



EFFECT OF CONTRIBUTORY PENSION SCHEME ON NIGERIAN CAPITAL MARKET

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ABSTRACT

The study examined the effect of Contributory Pension Scheme on Nigerian Capital Market. The specific objectives were to analyze the effect of Total Pension Assets under Management on Total Market Capitalization and on Total Value of Deals of the Nigerian Capital Market. The study was based on Ex-post facto research design. Ordinary Least Square Regression was used as analytical technique. It was found that Pension Assets under Management of the Nigerian Pension industry has positive and significant effect on Total Market Capitalisation of the Nigerian Capital Market. Also, Pension Assets under Management of the Nigerian Pension industry has no positive and significant effect on Total Value of Deals per year of the Nigerian Capital Market. The positive coefficients indicate that Total Pension Assets under Management can facilitate increase in Total Market Capitalisation and Total Value of Deals per year of the Nigerian Capital Market. Therefore, the study concludes that an increase in Total Pension Assets under Management would boost upwards the Total Market Capitalisation and Total Value of Deals per year by making more fund available for trading in the Nigerian Capital Market. It is recommended that Total Pension Assets under Management transactions in the Nigerian Capital Market should have a wide mix of investments portfolio so as to avoid liquidity risk challenges.

Keywords: Pension, Market-Capitalisation, Value of Deals

Introduction

Every economy depends on its financial sector to a large extent. Activities of the financial sector foster growth and development in the economy. Having a sound financial system enhances supporting viable business opportunities, fosters rising savings, facilitates trading, hedging and diversification of risk which enable the exchange of goods and services. All these results in a more efficient allocation of resources, rapid accumulation of physical and human capital, and faster technological progress, which in turn results in economic growth. As such the development of the financial sector allows it to help in facilitating the business transactions and economic development (Aderibigbe 2004).

The critical functions of the financial sector identified above are largely dependent on agents that carry out activities in the financial sector. One such agent is the Capital Market. The



capital market has been identified as an institution which contributes to the socio-economic growth and development of emerging and developed economies (Okafor, 1983; CBN: 2007). It helps to channel capital or long-term resources to firms with relatively high and increasing productivity, thus enhancing economic expansion and growth (Allies, 1997). This is made possible through some of the vital roles it plays such as channeling resources, promoting reforms to modernize the financial intermediation capacity sector to link deficit to the surplus sector of the economy, mobilization and allocation of savings among competitive uses which are critical to local investment (Allied 1984, Ibenta, 2000).

Ekundayo (2002) opines that a nation requires a lot of local and foreign investments to attain sustainable economic growth and development. The capital market provides a means through which this is made possible. However, the paucity of long-term capital has posed a great challenge to economic development in most African countries including Nigeria. Long-term investment is the provision of long-dated funds that pay for capital intensive activities that have a multi-year development and payback period. Such long-dated funds can be provided in various forms, including a very wide range of assets and asset classes. For example, they can include liquid assets with defined maturity dates (such as corporate bonds), liquid assets without a specific maturity date (such as listed equities), as well as highly illiquid assets (such as infrastructure or private equity investments).

A credible source of continuous supply of longterm funds is the Pension industry. OECD (2005) observed that institutional investors, in particular pension funds, mutual funds and insurance have enhanced their role as collectors of savings over the past few decades. It went on to conclude that this trend is likely to continue as retirement saving grows and the increased pension saving will augment the size of capital markets. Channarith and Wade (2010) observed that pension fund assets are growing rapidly and are increasingly providing a source of investment funds to their domestic financial markets. Pension fund investments are expected to increase the availability of long-term funds, enhance competition, induce financial innovation, and improve corporate governance. To the extent that such financial market improvements are related to financial market size and activity. The investments of Pension fund are made mostly through the capital market. Ezugwu (2014) noted that Pension Fund Investments are mostly in regulated instruments; while transactions are carried out on transparent platforms (registered Securities Exchanges/ Trading Platforms). That Pension Fund Assets are valued on a Marked – to -Market basis, except bonds.



Nigeria operates the Contributory Pension Scheme (CPS). Under the scheme an employer, and also the employee, make regular contributions into the employee's retirement account. The contributions are usually specified as a predetermined fraction of salary, although that fraction need not be constant over the course of a career. Contributions from both parties are tax-deductible, and investment income accrues tax-free. Often the employee is given a choice as to how his account is to be invested. In principle, contributions may be invested in any security, although in practice most plans limit investment options to various bond, stock, and money-market funds. At retirement, the employee either receives a lump sum or an annuity, the size of which depends upon the accumulated value of the funds in the retirement account. The employee thus bears all of the investment risk; the retirement account is by definition fully funded, and the firm has no obligation beyond making its periodic contribution.

The Contributory pension system allows pension funds to accumulate assets that can be invested in financial markets. With accumulating assets and the longer-term nature of their liabilities, pension funds have incentives to invest more in illiquid and long-term assets that yield higher returns, and thus provide a long-term supply of funds to the capital markets (Davis, 1995). In line with the findings of (Okafor 1983, Allied 1984, and Ibenta 2000, CBN 2007) it can be seen that pensions funds supplied to the capital market boost the operations of the later usually seen through increased total market capitalisation. It is therefore conceivable that introduction of CPS serves as a tool towards realisation of the goal of savings mobilisation, which can lead to financial deepening and Capital Market development, thereby fostering economic growth in Nigeria (Asekunowo, 2006). It is on this premise that this study intends to look at effect of Contributory Pension Scheme in promoting growth in the Nigerian Capital Market.

Statement of the Problem

It is well known that Capital requirements of the Capital market are easily assuaged by bodies with capacity to mobilize huge amount of fund that can be put to use across medium and long term spans. Such volume of fund is easily made available by contractual savings institutions. This position was realized from several empirical studies on pension investments among which the prominent include Impavido, and Musalem (2000), Walker and Lefort (2002) and Channarith and Wade (2010). The common occurrence among these studies is that they all found pension funds to have significant effect on capital market. Also was cross survey of various countries and long term span of data used. In the context of Nigeria the Contributory Pension Scheme presently 14 years in existence furnishes the economy with long term



capital. Such fund when run through the capital market has the capacity to deepen the market. It is on this premise that this study seeks to establish the effect of CPS on Capital market in Nigeria.

Objectives of the Study

The broad objective of this study is to assess the effect of Contributory Pension Scheme on Nigerian Capital Market. The specific objective is:

1. To analyze the effect of Total Pension Assets under Management on Total Market Capitalization of the entire Nigerian Capital Market
2. To assess the effect of Total Pension Assets under Management on Total Value of Deals per year of the Nigerian Capital Market

Research Hypotheses

The null hypotheses formulated for the study are:

1. Pension Assets under Management have no positive and significant effect on Total Market Capitalisation in the Nigeria Capital market
2. Pension Assets under Management have no positive and significant effect on Total Value of Deals per year in the Nigerian Capital market

Review of related literature

Concept of Pension

Pension is simply the amount set aside either by an employer or an employee or both to ensure that at retirement, there is something for employees to fall back on as income (Fapohunda, 2013). It is a periodic income or annuity payment made at or after retirement to employees who has become eligible for benefits through age, earnings and service. A pension is a contract for a fixed sum to be paid regularly to a pensioner, typically following retirement from service. It is different from severance pay because the former is paid in regular installments while the latter is paid in one lump sum. According to Ozor (2006) pension plans may be contributory or noncontributory; fixed or variable benefits; group or individual; insured or trustee; private or public, and single or multi-employer.

Historical development of pension in Nigeria

The history of pension world-wide can be traced to Germany (Njuguna, 2010). According to Njuguna (2010), authors like Curtler and Johnson (2004), Guinan (2003), Langley (2006) and Newmann (2005), credit former German Chancellor Otto Von Bismarck for enacting a



compulsory savings programme for workers in large firms who were exposed to the socialism ideologies in 1889. In Nigeria, the development of pension schemes can be traced to the beginning of organized workforces in the private and public sectors in the colonial era of the 20th century (Barrow, 2008). According to Barrow (2008), the first pension law in Nigeria was known as the Pension Ordinance of 1951, and provided for the full pension rights of the colonial administrators and partial right granted at the discretion of the colonial Governor General for Nigerian workers in the civil service at that time. This ordinance transformed into the Pension Act of 1958 (Barrow, 2008).

The National Provident Fund (NPF) scheme established in 1961 was the first legislation enacted to address pension matters of private organizations (Sule, Umogbai and Emerole, 2011). It was followed 18 years later by the Pension Act No. 102 of 1979 (Udoji Commission) as well as the Armed Forces Pension Act No. 103 of the same year (Barrow, 2008). The police and other Government Agencies' Pension Scheme were enacted under Pension Act No. 75 of 1987, followed by the Local Government Pension Edict which culminated into the establishment of the Local Government Staff Pension Board of 1987. While in 1993, the National Social Insurance Trust Fund (NSITF) scheme was established to replace the defunct NPF scheme with effect from 1st July, 1994 to cater for employees in the private sector of the economy against loss of employment income in old age invalidity or death (Sule et al, 2011). These Decrees remained the operative laws on public service and military pension in Nigeria until July, 2004.

However, there were several government circulars and regulations issued to alter their provisions and implementations. For example, mandatory retirement at the age of 60 years or 35 years of service, whichever comes earlier in 1988, and in 1992, the qualifying period for gratuity and pensions were reduced from 10 years to 5 years and from 15 years to 10 years respectively (Barrow, 2008).

According to Barrow (2008) in 1997, parastatals were allowed to have individual pension arrangements for their staff and appoint Boards of Trustees (BOT) to administer their pension plans as specified in a Standard Trust Deed and Rules prepared by the Office of the Head of Service of the Federation. Each BOT was free to decide on whether to maintain an insured scheme or self-administered arrangement.

There were three regulators in the pension industry prior to the enactment of the Pension Reform Act 2004, namely Securities and Exchange Commission (SEC), National Insurance



Commission (NAICOM) and the Joint Tax Board (JTB). SEC licensed pension fund managers while NAICOM is still the agency responsible for licensing and regulating insurance companies in the country. The JTB approved and monitored all private pension schemes with enabling powers from Schedule 3 of the Personal Income Tax Decree 104 of 1993 (Bassey et al, 2010).

According to Balogun (2006), most public organizations operated a Defined Benefit (pay-as-you-go) Scheme before the enactment of Pension Reform Act 2004. Final entitlements were based on length of service and terminal emoluments. The Defined Benefit (DB) Scheme was funded by Federal Government through budgetary allocation and administered by Pensions Department of the Office of Head of Service of the Federation. The Pension Reform Act 2004 is the most recent legislation of the Federal Government aimed at addressing the associated problems of the old Pension System. It established a uniform Pension System for both the public and private sectors respectively. Similarly, for the first time in the history of the country, a single authority has been established (National Pension Commission) to regulate all pension matters in the country. Ten years later, in 2014 the Scheme witnessed further reform.

The Contributory Pension Scheme

This is the form of pension in which the employer and also employee make regular contributions into the employee's retirement account. The contributions are usually specified as a predetermined fraction of salary, although that fraction need not be constant over the course of a career. Contributions from both parties are tax-deductible, and investment income accrues tax-free. Often the employee is given a choice as to how his account is to be invested. In principle, contributions may be invested in any security, although in practice most plans limit investment options to various bond, stock, and money-market funds. At retirement, the employee either receives a lump sum or an annuity, the size of which depends upon the accumulated value of the funds in the retirement account. The employee thus bears all of the investment risk; the retirement account is by definition fully funded, and the firm has no obligation beyond making its periodic contribution.

On 1 July 2014, President Goodluck Jonathan signed into law the new Pension Reform Act 2014 which repealed the Pension Reform Act of 2004 (repealed Act). The key objectives of the reform are to ensure contributors receive their benefits as and when due and to assist improvident individuals to save in order to cater for their livelihood during old age. The



Scheme applies to employees in both the public and private sectors. Mandatory contribution is applicable to organisations in which there are 15 or more employees (previously 5 employees).

The rates of contributions to be made under the new Scheme by both the employer and employee are a minimum of 10% and 8% respectively (7.5% of the employee's monthly basic, housing and transport allowances by both parties under the repealed Act). Contributions are now to be based on 'monthly emoluments' being the total emolument as defined in the employee's contract of employment provided it is not less than the total of the employee's basic salary, housing and transport allowance.

The Pension Reform Act 2014 has reduced the waiting period for accessing benefits in the event of loss of job by employees from six (6) months to four (4) months. A pension protection fund has been created under the new Act to include an annual subvention of 1% of the total monthly wage bill payable to employees in the public sector, an annual pension protection levy (the percentage of which is to be determined by PenCom) and income from investments of the Pension Protection Fund. The objective of the Fund is to guarantee a minimum benefit to contributors in the event of any shortfalls in the investment of pension funds and any other use PenCom may determine from time to time.

Concept of Capital Market

According to Al-Faki (2006), the capital market is a "network of specialized financial institutions, series of mechanisms, processes and infrastructure that, in various ways, facilitate the bringing together of suppliers and users of medium to long term capital for investment in socio-economic developmental projects". Nwankwo (1998) says that the capital market comprises the complex of institution and mechanism through which intermediate term funds and long term funds are pooled and made available to business, government and individual. Ekezie (2002) noted that capital market is the market for dealings (i.e. lending and borrowing) in longer-term loanable funds. Mbat (2001) described it as a forum through which long-term funds are made available by the surplus to the deficit economic units Capital market is a collection of financial institutions set up for the granting of medium and long term loans. It is a market for government securities, for corporate bonds, for the mobilization and utilization of long-term funds for development – the long term end of the financial system (Osinubi, 2006).

The capital market is divided into the primary and the secondary market. The primary market or the new issues market provides the avenue through which government and corporate



bodies raise fresh funds through the issuance of securities which is subscribed to by the general public or a selected group of investors. According to Soyede (2005) Primary market is a market for new securities. It is a platform where the company or government can raise money for investment or where already quoted companies can raise fresh funds for expansion. Both the Securities and Exchange Commission (SEC) and the Nigerian Stock Exchange (NSE) are involved in primary market activities. The issuing houses and stock brokers also play prominent roles.

The secondary market provides an avenue for sale and purchase of existing securities. This enhances the new issue market in many ways, it provides the means by which investor can monitor the value of their shares and liquidate them when they wish to do so. According to Pandey (2006), it is a type of market where existing securities of a market are traded on daily and continuous basis. It is the market for existing securities. This consists of exchanges and over-the counter markets where securities are bought and sold after their issuance in the primary market. The following financial instrument traded in this market includes foreign exchange instruments, equity insurance credit market derivatives and hybrid instruments (Ekiran, 1999).

Interaction between contractual savings and capital market

First, development of contractual savings institutions provides an institutional framework favoring the accumulation of long-term capital. By increasing the demand for long-term financial assets, it could thus promote financial market development, and improve the capacity to manage financial risks. Second, contractual savings institutions may compete with investment banks, leading to more efficient primary markets. Third, given their need for asset management, their development is likely to enhance financial innovation and modernization of trading systems. Fourth, they play a major role in enhancing market discipline, for instance by stimulating transparency on securities markets, they have the ability to actively promote the interests of minority shareholders of the firms in which they invest. Next, such institutionalization of savings may deepen the public debt market, and progressively help to build the yield curve, thus stimulating the private debt and other financial instrument markets. The supply of securities by the private and public sector may in turn be affected, as the costs of raising funds on stock and bond markets decreases. As argued by Vittas (1999 and 2002), preconditions for the development of contractual savings, and particularly a pension reform, are less stringent than expected if a gradual approach is chosen. Impavido, Musalem and



Vittas (2002) provide an analytical framework for countries with a small financial system. They include sound macroeconomic policies, the existence of a core of efficient and sound banking and insurance institutions, and a lasting commitment for the creation of an effective regulatory and supervisory agency and reform of the capital markets. The long-term commitment of governments is particularly crucial, as a volatile macroeconomic environment would undermine the development of contractual savings; fiscal policy must be prudent: "as long as the levels of nominal debt are too high, long term maturities are not attainable as the credibility of the anti-inflationary stance of the government is undermined."

The impact of contractual savings institutions on capital markets may depend on various factors. First, as argued by Vittas (1999), it may not materialize until a "critical" mass of savings has been mobilized. Second, the impact on the aggregate supply of long-term savings may depend on the potential modifications of households' portfolios. When pension contributions are voluntary and mostly realized by wealthy households, the development of contractual savings may be partly offset by a decrease in other long-term savings instruments. Conversely, mandatory contributions may have a greater impact on the supply of long-term savings when households would not save long-term spontaneously. The asset allocation of pension funds and life insurance is also likely to affect the way capital markets develop. This may be shaped by features of financial systems that are more structured as, for instance, the relative importance of bank and stock market finance in the economy. Next, whether contractual savings development stimulate further the demand for securities - and in turn its supply by lowering issuance costs - will depend on the supervisory and regulatory mechanisms, fostered by transparent accounting practices, among other factors. Finally, the development of contractual savings institutions may have an indirect impact on domestic financial markets. For instance it may signal to foreign investors a sound and stable domestic financial system, hence leading to significant cross-border transactions of securities. On the contrary, the development of domestic financial markets is less stimulated when contractual savings invest a larger proportion of their funds abroad. Overall, there is a variety of reasons why one would expect to observe substantial heterogeneity across countries experiences, as indeed it is observed.

Theoretical framework

The Accelerator theory serves as the basis for this study. The accelerator theory suggests that the level of induced investment will be determined by the rate of change of national income (and not interest rate). When national income is rising rapidly, then firms will want to meet



increasing demand by expanding their capacity. But as the rate of GNP growth falls, businesses will no longer need to add to capacity and so investment levels fall back to the original level necessary to maintain depreciated capital.

Rationale for the theory:

Firms must replace/do replacement investment to replace depreciated equipment.

Let us say that firms are already at full capacity and are spending a constant amount on investment in order to maintain the level of existing capital (they try to replace depreciated equipment). If national income rises, consumption increases then demand from consumers will rise. If the firms want to meet the rising demand, they have to increase the level of their investment to increase their capacity. They will invest in NEW plant and equipment to meet the increase in demand. This type of investment is called investment induced investment. An example is seen below:

One firm, A, that makes microwave ovens has an annual demand of 200,000 ovens and operates 20 machines to meet this demand. Capital to output ratio is (1:10,000). Each machine costs 20,000 naira and one-tenth of its machines is replaced due to depreciation. Total investment per year will be 40000 naira (10% of 20 times 20,000 naira)

National income rises causing consumption to increase and demand for microwave ovens increase by 5%. Demand is now 200000 multiplied by 1.1=210,000. If Firm A wants to meet this demand, total investment will be 60,000 naira (40,000 naira to replace the depreciated machines and an investment induced investment of 1 machine (20,000 naira) to meet the additional demand). There is a 50% increase from regular investment. A small increase in demand (5%) can lead to a large increase in investment (50%), therefore we say that investment accelerates when demand rises.

The Accelerator theory of investment suggests that as demand or income increases in an economy, so does the investment made by firms. Furthermore, accelerator theory suggests that when demand levels result in an excess in demand, firms have two choices of how to meet demand. It is either to raise prices to cause demand to drop or to increase investment to match demand. The theory proposes that most companies choose to increase production thus increase their profits. The theory further explains how this growth attracts more investors, which in accelerates growth.



The accelerator theory is an economic postulation that investments made by companies increase when either demand or income increases. The theory also suggests that when demand produces an excess of demand, companies can meet the need in two ways: decrease demand by raising prices or increase investment to the level of demand. The accelerator theory posits that companies typically choose to increase production, thereby increasing profits; this growth, in turn, attracts further investors that works to accelerate growth.

The accelerator theory was conceived before Keynesian economics, but it came into public knowledge as the Keynesian theory began to dominate the general economic mindset of the 20th century. Developed by Thomas Nixon Carver and Albert Aftalion, among others, some critics argue against the accelerator theory because it removes all possibility of demand control through price controls. Empirical research, however, supports the theory's use.

Empirical review

Greenwood and Jovanovic (1990) showed that financial intermediation promotes financial industry growth by ensuring a high rate of returns to the capital invested and that growth realized makes it possible, in its turn, to reduce the costs of the financings thanks to the drop in risk premiums due to the drop in the asymmetry of information. Bencivenga and Smith (1991) also underlined the positive effects that financial intermediaries have on the economy by encouraging the re-allocation of savings from liquid investments to longer-term productive investments. That is a matter of moving from speculative financial investments to investments in production and development projects. Catalan, Impavido, and Musalem (2000) conducted Granger causality tests on 14 OECD countries and 5 developing countries, separately, to see the causal relationship between stock market development and contractual savings institutions including pension funds. They concluded that contractual savings predominantly Granger cause stock market development. To a lesser extent, the causality happens simultaneously between them, and very slightly, the causality runs in the other direction. Impavido and Musalem (2000) studied the impact of contractual savings and non-life insurance institutions on stock markets using Ordinary Least Squares (OLS), Error Component (EC), and Error Component Two Stage Least Squares (EC2SLS) estimators on a panel of 26 countries, 5 of which are developing countries. They found a statistically significant impact of contractual savings financial assets on stock market capitalization, but not on stock value traded. Walker and Lefort (2002) carried out a panel study using a Generalized Least Squares (GLS) estimator for 33 emerging markets and found positive links



between pension reform and capital markets. They found that pension fund assets reduce dividend yields and increase price-to-book ratios, thereby implying a decrease in the cost of capital. Impavido, Musalem, and Tressel (2003) incorporated dynamic panel models to estimate the impact of contractual savings institutions on stock market and bond market development. With the use of an Arellano and Bond (1991) differenced GMM estimator on 32 developed and developing countries, they found that contractual savings financial assets have significant impacts on stock market and bond market development. Nonetheless, with a small number of cross-section units and short time periods (six years on average in their study), the GMM estimators suffer from potentially large finite sample bias. Dostal (2010) studied pension reforms in Nigeria for the period 2006 to 2010. The study finds that the funded pension system has not had any significant impact on the development of financial market and that real sector investment was not boosted by savings from pension scheme. Ibiwoye and Mesike (2012) used error correction Model (ECM) and Ordinary Least square in their study on Pension Reform and Financial Market Development Nexus: Evidence from Nigeria using error correction model (ECM) approach. The performance analysis of all their variables indicated that the reform period generates long-term contractual savings and stimulates the development of securities market. Enache, Milos, R. and Milos, M. (2015) used the single equation error correction model (ECM) to investigate the impact of pension funds on capital market in a sampled ten (10) Central and Eastern European Countries from 2001 to 2010. The finding provides further evidence of short term impact and lower magnitude long term impact on market capitalization. Zubair (2016) examined the impact of pension fund investments on the performance of capital market in Nigeria. The study is a time series analysis covering a period from 2009Q3 to 2016Q1 using the Autoregressive Integrated Moving Average (ARIMA) regression technique. The study concludes that there is a significant positive relationship between pension funds' investments and the performance of capital market in Nigeria after the 2004 major industry reform. Specifically, the study concludes that total pension investments in Nigeria improved the performance of the Nigerian capital market significantly in terms of depth and liquidity (market capitalization and value traded). Moreover, the study concludes that the interaction of macroeconomic indicators such as interest rate, inflation rate and GDP per capita with pension investments affect the capital market performance significantly.

Methodology



This research adopted the Ex-post facto design. Secondary data was used in the study. They were sourced from National Pension Commission and Nigerian Stock Exchange publications of various years. The general equation for the study was based on Kamau and Njeru (2013). Their regression model was used for establishing the relationship between the liquidity risk and financial performance and how these risks have affected financial performance.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where Y = Financial performance, X1 = credit risk, X2 = operational risk, X3 = market risk, β_0 = Constant (Y-intercept) and ϵ = Error term.

Adjustments were made to the model to suit the objectives of this study. Therefore, the functional relation of the model for each hypothesis was given as:

Hypothesis One

$$TMC = f(\text{TPAUM})$$

The model is specified as follows: $TMC = \beta_0 + \beta_1 \text{TPAUM} + \mu$

Where: TMC = Total Market Capitalisation

TPAUM = Total Pension Assets Under Management

β_0 and β_1 = constant parameters

μ = the error term

Hypothesis Two

$$\text{TVD} = f(\text{TPAUM})$$

The model is specified as follows: $\text{ASI} = \beta_0 + \beta_1 \text{TVD} + \mu$

Where: TVD = Total Value of Deals per year

TPAUM = Total Pension Assets Under Management

β_0 and β_1 = constant parameters

μ = the error term

Description of Model Variables

Dependent Variables



Total Market Capitalisation: This is the aggregate valuation of all shares traded in the stock exchange. It is equal to the aggregate of the respective share price times the number of shares outstanding of each public company.

Total Value of Deals Per Year: This refers to all the trading transactions carried out in a given year on the Nigerian Stock Exchange.

Independent Variable

Pension Assets under Management: In finance, assets under management (AUM), sometimes called funds under management (FUM), measures the total market value of all the financial assets which a financial institution such as a mutual fund, venture capital firm, or brokerage house manages on behalf of its clients and themselves. Therefore, Total Pension Assets Under Management is the total market value of all the assets that the Pension industry manages.

Data Analysis Technique

The Ordinary Least Squares (OLS) was used as a statistical test technique for the data analysis. It is a method for estimating the unknown parameters in a linear regression model, with the goal of minimizing the differences between the observed responses in some arbitrary dataset and the responses predicted by the linear approximation of the data (visually this is seen as the sum of the vertical distances between each data point in the set and the corresponding point on the regression line - the smaller the differences, the better the model fits the data).

Test of Hypotheses

The Regression model for Hypothesis One is given as: $Y = 752.488 + 4.988X_1$. It shows that a 1% increase in Total Pension Assets under Management will bring about a 0.04988% increase in Total Market Capitalisation. A percentage decrease in Total Pension Assets under Management will equally cause a 0.04988% decrease in Total Market Capitalisation. The regression model is further explained by Adjusted Coefficient of Determination (R^2) of 0.846. Given that (R^2) is nearer to zero than one the model is described as having a good fit to the analysis. In other words, only 84.6% of the total variation in Total Market Capitalisation could be explained by above model. The result further showed the independent variable had a positive correlation coefficient of 0.928 with the dependent variable; a pointer to high linear



correlation between the variables. In other words, the strength of the relationship between them was high. At 2.303 the Durbin Watson value shows there is no auto-correlation.

T-calculated was 7.492. T-tabulated derived as $t_{\alpha/2}(n-k)$, $t_{(0.05/2)(11-2)} = 2.26216$. The p-value is 0.000 showing statistical significance. As a predictor of effect, at 5% level of significance the Decision rule holds that if p-value is less than level of significance the null hypothesis is rejected but if not it is accepted. Given the outcome of the result the Null hypothesis is rejected. That is to say, Pension Assets under Management of the Nigerian Pension industry has positive and significant effect on Total Market Capitalisation of the Nigerian Capital Market.

The Regression model for Hypothesis Two is given as: $Y = 739267.956 + 163.374X_1$. It shows that a 1% increase in Total Pension Assets under Management will bring about a 1.63374% increase in Total Value of Deals per year. A percentage decrease in Total Pension Assets under Management will equally cause a 1.63374% decrease in Total Value of Deals per year. The Adjusted Coefficient of Determination (R^2) at 0.178 shows that the model has a low fit to the analysis. In other words, only 17.8% of the total variation in Total Value of Deals per year could be explained by above model. The result further showed the independent variable had a positive correlation coefficient of 0.510 with the dependent variable; a pointer to moderate linear correlation between the variables. In other words, the strength of the relationship between them is average. A Durbin Watson value of 2.224 shows there is no auto-correlation. T-calculated was found as 1.781 and t-tabulated is 2.26216. P-value is 0.109 which is higher than the level of significance. Given the outcome of the result the Null hypothesis is accepted. That is to say, Pension Assets under Management of the Nigerian Pension industry has no positive and significant effect on Total Value of Deals per year of the Nigerian Capital Market.

Discussion of findings

Result of Hypothesis one result affirms the findings of Channarith and Wade (2010) who found a significant impact of pension funds on capital market development in the overall sample for countries with high financial development; but for countries with low financial development, found pension funds do not show a significant impact. Also, it is in line with Zubair (2016) that found total pension investments in Nigeria improved the performance of the Nigerian capital market significantly in terms of depth and liquidity (market capitalization



and value traded). Result of hypothesis two is not in line with lots of the earlier mentioned empirical reviews. Particularly, Catalan, Impavido, and Musalem (2000) Impavido and Musalem (2000) and Impavido, Musalem, and Tressel (2003) all found a significant influence of contractual savings on stock market development.

Conclusion and Recommendation

The positive coefficients indicate that Total Pension Assets under Management can facilitate increase in Total Market Capitalisation and Total Value of Deals per year of the Nigerian Capital Market. Therefore, the study concludes that an increase in Total Pension Assets under Management would boost upwards the Total Market Capitalisation and Total Value of Deals per year by making more fund available for trading in the Nigerian Capital Market. It is recommended that Total Pension Assets under Management transactions in the Nigerian Capital Market should have a wide mix of investments portfolio so as to avoid liquidity risk challenges.

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