, Feldstein (1987) argues that the public social security programme in U.S effectively reduced total private saving by 38 percent and total personal saving by nearly 50 percent during 1960s. Also, Pitelis (1997) has found that compulsory contributions from wage income reduce private saving. Ideally, wages should grow in line with productivity and hence what matters is GDP growth, and contributions to a public pension scheme can continue to grow through taxes on profit. In addition, the literature based on cross-country empirical studies indicates only that long term saving and investment are positively correlated but not whether growth drives

saving or saving drives growth through the saving-investment link. Of course, pension fund play a significant role in mobilizing long-term savings and in promoting financial and capital market development (Hemming, 1999).

2.2.2 Benefits of Pension Reform Act of 2004

The benefits of pension reform as advanced by many authors are as follows;

2.2.2.1 Better Corporate Governance Practice

Corporate governance deals with the ways in which suppliers of finance to firms assure themselves of obtaining a return on their investment (Shleifer & Vishny, 1997). Pension fund managers are not expected to be controllers of companies. They will usually be important minority shareholders. Since pension fund managers are expected to act in the interest of the funds they manage, at least potentially they may become important representatives of minority share holder's interests (Vittas, 1996; Lanoo, 1998; Blake & Orszag, 1998).

In addition, common interest among pension funds managers may open the possibility of electing independent board members. Moreover, pension fund representatives are expected to have ready access to the regulatory authorities and to be able to influence public opinion. Moreover, since pension funds are relatively large investors they tend to overcome the free rider problem that plagues other minority share holders. All the above may positively affect the balance of the different corporate governance forces (Walker and Lefort, 2002).

Similarly, given that some of traditional corporate governance strategies have drawbacks, for example takeovers are costly and managers forms on only short-term targets if they have stock-option based compensation. Clark and Hebb (2002) identify four drivers which facilitate pension

fund's corporate engagement and even foreshadow the emergence of fifth capitalism stage, particularly based on the increasing role pension funds play in corporate governance, The four drivers are as follows: The first driver is the wide use of indexation techniques in pension funds industry which disenables exit from under performing companies which are in the index. The second driver is the increasing demand by owners for transparency and accountability particularly after Enron and world com scandals. Third, pension funds pressure to undertake socially responsible investing (SRI). Fourth, Pressures to humanize capital with social, moral and political objectives extend pension fund's simple concerns of long term rate of return.

However, Davis (1998) opines that, implying a greater degree of control by capital markets and institutional investors, which would in turn improve the financial market function of dealing with incentive problems. For instance, as pension funds become dominant, family enterprises that seek equity capital from the market may have to reduce their role in governance, implying a potential transition path for the corporate governance structure.

Moreover, Iglesias (2007) is of the view that, the participation of pension funds as shareholders or bondholders may also serve to improve the corporate governance of the companies in which they invest. As in the previous case, this is also due both to the direct demands made by the pension funds on the managers and controllers of such companies and to a decision on the part of the issuers themselves to create conditions that make it attractive for the pension funds to invest in the securities that they issue. At the same time, the development of the pension funds may help legislators and regulators to recognise the importance of reinforcing the various mechanisms designed to protect investors. This leads to the improvement (and creation) of regulation aimed at minimizing the risk of conflict of interest and strengthening the rights of minority shareholders and the holders of debt instruments issued by the companies.

Meanwhile, Walker and Lefort (2002) argue that it is possible that pension fund managers do not act in the interest of their investors but in those of the manager's related business. Naturally, regulations try to avoid this situation. In either case, a new balance regarding corporate governance could arise, which should favour the development of capital market, if properly guided.

2.2.2.2 Improvements in the Quality of Investment Decision Making

Iglesias (2007) argues that improvements in the quality of investment decisions are to be expected, since the pension funds administrators are professional, specialized investors, who have develop considerable ability in collecting and analyzing market information. In addition, via the pension funds, individuals gain access to investment portfolios which would be extremely difficult for them to constitute individually (or significantly more expensive).

In the words of Walker and Lefort (2002), managing increasing volumes of funds justifies increasing levels of specialization and professional, well – educated management. This effect is reinforced as agents substitute individual investment management by pension fund investment management. This process of specialization and professionalization of pension fund management also implies a "spillover effect" on to other related agents, such as investment-bankers, firm managers and also regulatory authorities. This should imply the use of recent knowledge, as well as newer communications and information technology. At the same time, professional investors have interest in helping the authorities to determine the direction of legal modernization. However, these effects added together contribute towards improving the quality of country's capital allocation.

2.2.2.3 Financial Innovation

Institutional investors, especially pension funds, were major forces stimulating the financial innovation that has taken place over the past fourty years (Bodie, 1990). The idea behind this is that

as capital market grows larger, there are bigger gains to financial innovation. However, Walker and Lefort (2002) argue that, for a given degree of risk aversion, defined contribution pension systems provide incentives to the development of equity like instruments whereas defined-benefit systems favour the development of fixed income and related markets. Never the less, since most defined-contribution schemes include the alternative of purchasing an annuity at the moment of retirement, there will be incentives to creating longer-term instruments and derivatives that help matching structures of assets and liabilities, although they will become stronger later.

Similarly, Iglesias (2007) opines that, the growing size of the capital market generates incentives for financial innovation because it facilitates the development of new institutions such as custodians, centralized clearing mechanism and electronic trading system. Meanwhile, Davis (1998) remarks that, these developments may include equities, junior markets, corporate bonds, securitization, credit deposits and indexed instruments. For example, in OECD countries, the need for hedging against short falls of assets against liabilities has led to the development of a number of recent financial innovations such as Zero coupon bonds and index futures. Similarly, Immunization strategies and the development of indexation strategies by and for pension funds have increased demand for futures and options. However, these newly developed institutions and instruments-contribute towards improving the efficiency of the capital market.

2.2.2.4 Transparency and Integrity

Institutional investors which are managed by trained professionals are usually more aware than ordinary investors of potential conflict of interest and agency problems facing corporate management (Vittas, 1999). This is explained by the demand that arise from the pension funds themselves for financial information that is more complete and of higher quality, and also by the interest of the

various issuers in meeting the requirements imposed by the pension funds as a condition for investing in their respective securities (Iglesias, 2007).

Walker and Lefort (2002) argue that the enforcement of better regulations regarding disclosure, accounting and auditing standards should lead to greater capital market transparency. Also, because of practical considerations, increasing pension funds could imply a trend toward self-regulation, which in turn may be a more efficient way to help the development of a capital market. In addition, the creation of risk – rating systems provides an additional way of giving transparency to the capital markets. In fact, when public trust is at stake, particularly in the case of mandatory pension system, some kind of certification or independent opinion regarding the riskiness of the instrument eligible by pension funds is expected to be required by the authorities. One such mechanism is a mandatory risk – rating requirement.

2.3 Pension Fund and Stock Market Development

This section discusses the consequences of pension fund induced capital market development with particular reference to equity market capitalization, cost of capital, equity price volatility and transaction cost as follows:

2.3.1 Equity Market Capitalization

The increase importance of institutional investors has been accompanied by an increase in the relative importance of equity and bond market, at the expense of bank deposit (Reldos, 2004). Davis and stail (2001) confirm this result with panel regressions for mature markets, splitting the sample

into Anglo-Saxon countries that have experienced a more marked growth in institutional ir vestors – Europe and Japan.

Studies demonstrate a substantial degree of contemporaneous correlation between ins:itutional investment-including pension funds – and securities market development, but it could be argued that this does not imply a causal relationship. Indeed some authors (Davis, 1995; Davis and Steil, 2001) suggest that development of securities market is a precondition for the growth of institutional investors. To shed some light on this issue, Catalan, Impavido and Musalem (2000) run two way Granger causality tests for 14 OECD countries and 5 emerging markets, with annual data from 1975 to 1997 in several cases the evidence shows that either causality does not exist or where it exists it is predominantly from institutional assets to market capitalization and not vise-Versa. For the case of pension fund in emerging markets, the authors find that in Thailan and South Africa causality seems to run from pension fund to market capitalization, while in Chile causality runs both ways and in Malaysia and Singapore it seems to run in neither direction.

Cantera, Fancher, Montoro and Molina (2001) suggest that by the year 2015 most reformed system in Latin America is going to reach a level of Assets Under Management (AUM) of around 25-30 percent of GDP, roughly the level of the average of the G-7 countries in 1998. Although the Institutional, demographic, and financial structure differ across both groups of countries, a comparison of both experiences suggests that securities market could potentially double in size (Relative to GDP) by 2015. Equity and bond market capitalization In the G-7 Countries roughly doubled in two decades, from around 50 percent of GDP in 1980 to more than a 100 percent of GDP in 1998.

Meanwhile, Claessens, Kligebiel, and Schmukler (2002) has found that a similar figure for a sa nple of Latin American Countries suggests that it may not be feasible for countries equity market to grow

at such pace and double in size in a little more than a decade. On top of the time needed to build the necessary infrastructure and institutions to support these markets, structural trends such as immigration of liquidity to financial centres may limit the potential growth of local equity markets.

A remarkable achievement in the case of Chile is the creation of a long run market in corporate bonds as documented in Cifuentes, Desormenanx and Gonzalez (2002), the average maturity of bond issuance was between 10 and 15 years in the first half of the 1990s, and more recently it has been between 10 and 20 years, even 30 years bond have been issued. Most corporate bonds in Chile are indexed to the *Unidad de formento*, and analysts have noted that indexed bonds have been an optimal instrument for pension fund and insurance companies. In the case of Argentina in the second half of the 1990s and Mexico in the last five (5) years, the rapid growth in local corporate bond issuance has also been associated with acceleration in the growth of pension funds.

Another study by Impavido, Musalem and Tress (2003) has found that an increase in the share of total assets managed by pension funds and insurance companies has a positive impact on stock market capitalization. The effect on the depth of stock markets is stronger when the financial system is market based, when international transaction in securities are not too large and when pension system are mandatory.

Mathieson, Roldos, Ramaswamy and Ilyima (2004) has found that the rapid growth of assets managed by private pension funds in Latin America and Central Europe is having a positive impact on the development of local securities markets, which has so far concentrated mostly in local bond markets. Pension fund have contributed to government efforts to develop liquid bench-mark yield curves especially in Hungry, Poland and Mexico. They have also supported the growth of medium-long term corporate bond.

Hu (2005) confirms that although large stock markets do not necessarily function efficiently, stock market capitalization is still the most frequently used indicator, measuring the overall size of markets. The author's estimated results suggest that both in long run and in short run, pensior. fund growth led to a larger stock market, which is both statistically significant and economically meaningful. When he estimated regressions on two separate groups, for example, OECD and EMEs, the results remain. Again, in order to check result's robustness as well as eliminating the simultaneity bias noted earlier, he run the estimation base on TSLS by using filted values of pension Fund Assets/GDP. For most part, result do not change much, there is still evidence of a positive association between stock market capitalization and pension funds. Some other explanatory variables are significant Error correction terms (ECM) are all negative, signaling the long run relationship between pension assets and market capitalization.

In addition, the author run a Granger Causality test and note that, the complementary technique only mean whether there is a causality correlation between indicators. Therefore, rejecting causality does not necessarily contradict his findings earlier from panel error correction model (PECM) For example, the non existence of a Granger causality from pension funds to private bond for the OECD Countries regression at Lags 4 and 5 does not and should not deny a positive correlation between them as he found earlier from panel error correction model (PECM).

Yermo (2005) finds that the relationship between pension fund investment and stock market liquidity is relatively robust and does not suffer from exogeneity problems. Their positive relationship cannot be driven by the high volatility in equity prices, because Volatility affects in equal measure the numerator and denominator of these two variables. An increase stock price raise the value of stock trading and pension fund equity investment (The numerator of each variable) and stock market capitalization (the denominator) in equal proportion. Hence any change in the ratio of pension fund investment in equity to stock market capitalization must be due to net purchases of equity by pension

funds. There is therefore a causal relationship between pension fund investment and stock market capitalization. The greater the presence of pension funds in the stock market, the higher the stock market capitalization

2.3.2 Reduction in firm's Cost of Capital

We might be able to gain some insight on this issue by drawing on relevant financial theories. Based on Modigliani and Miller (1963), the weighted average cost of capital (WACC) do not change, if proportion of Bonds increases, for example, Firms issue more bonds as happened in Chile following pension fund, WACC will decrease due to the tax benefits gained from more debt. Results, however, will become less straight-forward if more shares are issued with bonds. But pecking order theory suggests that firms always prefer debt issuance to equity issuance in the first instance.

Iglesias (1998) urges that the creation of a fully funded pension system may imply that the cost of funds for firms decreases, and attributes this effect to the accumulation of financial savings as opposed to other types of wealth. The idea is that when private savings are not intermediated by financial markets take the form of private equity land, gold and others.

Walker and Lefort (2000) argue that there are three possible channels where by the cost of capital could be decreased. The first channel is more developed capital market resulting from pension funds, thus making issuance of securities cheaper. Secondly, even allowing for short term performance evaluation, the expected investment time horizon of pension fund is longer than that of individuals and firms, thus reducing the term premium. The risk premium may be reduced due to pension fund pooling and professional management. Both the term premium and risk premium's reduction might lead to decrease averages cost of capital.

Furthermore, Walker and Lefort (2002) carry out an empirical study on the link between costs of capital and pension funds, using dividend yield and price to book ratio as proxy for cost of capital in 33 emerging markets. The authors find that pension fund significantly decrease the cost of capital. But when they change their econometric specification by controlling for the degree of reform in different areas of the economy, the relationship becomes insignificant.

Meanwhile, Hu (2005) finds that under the development of pension funds and given that the pension funds activisms under way in many countries, particularly in the United States, both bank supply costs and agency costs can be reduced because pension funds find the increasing difficulty of voting with their feet, that is, selling in takeover, and thus actively participate in firms management so as to improve the corporate performance. In consequence, the cost of capital for firms can be reduced.

In another perspective, Iglesias (2007) argues that the development of the pension funds could lead to a fall in the cost of capital because the greater size of the market makes it possible to reduce the average issuance cost of financial instruments. The idea is that, the pension and other institutional investors that sell life annuities are long term investors that may demand lower liquidity reward of their investments. However, it is necessary to identify the kind of structural change that would have to take place in order to allow us to justify that the required rate of return may indeed decrease after accumulating significant pension funds.

2.3.3 Equity Price Volatility

Stock market prices tend to fluctuate more than other economic variables even in fully developed markets. However, a high degree of volatility is a negative feature of a stock market in that it can undermine the financial system as a whole (Singh, 1996). The author provides evidence on this issue for the 1980s. His data showed, for example that between 1984 to 89, the standard deviations of

month percentage changes in share price on the emerging markets where considerably large· than those of US, the UK or the Japanese stock markets. Singh also reported that between 1982 and 1985, share prices on the Brazilian stock rose five-fold (in US dollars terms), two years later they dwindled to twenty eight percent of their 1985 value. In the first nine months of 1987, share price on the Mexican stock market raised six fold. However, following black Monday in October 1987, Prices fell to a tenth of their pre-cash level. In Taiwan, the largest third world stock market, between 1987 and February 1990, the share price index rose by three hundred and thirty percent to reach a peak of 12,600. The index then fell to a quarter of its value (3160) by September 1990. One main contributing factor is the regular performance check on asset managers against the market benchmark from the fund sponsors.

However, Davis (2000) suggests that growth of institutional investors, for example, pension funds has led to heighten stock market vitality and the resultant implication might be increased risk premium and cost of capital. One main underline factor is institution's herding behavior simply speaking; herding is defined as behavior where by institutional investors seeks to buy or sell assets at the same time. There are a number of reasons institutional investors herd more than individuals.

Result from a questionnaire survey circulated to a large number of institutional investors by Davis (1998) reveals that pension funds have direct effect on liquidity and price formation. Normally, Institutions being willing to trade, having good information, and facing low transaction costs, should tend to speed the adjustment of prices to fundamentals, which in turn could generate an efficient allocation of funds and would act as a useful discipline on lax macroeconomic policies. Moreover, the liquidity that pension funds make available may also dampen volatility, as suggested by lower share price volatility in countries with large institutional sectors.

Results from empirical work are mixed. Nofsinger and Sias (1999) examine annual changes in institutional holdings and find out that herding exists among institutional investors for the period from 1977 to 1996. But Lakonishok, Shleifer and Vishny (1991a) have found that the average pension fund is contrarian, for example, they buy disproportionately stock that have performed poorly. This behaviour might have the effect of reducing market volatility.

Meanwhile, Walker and Lefort (2000) have found that pension fund growth reduces security price Volatility because of the time dimension. Indeed, at least part of the correlation exhibited by equity return across different markets and region can be attributed to variation in required risk premium. If local pension funds risk tolerance is assumed to remain constant over time, then variation is risk premia (these perhaps are caused by variations in foreign investors risk tolerance) should be taken advantage of. This is done by purchasing securities when the risk premia is high (at low prices) and Vice Versa. Thus, Price variations should be less extreme when compared with a market that does not have this class of investors.

Brainard (2001) notes that local pension funds and their investment guide lines have become essential considerations for investors in external debt markets. Developing a local investor base for sovereign external debt reduces price volatility and hence market risk for foreign investors, but it may increase default risk if overall debt levels become unsustainable.

In another perspective, Walker and Lefort (2002) have found that pension fund growth reduces security price volatility for 33 emerging market economies. They use 24 month annualized moving volatility as a proxy for market volatility. Inflation is used to proxy macro-economic stability and bank assets to proxy capital market development. Other independent variables include per-capita income, initial conditions and the region which are used to capture heterogeneity across countries. This negative link between pension fund and market volatility might be justified by such large

investor's ability to access more information, then restraining prices from deviation too far away from fundamentals. It should be noted, however, that when another specification, that is, using reform indices from Morley, Machado, and Pettinato (1999) was employed to do the same estimation, the relationship between market volatility and pension funds were not statis ically significant. But Walker and Lefort note that the later specification might suffer from proble.ns of measurement errors.

Another study by Davis (2003) using data set covering both pension and life insurance assets across G-7 countries. His results suggest a positive link between equity price volatility and the share of equity held by pension funds and life insurance across both Anglosaxon countries and continental European Countries and Japan (CEJ). He mentions, however, that such a link in the G-7 and Anglo-Saxon countries might be due to the shift in sectorial holdings of equities rather than institutional holding per se.

Voronka and Bohl (2003) evaluate herding in the new polish mandatory pension fund system (similar to the Chilean one). They find that pension fund investors engage in herd like behaviour and pursue feedback trading strategies. They do not, however, find that trading by pension fund investors exerts a significant influence on stock price.

2.3.4 Transaction Cost

Orszag and Stiglitz (1999) has written that in creating individual accounts (pension fund), countries should let many kinds of firms (banks, insurance companies, mutual funds) compete for the business. Fierce competition in sophisticated markets has driven down costs in these businesses. There is no reason why the same should not be true for pensions, although the need for adequate prudential and saver-protection regulation will clearly remain.

Davis (1998) finds that given their size pension funds have a comparative advantage in compensating for the increased risk by pooling and diversifying across assets whose returns are imperfectly correlated – an advantage reinforce by the lower transaction cost involved in large deals and the ability to invest in large indivisible assets such as property.

Another international comparison study by white house (2000) shows that Bolivia and Australia have the lowest charge ratio, while many Latin American Countries, for example, Mexico and Chile have much higher ratio. For example, this ratio is 9.8 percent for Bolivia, 26 percent for Mexico and 18 percent for Chile. One different factor is the pension fund management system terms. Note that Bolivia is a pioneer in selecting pension funds managers through international auction in order to minimize asset management fees.

In addition, for the second pillar of Swedish pension systems, that is, the privately managed Defined contribution pillar, the Swedish government set up the "clearing houses" which keeps all the individual accounts of individual shares and fund share values, the main purpose of it is to reduce transaction costs (palmer, 2000). In addition, the premium pension authority (PPA) was established in 1998. One of its core responsibilities is to enter in to contracts and negotiable aggregate purchase with participating funds. Therefore, given the benefits resulting from the economics of scale and better bargaining power transaction costs will be reduced significantly.

James, Smalbout and Vittas (2001) argue that by operating in the institutional markets for example, where small individual accounts are aggregated in to large blocks of money and manage in a centralized basis, individual accounts pension systems can achieve most of the cost advantages of centralized funds but with the additional merit of greater political insulation and responsiveness to workers preference. It is a cost effective intermediate option in that a single nationally centralized fund, like the Employees provident fund in Malaysia has problems of asset misallocation while the

individual retail market for example the practice in most Latin American Countries incurs substantial transaction costs. As for the UK pension fund markets, Blake (2000) raises the issue of economics of scale as well, and recommends the government keep the cost down, for example, by establishing a central clearing house to contribution scheme.

Regarding traded volumes in Chile, one year following the creation of pension funds, the amounts traded in fixed income were multiplied 10-fold. Traded volumes had been multiplied by 10 again as of 1987. The 1987 volume was multiplied 10 times once more as of 1998. In 1986, one year after allowing pension funds to invest in stocks, the amounts traded was multiplied 5.6 times and in 1990, more than 10 times the 1985 amount (Walker and Lefort, 2002). In the case of Argentina, despite the short history of the new system, there are noticeable effects. With respect to 1993 (the year before the beginning of the new pension system), total traded volume were multiplied 3.3 times. Also, the average size of the trades significantly increased (AFAP, 1998).

Regarding technical innovation that may reduce transaction costs, in 1987 the Santiago stock exchange implemented electronic security trading system (Iglesias, 1998). It is claimed that this modernization greatly increased traded volumes and also the efficiency of the market. In November 1989 the Electronic Stock Exchange began operating in direct competition with the Santiago Stock Exchange (Bolsa de Comercio de Santiago, BCS). It was originated mainly by agents that wanted to operate with the AFTs, but that were not allowed to because pension funds were required to operate only in formal markets, for example, the BSC (De la Cuadra and Galetovic, 1997). AFPs were thus decisive, not only in the formulation of the project, but also in terms of redirecting part of their transactions to this market. It is important to keep in mind that transaction cost are paid directly by the managers and are not subtracted from the pension funds. This naturally creates additional incentives to the reduction of transaction costs (Walker and Lefort, 2002).

Iglesias (1998) reports that BCSs fees charged for the transaction of shares and fixed-income dropped from 0.5 and 0.015 percent in 1985 to 0.12 and 0.0 percent in 1994. De la Cuadra and Galetovic (1997) report that brokers fees have also fallen from 1.2 percent in the early 90s to an average 0.6 percent in 1998. Here the current condition that helps to explain the drop in the transaction costs was the increasing competition among intermediaries, especially and in addition to the Electronic Stock exchange, the new competition from the NYSE. Finally, electronic custody of securities was implemented in 1995. Before, by law, most of the custody took place in the Central Bank of Chile, and transactions meant physical exchanges of securities. The large pension fund holdings importantly justified this new institution, which is expected to have significant effects on transaction costs (Walker and Lefort, 2002).

Yermo (2005) considers the role of pension fund in the bond market in Chile, and in particular their impact on the evolution of bond yields. One of the basic assumptions of the expectation hypothesis that underpins standard models of bond yields is that markets are perfectly competitive in the sense that no single buyer or seller can affect prices and there are no transaction costs. As shown by friedman (1977), such assumptions do not seen to reflect accurately reality. Transaction costs tend to be greater for the reallocation of existing asset holdings than for the initial allocation of new wealth holdings. Friedman (1977) also argues that institutional investors such as insurance companies and pensions funds are typically reluctant to undertake sharp negative swings in their new purchasing activities for long period of time. Such behavior can be exacerbated if pension funds are large relative to the market as in Chile. Large transactions may move bit/ask spreads adversely for them. Pension funds in a country like Chile may hence adjust towards their preferred asset allocation primarily through the investment of new contributions and in o gradual manner.

2.4 The Nigerian Pension System

Pension today has become a topical issue, one that has engaged the commitments of government attention of employers and workers not only in Nigeria but also in many developing and emerging economies of Africa, Asia and Latin America. There are changes to the way pension assets are managed and benefits distributed to beneficiaries due to the difficulties attributed with pension schemes existing in these countries. Many countries have opted for different forms of contributory pension schemes in which employees and their employers are expected to pay a certain percentage of the employee's monthly emoluments to a retirement saving account, from which they would be drawing their pension benefits after retirement.

In Nigeria, the first ever legislative instrument on pension matters was the pension ordinance of 1951, with retroactive effect from 1st January 1946. The National Providence Fund (NPF) scheme established in 1961 was the first legislation enacted to address pension matters of private organizations. It was 18 years later that the Pension Act No. 102 of 1979 and the Armed Forces Pension Act No. 103 of the same year were enacted. In 1987 the Police and other Government Agencies Pension Scheme was enacted under Pension Act No. 75, followed by the Local Government Pension Edict which culminated into the establishment of the Local Government Staff Pension Board of 1987. The Nigerian Social Insurance Trust Fund (NSITF) was established by Decree No. 73 of 1993 to provide enhanced social protection to private sector employees. The NSITF took over the assets of the NPF and commenced operations in July 1994. Thus, all registered members of the defunct NPF became automatic members of the NSITF. Similarly, all private sector employees were mandated to register as members as soon as they commence operations and assumed duty respectively.

Governmental Parastatals and agencies directly funded by the Treasury had a unified pension scheme that was virtually managed by insurance companies and many were unable to honour their pension obligations. However, the pension schemes of the self funded agencies were better managed (Walker & Lefort, 1999).

The first private sector pension scheme in Nigeria was set up for the employees of the Nigerian Breweries in 1954, which was followed by United African Company (UAC) in 1957. National Provident Fund (NPF) was the first formal pension scheme in Nigeria established in 1961 for the non-pensionable private sector employees. It was largely a savings scheme, where both employee and employer would contribute a sum of Four Naira (N4) each on monthly basis. The scheme provided for only one-off lump sum benefits. The Nigeria Social Insurance Trust Fund (NSITF) was established by Decree No. 73 of 1993 to take over the NPF Scheme and provide enhanced pension scheme to private sector employees.

2.4.1 Challenges of the Old Pension Schemes

The need for pension reform was necessitated by the myriad of problems that plagued both the Defined Benefit (DB) arrangement - Pay As You Go (PAYG) in the public sector and other forms of pension systems like occupational schemes, mixture of funded and DB schemes that operated in the private sector.

According to Ahmad (2010), one of the challenges of the public sector DB scheme lied in its dependence on budgetary provisions from various tiers of governments for funding. The scheme became largely unsustainable due to lack of adequate and timely budgetary provisions. This was the reason for the soaring gap between pension fund obligations and revenues, which threatened not only economic stability but also crowded out necessary investments in education, health and

infrastructure. This was exacerbated by various increases in salaries, which ultimately led to increase pensions and hence undue pressure on government fiscal responsibilities.

Pension Administration had been largely weak, inefficient and cumbersome due to poor staffing and equipping. This had more often than not led to poor record keeping at all pension offices throughout the country as a result of which many pensioners had to spend years before their retirement benefits were paid (Oluwatoyin & Ikechukwu, 2009).

The exit phase was quite challenging where payment procedure was often very tedious, sometimes the pensioners had to wait for days and years, to collect their entitlements. Similarly, the reimbursement process for the split of pension and gratuity payments between Federal and State services and other agencies was very clumsy, untidy and sometimes fraught with bribery and corruption (Okotoni & Akeredolu, 2005). There were undocumented cases where the reimbursing agency holds the recipient to ransom.

The private sector schemes were characterized by very low compliance ratio due to lack of effective regulation and supervision of the system. Most of these schemes were akin to Provident Fund Schemes, which did not provide for periodic benefits. Even at this, many private sector employees were not covered by any form of pension scheme.

Prior to the PRA 2004, most public organizations operated a defined benefit- Pay as You GO (PAYG) scheme. Final entitlements were based on length of service and terminal emoluments. The defined benefit scheme was funded by Federal Government through budgetary allocation and administered by pensions department of the office of Head of Service of the Federation.

2.4.2 The New Pension Scheme

The Pension Reform Act 2004 (PRA 2004) is the most recent legislation of the Federal Government aimed at addressing the associated problems of the old pension system. It established the Contributory Pension Scheme (CPS), which is a uniform pension system for both the public and private sectors. Similarly, for the first time in the history of the country, a single authority, the National Pension Commission (PenCom) was established to regulate and supervise all pension matters in the country. The scheme is being managed by licensed Pension Fund Administrators (PFAs), while the custody of the pension fund assets are provided by licensed Pension Fund Custodians (PFCs).

The move from Defined Benefit (DB) schemes to Defined Contributory (DC) schemes is now a global phenomenon following the success stories of the Chilean pension fund of 1981. The paradigm shift from the DB scheme to funded schemes in developed and developing countries was ascribed to such factors as increasing pressure on the central budget to cover deficits, lack of long-term sustainability due to internal demographic shifts, failure to provide promised benefits (Hachette, 1997). Thus, developed countries like the USA, UK and emerging market economies of Chile, Mexico, Nigeria and others adopted the funded pension scheme because it enhances long-term national savings and capital accumulation, which, if well invested can provide resources for both domestic and foreign investment.

2.4.3 Features of the Pension Reform in Nigeria

The pension Reforms have some peculiar features that position it as a catalyst for sustainable social welfare programme. For example, the fact that the reform is fully funded ensures that the overall retirement income is maintained from the onset of the scheme. This ensures that retirement benefits

are paid on sustainable basis because funds are always available to defray any pension obligation that falls due. The reform has the following features:

Coverage and Exemption; PRA (2004) mandates all workers in the Public Service of the Federation, Federal Capital Territory, and the private sector where the total number of employees is 5 or more to join the contributory scheme. However, existing 'pensioners and workers' that had three (3) years or less to retire in accordance with the terms of their contract of employment were exempted from the scheme. Also, exempted were the categories of persons under Section 291 of the 1999 Constitution of the Federal Republic of Nigeria.

Contributory; Under this scheme, public sector workers contribute a minimum of 7.5% of their monthly emoluments but the Military contribute 2.5%. The public sector contributes 7.5% on behalf its workers and 12.5% in the case of the Military. Employers and employees in the private sector contribute a minimum of 7.5% each. An Employer may elect to contribute on -behalf of the employees such that the total contribution shall not be less than 15% of the monthly emolument of the employees. An Employer is obliged to deduct and remit contributions to a Custodian within 7 days from the day the employee is paid his Salary while the Custodian shall notify the PFA within 24 hours of the receipt of such Contribution (PRA, 2004). Contribution and retirement benefits are tax-exempt.

Voluntary Contributions; Section 9 (4) of the Pension Reform Act 2004 allowed for voluntary contributions. This has provided an opportunity for the self employed and those working in informal sector organizations with less 5 employees to open RSAs with a PFA of their choice and make contributions (Orifowomo, 2006). However, for voluntary contributions, the tax relief is only applicable if the amount contributed or part thereof is not withdrawn before five years after the first voluntary contribution was made.

Individual Accounts; According to PRA (2004), each employee is required by law to open a 'Retirement Savings Account' in his/her name with a Pension Fund Administrator of his/her choice. This individual account belongs to the employee and will remain with him for life even if he/she changes employer or Pension Fund Administrator.

The employee may only withdraw from this account at the age of 50 or upon retirement thereafter. An employee can withdraw a lump sum of 25% of the balance standing to the credit of his retirement savings account if he/she is less than 50 years at the time of retirement and he could not secure a new job after six months from leaving the last job (PRA, 2004). Similarly, he can withdraw a lump sum if he is 50 years or above at the time of retirement and the amount remaining after the lump sum withdrawal shall be sufficient to fund programmed withdrawals or annuity that will produce

2.5 Theoretical Framework

There are several theoretical explanations as to the relative decline of Defined Benefit plan dominance around the world. Varying theories of pension fund have also been introduced in the literature, but the approach to pension fund could be summarized in four directions: From a PAYG plan to a funded plan; from defined benefit (DB) to defined contribution (DC); from a publicly managed pension to privately managed pension; and from a singular scheme to a multipillar scheme.

First, a transformation from a PAYG plan to a funded plan seems to be considered a prerequisite for pension funds. Reformists always condemn the PAYG plan as responsible for a dramatic increase of pension expenditures. Under the PAYG plan, retirees collect their pension benefits as promised. The current workers take the responsibility to pay for the pension benefits. As the population is getting older, the current workers have to pay a higher social security tax. Therefore, pension fund advocates

have considered PAYG a Gordian knot to be cut off: Get rid of the PAYG, and establish a new financing plan by which retirees can take responsibility for their pension benefits.

Second, pension fund advocates have criticized the DB plan that always goes along with PAYG. Under the DB plan, no matter how much they have accumulated their social tax in their account, retirees collect their pension benefits as promised. According to pension fundists, pensioners have to collect their pension benefits on the basis of their contribution to their social security accounts, a so-called DB plan. In this context, the DB plan has to be transformed into the DC.

Third, pension plans have been recognized as publicly managed systems. No matter how they have lived when they were young, workers have been taken care of after retirement. In the Western states, the tradition of pension originated in the tradition of the Beveridge and Bismarck plans (Bonoli, 2005). The former has contributed to establish poverty prevention policies, while the latter has influenced the introduction of social insurance plans. Both are publicly managed plans under which governments have to take final responsibilities for the retirees' pension benefits. These two traditions have been criticized. Why should governments be responsible? People can take care of themselves by accumulating their savings. Employers also can share in the responsibilities. Therefore, a privately managed protection plan for retirees has been introduced in this context.

Finally, pension plans have been transformed from a singular publicly managed scheme to a multi-pillar scheme like Chile, which replaces the publicly managed pension plan with a privately managed scheme (de Mesa, 2008), but a multi-pillar scheme has been adapted by most countries conducting pension funds. According to the multi-pillar scheme, a universal basic pension or a social security pension has to be publicly secured by governments for the minimum livelihood and, in addition, a complementary privately management protection scheme has to be established in order to secure adequate retirement income for retirees. The complementary scheme is categorized into the second

pillar and the third pillar. Both pillars work on a privately managed basis, but the second pillar usually is designed as a mandatory scheme while the third pillar is voluntary (World Bank, 1994).

The four directions have not always run parallel with one another. The reverse directions sometimes have been shown in the literature. Also, no one direction has been dominant over the other ones. Instead, several directions have been combined and employed as their own arguments by academics and as their reform programs by practitioners. In addition, some countries have adopted parametric reforms while others have systematic reforms.

Apart from the four directions explained above, some of the theories offered by Brown and Liu (2009) provide explanation for this study as discussed below

2.5.1 New Economy Theory

This theory argues that highly mobile workforces change the viewpoint of employers who are now more likely to provide flexible pension benefit plans to meet the needs of today's employees who wish full portability of their assets. The employees also have a strong desire to control their own pension assets in a booming capital market. Furthermore, changes in culture, technology, and education have caused employees to be more self-directed and independent, making DC plans more desirable. This trend expresses itself both in the greater number of self-employed persons and in the severing of the bond between employers and employees, with groups expressing more concern with their self-interest. It is this "rational self-interest" of workers as economic decision makers that Ostaszewski (2002) uses to explain the DB plan.

2.5.2 Risk-Averse Employers Theory

This theory focuses on the fact that employers need to be more competitive in a global market. The downsizing of companies, mergers, and acquisitions make employers cost conscious and more risk averse. The last 20 years have been marked by unprecedented volatility in financial markets. This has meant that the cost of funding retirement benefits is less predictable. This theory says that, since employers have full control over the type of pension plan adopted, it is logical to expect a shift among employers to DC plans.

2.5.3 Excessive Regulation Theory

This theory argues that, after the passage of the Employee Retirement and Income Security Act (ERISA) of 1974, stricter legal, funding, and solvency requirements were imposed in the United States. These stricter funding requirements were accompanied by more limited access to pension plan surpluses on behalf of employers. Accounting standards reduced the flexibility of employers in accounting for plan liabilities and imposed on them the necessity of performing both accounting and statutory valuations for DB plans, at additional cost. The rules were made additionally complicated and costly by tax laws concerning deductibility of employer contributions to pension plans. This explanation of the shift from DB plans to DC plans, as being caused by government intervention, is popular among actuaries.

Ostaszewski (2002) adds a fourth hypothesis for the cause of the decline, namely, a shift in the way relative returns to the macroeconomic factors of production (i.e., capital and labor) are allocated in the national economy. Ostaszewski (2002:57) states that ". . . if DB plan participation as a security is compared to a DC plan as a security, DC is merely a perfect conduit of underlying asset performance, while DB participation is a derivative security creating wage-dependent cash flows out

of the underlying portfolio of capital assets." Thus, facing both a weakness in wage growth within the national income and prosperous capital markets, pension participants, as rational decision makers, would prefer DC plans to DB plans.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Research Design

The study is a descriptive longitudinal research design aimed at examining the relationship between pension funds and capital market development in Nigeria. The design is meant to look at total injection to the capital market in terms of capital and the proportion that came from Pension Fund Administrators (PFAs) investment using inferential statistical tools.

3.2 Population of the study and Research sample

The universe of the study are the Nigerian Stock Exchange (NSE), the entire 26 corporate members of the Pension Fund Administrators (PFAs) and 7 Closed Pension Fund Administrators (CPFA) licensed by the National Pension Commission (PENCOM).

These 26 corporate members of Pension Fund Administrators (PFAs) are Aiico Pension Managers, Amana Capital Pension Limited, APT Pension Fund Managers Limited, ARM Pension Managers Limited, Citi Trust Pension Managers Limited, Crib Pension Fund Managers Limited, Crusader Sterling Pension Limited, Evergreen Pensions Limited, Fidelity Pension Managers Limited, First Alliance Pensions and Benefits Limited, First Guarantee Pension Limited, Future Unity Glanvills Pensions Limited, IEI-Anchor Pension Managers Limited, IGI Pension Fund Managers Limited, Leadway Pensure PFA Limited, Legacy Pension Managers Limited, NLPC Pension Fund Administrators Limited, OAK Pensions Limited, Penman Pension Limited, Pension Alliance Limited, Premium Pension Limited, Royal Trust Pension Fund Administrators Limited, Stanbic IBTC Pension Managers Limited, Sigma Vaughn Sterling Pensions Limited, Standard Alliance Pension Managers Limited and Trust fund Pensions PLC.

The seven corporate members of Closed Pension Fund Administration (CPFA) are Chevron Nigeria Pension Plan limited, Nestle Nigeria Trust (CPFA) limited, Nigeria Agip CFPA limited, Progress Trust CFPA limited, Shell Nigeria Closed Pension Fund, Total (E and P) Nigeria CFPA limited and Unico CPFA.

The essential characteristic of sampling is to have a fair representation of the total population. On this premise therefore, for the secondary data the financial statement of all pension fund administrators and closed pension fund administrators will be used.

3.3 Methods of Data Collection

Various sources of data are available to a researcher. The secondary data was used for the purpose of accomplishing the objectives of this study. Secondary Data is the data generated through documentary sources mainly from the financial statement of National Pension Commission (PENCOM), Nigerian Stock Exchange (NSE) fact books, and Securities and Exchange Commission's monthly and quarterly reports for the period covering June, 2004 to December, 2016. Aggregate data on pension funds and capital market indicators are used.

3.4 Method of Data Analysis

The study will make use of inferential methods of analysis to illustrate the result of the investigation. Ordinary Least Square Regression Analysis will be employed to examine the relationship between Pension Funds and Capital Market development. This will be achieved by using statistical package, Stata8.0

To achieve our objectives, we will employ the Ordinary Least Square to measure the relationship between independent variables (pension fund investment) and dependent variables (equity market capitalization). Explicit form of the Simple Regression Model is expressed as follows;

$$Y = \alpha + \beta x + \varepsilon.$$

Where:

y	denotes the dependent variable (Market capitalization)
α	denotes the intercept
β	denotes the coefficient of explanatory variable
x	denotes the independent variable (pension fund investment)
ε	Denotes the error term

Specifically, the models to test the three hypotheses are as follows;

$$MCAP = \alpha + \beta\, PEN + \varepsilon \ldots\ldots \text{for hypothesis 1}$$

$$EQPV = \alpha + \beta\, PEN + \varepsilon \ldots\ldots \text{ for hypothesis 2}$$

$$TCOST = \alpha + \beta\, PEN + \varepsilon \ldots\ldots \text{ for hypothesis three}$$

Where MCAP is market capitalization, EQPV is equity price volatility, TCOST is the transaction cost and PEN is pension fund investment.

3.6 Justification of the method of Data Analysis

This study is on the relationship between pension fund and capital market development in Nigeria. Because it is a relationship study, the appropriate method of data analysis is the Ordinary Least Square regression analysis.

Furthermore, unlike correlation coefficient, the Ordinary Least Square does not only show the relationship between two or more variables but also shows the extent of the relationship.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

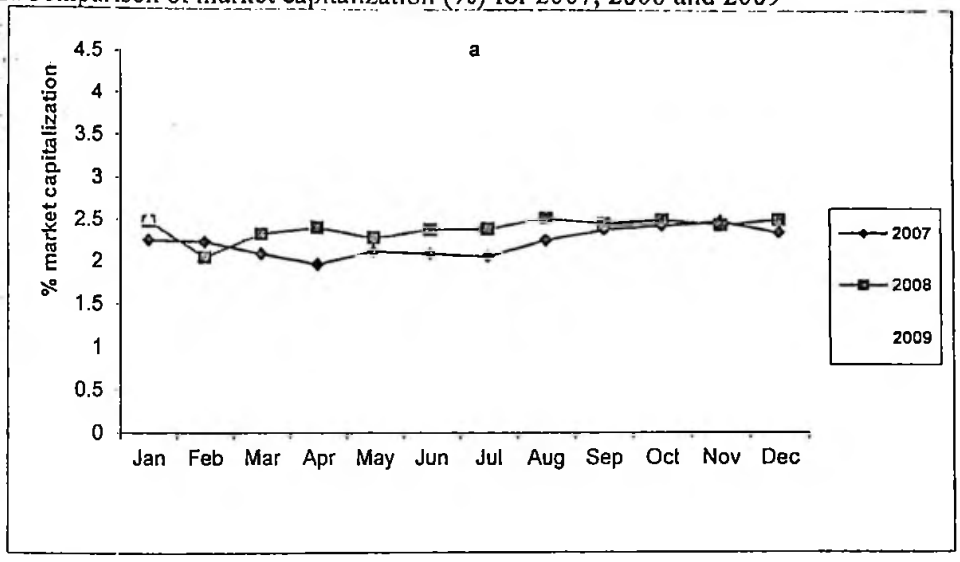
This chapter presents the analyses and interpretation of the data gathered for the study. The data relating to each of statistical hypotheses of the study are presented and analyzed together to enable test of the hypotheses and inferences to be drawn.

4.2 Growth pattern of Pension fund and Market capitalization

The growth in pension fund and pension investment in the Nigerian capital market has been consistent in the period of the study. Between January, 2007 and December, 2009, pension investment grows from N109.9 bn to N200.6bn in December 2009 (see appendix B). This is about 82.5% increase over a period of three years. This pension investment was one of the consistent investments in the capital market even at the heat of the global financial crisis.

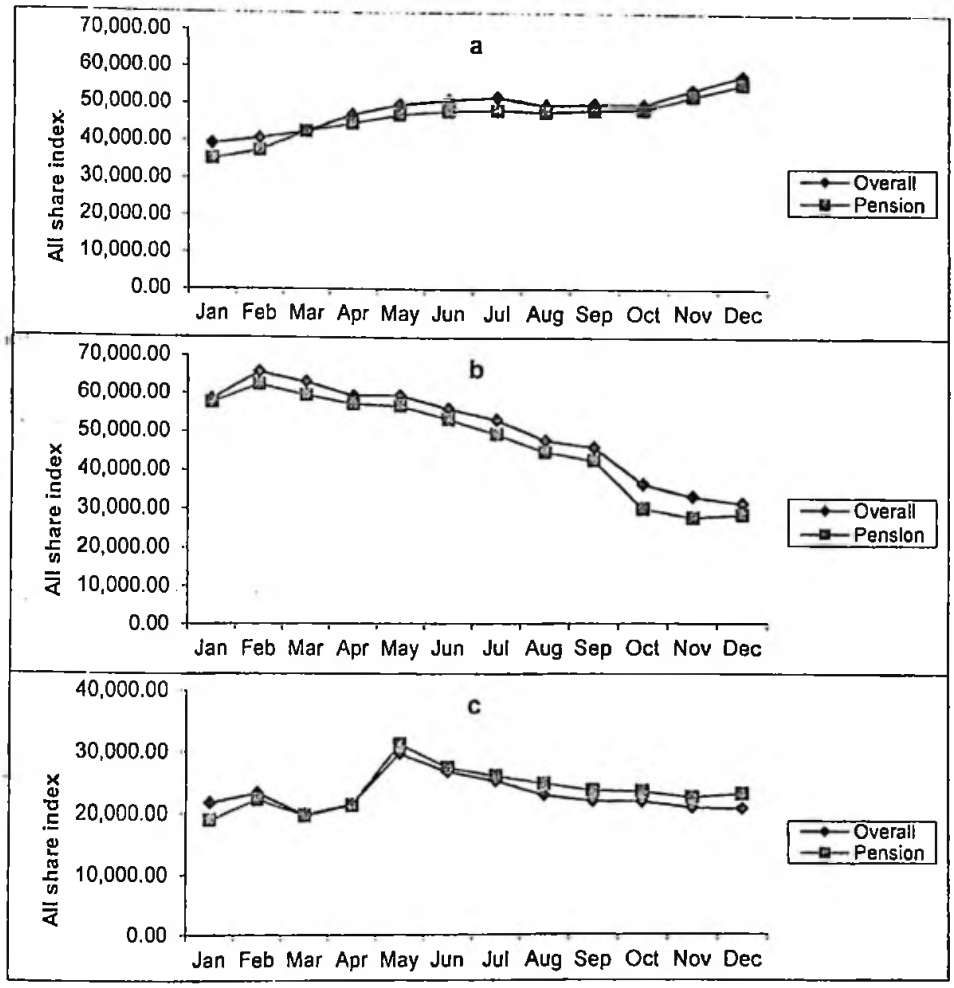
Within this period, the market capitalization growth was not consistent as it swing up and down as a result of the global financial crisis. The market capitalization as at January, 2007 was N4,890.9bn but increased slightly by 2% as at December, 2009 to N4,989.4bn. figure 4.1 and 4.2 below shows the growth pattern of the market capitalization and All Share Index for 2007, 2008 and 2009.

Fig. 4.1: Comparison of market capitalization (%) for 2007, 2008 and 2009



Source; NSE (2009)

The pattern of the effect of pension fund on capital market is also shown in figure 4. 1. Percentage market capitalization in pension is smooth throughout the years and shows increase while percentage market capitalization in other sectors was very irregular in all the years showing decline over years.



Source; NSE (2009)

Fig.4. 2: Comparison of All Share Index for overall market and pension sector in a - 2007, b - 2008, c – 2009

4.3 Pension fund and Market Capitalization

To test the effect of pension fund on market capitalization, regression analysis was carried out. The result of this analysis is presented in table 4.1 below.

Table 4.1: **Effect of Pension Fund on Market Capitalization over three year period**

Sectors	2007	2008	2009	Combined
Pension	2.2319[a]	2.4003[a]	3.2050[a]	2.6126[a]
Mean	0.5788	0.6167	0.8107	0.6687
SE ±	0.0242	0.0196	0.0154	0.0446
LSD0.05	0.0688	0.0559	0.2149	0.1246
0.01	0.0920	0.0747	0.2871	0.1646

Source: Generated by the researcher from the Data Generated from Financial Statement of National Pension Commission, NSE fact books and SEC monthly and quarterly reports.
a = Significant at 0.01%
b = Not significant at specified level of significance

Table 4.1 shows the analysis on the effect of pension fund investment on market capitalization of the Nigerian stock exchange. The result shows that pension fund has a significant effect on market capitalization. The result indicates that pension fund has positive effect on capital market as the beta, which shows the extent of changes in market capitalization as a result of changes in pension fund investment is 2.6126 which indicate that an increase in pension fund investment in the capital market by 1% will lead to about 261% increase in market capitalization. This result is significant at 1% level and indicates that pension fund investment affected market capitalization positively. The significant level indicates that a pension fund has significantly increased market capitalization. The null hypothesis is therefore rejected with a strong believe that pension fund has significantly increased market capitalization in the Nigerian capital market. This is also evident from the finding that the mean contribution of pension is higher than other sectors considered in the study.

4.4 Effect of Pension fund on Equity Price

We further test the effect of pension fund on equity price volatility, regression analysis between All Share Index (indicator of price movement in the overall market) and Pension Index (price movement for qualified stock that pension fund can invest) was employed. Regression analysis results are presented in table 4.2 below.

Table 4.2 Shown Relative Contribution of Pension to Unweighted Least Squares Linear Regression to Equity Price volatility in the Capital Market.

Year	Regression Equation	R^2	Standard Error	T-Value	F-value	Significance
2007	y = 4.99206+0.94210x	0.9710	0.05151	18.2	334.51	* (0.0000)
2008	y = 7.07281+0.9221x	0.9907	0.02827	32.62	1063.87	* (0.0000)
2009	y = 4.59211+0.77105	0.8469	0.10366	7.44	55.33	* (0.0000)

Source: Generated by the researcher from the Data generated from NSE fact books and SEC monthly and quarterly reports.
*Significant at 1% level

Table 4.2 shows the regression analysis on the effect of pension fund on equity price volatility. The result shows that the R^2 is 97.10% in 2007, 99.07% in 2008 and 84.69% in 2009. Meaning about 97.1% in 2007, 99.07% in 2008 and 84.69% in 2009 of the dependent variable – price volatility has been explained by the independent variable – Pension fund. The relationship between Y and X is highly significant at 0.01% level for 2007, 2008 and 2009.

The pattern is also shown in figure 2. This indicates that pension fund has significantly lower price volatility. We reject the null hypothesis (Hoiii) with a strong belief that pension fund has significantly increased the tempo of activities in the Nigerian capital market.

4.5 Effect of Pension fund on Transaction Cost

To test the effect of pension fund on transaction cost, T-test between transaction cost before pension fund investment into capital market (2006-2007) and after pension fund investment (2008-2009) was carried out. The T-test results are presented in table 4.3 below.

Table 4.3: The T-test result of transaction cost

		Before Pension fund (%)	After Pension fund (%)	% Change (Reduction)
Sell Side	NSE Fees	0.05	0.025	50
	Stock Brokers	1.50	1.35	10
	CSCS Transaction Fee	0.35	0.30	14
	Trade Alert*	0.10	0.06	40
	Stamp Duty	0.075	0.075	Nil
	Total	2.525	2.035	19
	T-Value = 0.02			
	P-Value = 0.0964			
Buy-Side	SEC fees	0.60	0.30	50
	Stock Brokers	1.50	1.35	10
	CSCS-Trade Alert*	0.10	0.06	40
	Stamp Duty	0.075	0.075	Nil
	Total	2.275	1.785	22
	T- Value = 0.027			
	P- Value = 0.4465			

Source: Generated by the researcher from the data generated from Security and Exchange Commission

Table 4.3 shows the T-test analysis on the effect of pension fund on transaction cost. Based on the T-test result there was no significant difference in transaction cost before and after the pension fund. This lead to the acceptance of the null hypothesis with a strong belief that pension fund has not significantly reduced transaction costs in the Nigerian capital market.

4.5 Discussion of findings

Regarding the effect of pension fund on market capitalization evidence give indication that pension fund has significantly increased market capitalization in the Nigerian capital market. This finding is consistent with Yermo (2005) where he found that the relationship between pension fund investment and stock market liquidity is relatively robust. Their positive relationship cannot be driven by the high volatility in equity prices, because volatility affects in equal measure the numerator and denominator of these two variables. An increase stock price raise the value of stock trading and

pension fund equity investment (The numerator of each variable) and stock market capitalization (the denominator) in equal proportion. Hence any change in the ratio of pension fund investment in equity to stock market capitalization must be due to net purchases of equity by pension funds. There is therefore a causal relationship between pension fund investment and stock market capitalization. The greater the presence of pension funds in the stock market, the higher the stock market capitalization.

Analysis also favours the hypothesis which states that pension fund has significantly reduced firm's cost of capital in the Nigerian capital market, which is also consistent with Walker and Lefort (2002). The authors found that there are three possible channels where by the cost of capital could be decreased. The first channel is more developed capital market resulting from pension funds, thus making issuance of securities cheaper. Secondly, even allowing for short term performance evaluation, the expected investment time horizon of pension fund is longer than that of individuals and firms, thus reducing the term premium. The risk premium may be reduced due to pension fund pooling and professional management. Both the term premium and risk premium's reduction might lead to decrease averages cost of capital.

Regarding the effect of pension fund on equity price volatility, evidence from analysis done indicates that pension fund has significantly lowered price volatility in the Nigerian capital market. This finding is in agreement with the work of Davis (1998) where he found that pension funds have direct effect on liquidity and price formation. Normally, Institutional investors having good information, being willing to trade and facing low transaction costs, should tend to speed the adjustment of prices to fundamentals, which in turn could generate an efficient allocation of funds and would act as a useful discipline on macroeconomic policies. Moreover, the liquidity that pension funds make available may also dampen volatility, especially share price volatility.

Finally, evidence from analysis done showed that there was no significant difference in transaction costs before and after the pension fund in the Nigerian capital market. This finding is in contradiction with a study conducted by Walker and Lefort (2002) that it is important to keep in mind that transaction costs are paid directly by managers and are not subtracted from the pension fund. This naturally creates additional incentives to the reduction in transaction cost. In addition, Iglesias (1998) reports that Bolsa de Comercio de Santiago's (BCS's) fees charged for the transaction of shares and fixed – income dropped from 0.5 and 0.015 percent in 1985 to 0.12 and 0.0 percent in 1994. Furthermore, De La Cuadra and Galetovic (1997) report that brokers fees have also fallen from 1.2 percent in the early 90s to an average 0.6 percent in 1998. Here the current condition that helps to explain the drop in transaction costs was the increasing competition among intermediaries resulting from large pension fund holdings.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The following are the summary of the major findings of the study that are obtained from the presentations, analyses and interpretations of data. The regression result shows that the percentage market capitalization in the pension sector was significantly higher than for all sectors under review. Also, the pattern is shown in figure 2, pension percentage market capitalization is smooth throughout the years and showed increased while percentage market capitalization in other sectors was very irregular in all the years showing decline. This leads to the acceptance of the null hypothesis with a strong belief that pension fund has significantly increased market capitalization in the Nigerian capital market. This finding is consistent with Yermo (2005) where he found that the greater the presence of pension funds in the stock market, the higher the stock market capitalization.

The regression result also shows that pension fund buy a large fraction of existing stocks of securities in the Nigerian capital market, which reflects a convenient required rate of return from the perspective of the issuer. This result favours the hypothesis which states that pension fund has significantly reduced cost of capital of companies in the Nigerian capital market. The finding is also consistent with Walker and Lefort (2002) where they found that the expected investment time horizon of pension fund is longer than that of individuals and firms, thus reducing the term premium. The risk premium may be reduced due to pension fund pooling and professional management. Both the term premium and risk premium's reduction might lead to decrease average cost of capital. Regression analysis result shows that about 97.1% in 2007, 99.7% in 2008 and 84.69 in 2009 of the dependent variable- all share index (indicator of price movement in the overall market) has been explained by the independent variable- pension index (indicator of price movement of qualified stocks that pension fund can invest). The relationship between y and x is highly significant at 0.01% level for 2007, 2008, and 2009 respectively. This indicates that pension fund has significantly

lowered price volatility in the Nigerian capital market. The finding is in agreement with the work of Davis (1998) where he found that the liquidity that pension fund make available to capital market may dampen volatility, especially share price volatility.

The T-test result shows that there was no significant difference in transaction cost before and after the pension fund. This indicates that pension fund has not significantly reduced transaction cost in the Nigerian capital market. The finding is in contradiction with a study conducted by Walker and Lefort (2002). The authors report that it is important to keep in mind that transaction costs are paid directly by managers and are not subtracted from the pension fund. This naturally creates additional incentives to the reduction in transaction cost.

5.2 Conclusions

The central question posed in this study is whether pension funds have been investing in a way that has been beneficial to the development of capital market. There are four main ways in which pension funds can contribute to capital market development. Firstly, pension fund may be active traders of securities, thereby contributing to the liquidity of the capital market. Secondly, pension funds may have a longer time horizon than other investors and may therefore demand lower term premium on fixed income securities. They may also be more willing to take on greater risk and invest more in equities in the hope of benefiting from mean-reversion in equity prices. Thirdly, the liquidity that pension fund make available may also dampen volatility, especially share price volatility. Fourthly, pension funds may increase competition among financial providers, reducing the cost of intermediation (transaction cost) and ensuring a more efficient allocation of capital.

However, after careful analysis of data and exploring the result of the regression analysis and the T-test, this study concluded that introducing elements of funding in to a pension scheme undergoing

reform have very positive effects on Nigerian capital market development. Pension funds improve functions of the capital market through contributing to the process of transferring resources over time and pooling of funds in an efficient manner. Its increases personal savings, and tend to promote a rapid build-up of long-term funds, increasing the availability of long-term debt financing to companies with a resulting rise in capital formation. Moreover, development in pension funding trigger qualitative effects such as the stimulation of financial innovation, improvement in the quality of investment decision making, transparency and integrity and improvements in the corporate governance structure.

Nevertheless, some of the evidence discussed in this study raises some concerns over the effect of pension fund on capital market development. The structure of the pension industry has not allowed them to consider the risk and time preferences of their membership when making investment decisions. Instead, pension funds have responded to regulatory constraints, such as investment limits and performance rules.

5.3 Recommendations

The following are the recommendations that are drawn from the conclusion of the study:

i. For the capital market to remain robust there should be a political will required to eliminate the regulatory and legal bottle-neck that limit the growth of the capital market. This should involve setting suitable supervisory policies and rationalizing of institutional responsibilities across different product and sectors.

ii. The regulation of pension funds investment should allows the portfolios to be adequately diversified in order to minimize risk and foster the development of Nigerian capital market. In

addition, international asset diversification is desirable, provided all necessary precaution and preparation are in place.

iii. There should be the ability and willingness on the part of the authorities to modify the regulation of capital market as may be necessary. So that integrity and confidence of the market would be maintained and investors would be protected.

iv. Regulatory agencies should enhance their surveillance capabilities as well as provide time for the asset management industry to understand new products and risk management techniques.

v. Enforcing Compliance: There will be an increase in the volume of pension funds available for investment, thus enhancing capital market development. Besides, morale of employees will be boosted and eventual input, as compliance will guarantee them comport in retirement.

vi. Regular Review of PRA 2004 with Relevant Stakeholders: In a dynamic system like the pension industry, regular review becomes paramount to meet emanating challenges.

vii. Orientation Campaign: Public awareness can play a major role in reducing expenditure on compliance issues. This will also help in building workers confidence on the scheme and its long term benefits especially capital market development.

5.4 Suggestion for further studies

The scope of this study is limited to the impact of pension fund on the development of the capital market as such it cannot be infer from the study whether pension fund has positive or negative impact on the Nigerian economic growth. Further studies can concentrate on the impact of pension fund at the macro by looking at economic growth and/or economic development.

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