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Determinants of Accumulated Pension Funds under Defined Contribution in Nigeria

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Abstract: *Prompt pension payment at retirement to retirees is critical to survival of defined contribution (DC) pension in Nigeria. If all the expected contributions are not remitted before attaining retirement age, there will be delays for pension payments as unremitted funds are being awaited. This study is designed to investigate the extent of employers' contributions, role of Pension Funds Administrators (PFAs), regulator's roles, and funding gaps effect on accumulated pension funds. The population for the study comprised of all the federal universities in Nigeria. North Central part of the country was chosen among the six geopolitical zones in which three federal universities were selected. Purposive sampling technique was adopted to select 450 respondents based on their wiliness to participate in the research to ascertain their experiences in defined contribution pension system in Nigeria. Ordinary Least Square statistics was used to analyze collected data. Findings revealed that the employer's contributions, the regulatory role, and funding gap have positive and significant effect on accumulated pension funds while the role of PFAs has negative effect on accumulated pension. The study concluded that effective regulation of pension system will positively impact on adequacy of accumulated pension funds as the amounts representing funding gaps are expected to be remitted to employees' retirement saving accounts before retirement age is attained.*

Keywords: Defined contribution, Retirement saving accounts, Funding gap, Accumulated funds, Nigeria.

JEL Classification: J33, H55.

1. Background and Rationale of the Study

Some federal universities' staff members often perceive that the accumulated pension funds under defined pension contribution come from the government. They believe that when they retire, government will convert these funds to retirement income as operated under the defined benefit scheme. Stable income is critical and significant at old age, especially in the current unstable economic trends. Under the defined contribution

pension scheme, it is expected that remittance of pension contributions to RSAs of both employees' and employers' do not exceed 7 working days after salaries are paid. Otherwise, a fine of 2% of the amount outstanding against employers is to be imposed by National Pension Commission (PenCom) for each month of default. This fine translates to 24% interest rate per annum, convertible monthly. The amount in RSAs at retirement is considered to be the accumulated funds including the returns on investment assets. These amounts to a greater extent determine the level of income security at old age for the retired employees. Various factors that can affect the amount in RSAs include the remittances of contribution by employers, investment returns, and funding gaps with PenCom ensuring compliance.

The funding gap arises in situation where the statutory contribution is not regularly remitted as and when due. The wider the funding gap, the narrower the level of income security and vice-versa. In the event of the existent of funding gaps, there is need for regulatory framework to ensure that there is remedy in factors leading to funding gap. In this case, the PenCom as the regulatory body need to step in to ensure employers remit statutory funds to employee's RSAs as stated in Pension law without compromise and at the same time ensure the PFAs do not deviate from investment windows they are required to operate in.

Accumulating retirement funds increases as employees grow in career but ability to generate income at retirement decreases due to old age. Many countries, while attempting to guarantee retirement income security, have carried out various reforms particularly in pension industry (Agulnik, 2000). To predict the experiences of defined contribution pension in the country, the study adopts academic staff members from Federal Universities in North Central Nigeria.

At retirement cycle, employees retire as individuals who do not have the capacity to engage with former employers if their pensions are not paid, and they rely on public sympathy for this.

A significant number of studies have examined the determinant of retirement funds, specifically on private retirement investment (Yusof & Sabri, 2018). Yao, Ying and Micheas (2013) identified operational efficiency, regulations, fund governance and investment strategy as factors affecting pension schemes' growth. They believe that financial system can be stabilized when favorable regulatory environment is efficient in allocation of funds.

In Nigerian environment, these factors identified by Yao et al. (2013) are quite relevant to accumulated pension funds. But to be more precise, what really determine accumulated pension funds under defined contribution pension scheme in Nigeria

include compliance by all employers to remit the statutory pension contributions, returns on investment through funds managers, effective regulator to ensure that all funds due to default by employers are remitted to employees' retirement saving accounts. The present study considers these factors with sole aim of investigating the impact of these factors on accumulated pension funds in Nigeria.

Consequently, the specific objectives of the study are to: determine the impact of contributions remittances on accumulated funds; investigate the role of PFAs on accumulated funds; determine the impact of regulatory role on accumulated funds; and determine effect of funding gaps on accumulated funds. This study will assist the policy makers and the regulator of pension system to come up with policy framework that lead to sustainability of DC pension in Nigeria.

1.1 Hypotheses Development

1.1.1 Pension Contribution and Returns on Investment

The hypotheses for this study are derived from existing literature and are stated in null forms. Many arguments have been advanced for the growth and sustainability of defined contribution. Two of these according to Studart (2000) are (i) whether the growth of private pension increases aggregate savings and (ii) if it stimulates growth of sources of investment finance. Supporters of defined contribution pension sometimes based their argument on life cycle hypothesis of saving and consumption. They argued that defined benefit pension system discourages saving. Similarly, Barro (1974) argues that fully funded pension like DC encourages accumulation of funds. Although Uthoff (1998) counters Barro's and Studart's position by arguing that defined contribution pension may not necessarily translates to aggregate savings even though it channel funds from government defined benefit pay-as-you-go pension to private pension. Based on these unresolved arguments, the first and second hypotheses of this study are stated as follow:

(i) H_1: Contribution's remittances have no significant impact on accumulated funds
(ii) H_2: Returns on investment has no significant effect on accumulated funds.

1.1.2 Regulation and Funding Gap

The capability of pension systems to guarantee satisfactory standards of living is a function of many employees having access to their saving in old age (Union, 2018). To guarantee pension adequacy, level of benefits must be traced back to the response to the fundamental objectives of pension system (Zhao, Li & Wang, 2019). As stated by

Holzmann and Hinz (2005), the primary goals of pension include affordability, adequacy, and sustainability. The absence of any of these criteria may create funding gap. In order to have safe and transparent pension scheme, a strong system in form of regulation of pension must be put in place. Union (2018) argues in support that to prevent poverty in the context of ageing population, special attention must be paid to the balance between adequacy and sustainability within pension system. From these authors, the third and fourth hypotheses were derived as follows:

(iii) H_3: Regulatory role has no significant effect on accumulated funds.
(iv) H_4: Funding gap has no significant impact on accumulated funds.

2. Literature Review

When a pension scheme is set up, the need to fund the scheme is imperative to its survival. A scheme may be partially funded, fully funded or unfunded. An unfunded scheme implies that there is no funding arrangement put in place on a regular basis to guarantee the future obligations. At some time as being witnessed in many countries, the schemes may be funded partially. This means that there exist funding gaps to make up for the full funding. This term called partially funded is interchangeably used in the pension financing context to imply funding gap or underfunding which according to Iyer (1999) implies that the accumulated reserve is lower than the current pension of the accrued benefit.

Cautions must be exercised so as not to imply that a scheme is fully funded even though is being branded as on full funding. It means there is proposed plans to achieve the desire goal of the scheme (Tilove, 1976). Hence, the gap which is the shortfall in future promise must be funded before the beneficiaries can access the amount of benefit at retirement. Inadequate savings towards retirement has been identified as one of the major economic problems in many advanced countries around the globe (Singleton & Keddy, 1991). Substantial savings to meet the old age challenges affect both individual and society at large as the economic burdens are easily reflected in the old age dependency ratio (Hershey & Mowen, 2000).

Inadequate income associated with low contributions towards retirement suggests that economic wellbeing of employees cannot be guaranteed. The contribution rate of 18% being deducted from employees' monthly salaries and remitted to their retirement saving accounts is being eroded by daily cost of living expenses. This trend is setting the workforce against adequate resources to maintain the lifestyle during active years of service.

According to Toolkit (2021), a funding gap is said to occur when benefit owed to both

current and future retirees exceed the total funds saved to meet pension obligations. The promised benefits that have been earned by current and future retirees are the naira values of the obligation. This gap will take a time period for it to be filled but with discipline, the gap can be filled within short time by setting funds aside through sinking or amortization method (Boivie & Almeida, 2008; Almeida & Fornia, 2008).

A regular contribution towards employees' retirement saving accounts based on years of service will reduce the level of funding gap when appropriately spread across the selected portfolio such as cash, bonds, treasure bills and other securities as prescribed by the regulators. Toolkit (2021) identifies two major sources of funding gaps including unexpected sharp decline in investment asset in financial market, and inadequate contributions to cover the promised benefits. Brainard (2009) confirm this that there was a huge loss in stock market between 2008 and 2009 during the economic meltdown.

According to the National Association of State Retirement Administrators (Administrators, 2021), the total level of funding public pension plans in United States fell from 86.7% in 2007 to 85.3% in 2008. Various factors have been advanced to be responsible for old age income adequacy around the world. In advanced countries, the notable among these factors include change in demographics trends, improved longevity, lower mortality, and ageing population (Arias & Ghilarducci, 2011; Savador, 2012; Tengku, 2015) which in turn lead to increase in number of retirees and mounted pressure on pension funds adequacy. This increase in number of pensioners has tremendously led to pension funds inadequacy in many countries including the countries with strong pension support system (Foster, 2017).

2.1 Underpinning Theory

2.1.1 Life Cycle Hypothesis

Life cycle hypothesis model which is a prevalent economic hypothesis that assumes households usually want to keep consumption levels stable over time (Modigliani, 1966). According to the life cycle hypothesis (Modigliani, 1966), individuals accumulate wealth when they work to finance consumption after retirement, when earned income stops. The hypothesis states that an individual can be expected to maintain a constant or modestly increasing level of consumption despite the life cycle hypothesis (Yao et al., 2013). For example, severely reducing consumption one month may be more painful for people than the pleasure of a much higher household consumption level in another month. Therefore, people save and invest during their careers to afford a stable income across their lives, including in retirement. This model suggests that wealth should increase as people

age, which generally fits household financial data in the United States (Bricker et al., 2017) and other countries of the world.

In this theory, households adjust their savings rate during their working years rationally, based on interest rates, investment returns, life expectancy, Social Security or pension benefits, and other relevant factors. Evidence exists that some households adjust their retirement planning based on these types of factors. For example, many research papers find some households save more for retirement when pension or social security benefits decrease (Attanasio & Brugiavini, 2003; Attanasio & Rohwedder, 2003). However, in Nigeria, income and consumption move together more closely than the life-cycle model would predict, suggesting some households may not save enough for their retirement needs or other lower-income periods.

2.1.2 Income Hypothesis Model

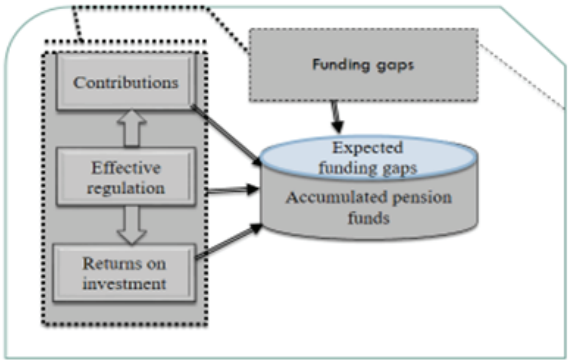
Friedman's permanent income hypothesis for consumption, like the life cycle hypothesis assumes that individuals wish to smooth their income level of lifetime consumption but do so through an assessment of their permanent level of income. Permanent income is stable, reflecting some type of weighted (for the time value of money) average of individual's expected future income. It is an accumulated measure of the consumer's expected future income or, stated differently, of the individual's human capital.

2.2 Conceptual Framework

Drawing from the two theories, Figure 1 shows three major factors that determines funding gaps and how these four leads to accumulated funds. The dotted lines surrounding contributions, effective regulation and returns on investment suggest possibility of leakages to funding gaps. The amount leaking to funding gaps are those that should have been directly channeled to accumulated pension funds and reinvested. In a study by Adeyele and Jim-Suleiman (2018), effective service delivery in terms of compliance by the key players of DC pension were linked to its sustainability in the country. However, their study which helps to link key players' roles to accumulated pension funds did not include funding gap variable to see the extent of DC funds being leakage out of the pension system. All of these take place during life cycle of employees' employment.

Therefore, both income hypothesis and life cycle hypothesis models discussed above are adapted to build up the conceptual framework of the study since accumulation of pension funds take place during active years of service as argued by Modigliani (1966).

Figure 1: Determinants of accumulated pension funds



Source: Authors' framework

Figure 1 demonstrates that whenever there is failure to remit contributions, the associated expected returns for as long as funds remittances remain in default are channeled to funding gaps. Even for those remitted to retirement saving accounts are expected to appreciate in values to the tunes equivalent to benchmark of 6% by PenCom. The deviation from this expectation also goes to funding gaps thereby increasing the amount in funding gaps while systematically reducing the total accumulated funds. These deviations are not unconnected to weak regulation. Hence, efficient regulation is expected to reduce the risk of pension funds going to funding gaps. The issues that confront DC pension in this study take place at the accumulation phase as illustrated in Figure 1.

It must be remembered that even in an environment where there is effective regulation, there will still be some issues that affect both the employers and funds mangers that will make them not to remit and invest the funds respectively (Adeyele & Igbinosa, 2015). All of these conditions systematically create some level of gaps that regulator need to ensure those funds are channeled to build up accumulated funds whenever funds are available. When this is not done, the amounts will be hanging on the funding gap, and this will lead to delay of payments to retired employees as the PFAs will rely on the need for the amount not remitted by the employers has to be paid first before commencing process for the retirement income benefits.

Figure 1 also shows the leaking channel where amount in the funding gaps dropped to unknown destination but definitely residing with employers which can be the outstanding balance the PenCom needs to ensure are paid to employees nominated PFAs before retirement payment actually commences.

3. Methodology

The population for this study comprised all the federal universities in Nigeria. North Central Nigeria was selected among the six geopolitical zones in the country in which

three universities namely University of Ilorin, Federal University Lokoja and University of Jos were selected. We believe that findings from the selected universities can be used to generalize the experience of other federal universities in the country since they are homogenous system. The study adopted purposive sampling technique to select 450 respondents from the selected institutions based on their wiliness to participate in the research to ascertain the happenings in defined contribution pension system in Nigeria. The purposive sampling technique, otherwise known as judgment sampling, is the deliberate choice of an informant due to the qualities the informant possesses (Tongco, 2007). It is a nonrandom technique that does not need underlying theories or a set number of informants. Purposive sampling is especially exemplified through the key informant technique (Bernard, 2002; Garcia, 2006), wherein one or a few individuals are solicited to act as guides to a culture. Key informants are observant, reflective members of the community of interest who know much about the culture and are both able and willing to share their knowledge (Bernard, 2002). The choice of purposive random sampling was in agreement with suggestion made by Dupp (2006), which states that a purposive random sampling should be adopted where the actual population is not known but the participants are willing and able to provide sufficiently rich data in terms of relevance and depth.

3.1 Model Specification on Determinants of Accumulated Pension Funds (APFund)

The portion of funds going into funding gaps with no effort from regulatory body to ensure they are refunded with interest will have negative effect on accumulated funds for retirement. To determine factors affecting accumulated fund, the size of pension contributions, returns of investment and role of regulator were jointly examined with funding gaps on accumulated funds. The role of Pension Fund Administrators was proxy for returns on investment. The models derived in this section are in line with the conceptual framework of the study. It is expected that positive outcome will increase the accumulated fund while negative outcome will significantly reduce it. In order to estimate the level of safety the current defined contribution in Nigeria, the related models for this are given as follows:

$$APFund = (EMPR, RPFAs, RPENCOM, FUNDNGAP) \tag{1a}$$

The linearized model is as follows:

$$APFund = \beta_0 + \beta_1 EMPCON + \beta_2 RPFAs + \beta_3 RPENCOM + \beta_4 FUDNGAP + \varepsilon \tag{1b}$$

where

EMPCON = Employer's compliance;

RPFA = Role of Pension Fund Administrator;

RPENCOM = Role of PenCom.;

FUNDNGAP = Funding gaps.

Ordinary Least Square statistics was used to analyze and test the hypotheses of the study.

4. Results and Discussion

4.1 Reliability and Validity of Instrument for Data Collection

The outcome of reliability test shows that all the variables of interest are above the minimum acceptable limit of 0.70 thereby indicating a very strong internal consistency. Details of these tests are presented in Table 1a. In the case of validity test, the results show that the independent variables are very valid and beneficial. The outcome of validity tests are also presented in Table 1b.

Table 1a: Test of Reliability

Variable	Cronbach's Alpha
Employers' compliance	0.758
Roles of PFAs	0.896
Roles of PenCom	0.758
Funding gap	0.758

Source: Authors' Computation.

Table 1b: Test of Validity

Variable	Cronbach's Alpha
Employers' compliance	0.785
Roles of PFAs	0.936
Roles of PenCom	0.799
Funding gap	0.742

Source: Authors' Computation.

Table 2: Partial Correlations

	EMPCOM	RPFAs	RPENCOM	FUNDGGAP
EMPCOM				
RPFAs	.679**			
RPENCOM	.285**	.514**		
FUNDGGAP	.295**	.616**	.138**	

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

Source: Authors' Computation

Table 2 shows the interrelationship of independent variables. As can be seen in the table, they all have significant relationships.

4.2 Determinants of Accumulated Pension Funds

This section deals with presentation of results based on four formulated hypotheses to achieve specific objectives of the study. The model summary of relationship of employers' compliance, role of PFAs, role of PenCom and funding gaps with accumulated pension funds are shown in Table 3 while their corresponding impact of accumulated funds are shown in Table 4.

Table 3: Model Summary of the Relationships of Accumulated Pension Funds' Determinants

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.597[a]	0.356	0.352	0.91213	0.356	88.464	1	160	0.000
2	.744[b]	0.554	0.548	0.76188	0.197	70.331	1	159	0.000
3	.748[c]	0.559	0.551	0.75923	0.006	2.109	1	158	0.148
4	.981[d]	0.963	0.962	0.22100	0.403	1707.825	1	157	0.000

a. Predictors: (Constant), EMPCOM

b. Predictors: (Constant), EMPCOM, RPFA

c. Predictors: (Constant), EMPCOM, RPFA, RPENCOM

d. Predictors: (Constant), EMPCOM, RPFA, RPENCOM, FUNDNGAP

Source: Authors' Computation.

Table 3 shows the Model summary of the relationships of accumulated pension funds' determinants in Federal Universities in Nigeria. As evident in the Table, entry of employers' compliance accounted for 35.6% (EMPCOM: R2 = 0.356; F = 88.464, p < 0.05) and has significant relationship with accumulated pension funds. This implies employers' compliance to pension remittance accounted for 35.6% of accumulated pension funds in public federal universities in Nigeria.

Similarly, entries of role of Pension funds administrator in terms of returns of investment accounted for 19.7% of accumulated pension funds (RPFA: R2 = 0.1970; F =70.331.189, p < 0.05) while regulatory role contributed just 0.6% which has no significant effect on accumulated pension funds (RPENCOM: R2 = 0.0006; F = 2.109, p > 0.05). Meanwhile, funding gaps significantly contributed 40.3% to accumulated pension funds (FUNDNGAP: R2 = 403; F = 1707.825, p < 0.05). These results signify that the examined independent variables significantly accounted for 96.2% of accumulated pension funds with about 40.3% portion of this contributions coming from funding gaps. The impact of these relationships is shown in Table 4. Technically, it means about 40.3% of accumulated pension funds is due to failure of employers to regularly remit pension contributions to employees' RSAs. Even though as these funds are remitted, there is no evidence that investment returns representing statutory fines are included. This invariably creates additional funding gap in RSAs.

Table 4: Coefficient of Determinants of Old Age Retirement Income Security in Federal Universities in Nigeria

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero order	Partial	Part	Tolerance	VIF
4	(Constant)	-2.229	0.153		-14.552	0.000					
	EMPCOM	0.410	0.022	0.407	18.828	0.000	0.597	0.832	0.289	0.506	1.978
	RPFA	-0.233	0.032	-0.215	-7.216	0.000	0.731	-0.499	-0.111	0.267	3.751
	RPENCOM	0.801	0.048	0.314	16.821	0.000	0.428	0.802	0.259	0.678	1.476
	FUNDNGAP	0.865	0.021	0.850	41.326	0.000	0.874	0.957	0.635	0.558	1.791

a. Dependent Variable: AP Fund

Source: Authors' Computation.

The variance inflation factor (VIF) in Table 4 was used to detect the presence of multicollinearity in regression model. When a VIF is above 4 or tolerance is below 0.25, it indicates that multicollinearity might exist, and further investigation is required. However, the results presented in Table 4 showed that both Tolerance and VIF are within acceptable limits of 0.25 and 4 respectively which means the coefficient of independent variables are reliable in predicting the accumulated pension funds.

The negative constant value in Table 4 shows that accumulated pension funds for the defined contribution members will be significantly inadequate if the existing determinants are not carefully worked upon. Unless employers significantly comply with the requirement of the law by remitting statutory contributions as and when due, the future retirement income security of the current employees is uncertain. In the table, employers' compliance has positive and significant effect on accumulated pension funds (EMPCOM: Beta = 0.410, t = 18.828, $p < 0.05$) while the role of PFAs has negative and significant effect on accumulated pension funds (RPFA: Beta = -0.233, t = -7.216, $p < 0.05$). This means that as employers remit funds to employees' retirement saving accounts and such funds are invested to generate returns, there is evident of inflation erosion on the entire funds which is explained by a negative returns on investment by PFAs. Similarly, the entries of PenCom (RPENCOM: Beta = 0.801, t = 16.821, $p < 0.05$) and funding gaps have positive and significant effect on accumulated pension funds (FUNDNGAP: Beta = 0.865, t =41.326, $p < 0.05$). In other word, effective regulation of pension system will positively impact on adequacy of accumulated pension funds as the amount representing funding gaps will be remitted to employees RSAs.

On the basis of these results, the four null hypotheses are hereby rejected and we conclude that employers' compliance, role of PFAs, role of PenCom and funding gaps have significant impact on accumulated pension funds in Nigeria. Table 5 shows the descriptive statistics for estimating the model (1).

Table 5: Descriptive Statistics on Means of Dependent and Independent Variables

	Mean	Std. Deviation	N
APFund	5.6049	1.13312	450
EMPCOM	4.2099	1.12472	450
RPFA	4.7654	1.04616	450
RPENCOM	3.1667	0.44429	450
FUNDNGAP	5.4123	1.11404	450

Source: Authors' Computation

Table 5 shows the mean accumulated pension funds of 5.6049 is likely to deviate from experience by 1.13312 while the PenCom with a mean of 4.2099 is likely to deviate by 1.12472. The other means for PFAs, PenCom and funding gaps are 4.7654, 3.1667 and 5.4123 respectively while their associated deviation are 1.04616, 0.44429 and 1.11404. In order to predict the portion of pension not yet remitted (funding gaps) and the portion of funds that have been remitted to RSAs, the descriptive statistics of weighted averages for employers' compliance, role of PFAs, role of PenCom and funding gaps in Table 4 were used to fit the model (1) as reported in equation (2).

$$APFund = -2.229 + 0.41EMPCON - 0.233RPFAs + 0.801RPENCOM + 0.865FUDNGAP \quad (2)$$

The means in Table 5 were used to predict the rate of funds entering the employees' RSAs using equation (3) as follow:

$$APFund = -2.229 + 0.41 * 4.2009 - 0.233 * 4.7654 + 0.801 * 3.1667 + 0.865 * 5.4123 = 5.604887$$

Based on this estimate, it can be said that at least 80% of accumulated pension funds are in employees' RSAs while the remaining 20% still resides in funding gaps. This amount in funding gaps may leak out to unknown destination as shown with dotted lines in Figure 1 if PenCom fails to enforce complaisance among the PFAs and employers.

5. Conclusion and Recommendations

This study investigated the determinants of accumulated pension funds under defined contribution pension funds in Nigeria. Key players' roles were used as proxies for this purpose. This exercise was conducted to establish the level of certainty of old age security among employees of federal universities in North Central Nigeria. Conclusions drawn from the findings indicated that employers have significantly complied with provision of the law by remitting contributed funds as and when due while negative returns by PFAs will significantly reduce the volume of accumulated pension funds. These negative returns may not be unconnected with risk the accumulated funds has been exposed to in the financial market and devaluation of currency a dominant government policies.

The level of employers' compliance to pension remittances to employees' retirement saving accounts represents 35.6% of accumulated pension funds at the rate of 41%. However, the accumulated funds reduced by 19.7% at the rate of 23.3% which may be due to inflation, and devaluation of currency that dominate the economy. Even though PenCom's contribution to overall funds is very low, the corresponding rate at which this takes place to increase the accumulated funds is 80.1%.

Meanwhile, the funding gaps which constitutes 40.3% of accumulated pension funds take place at the speed of 86.5%. These results indicate that there is delay in pension remittances to employees' retirement saving accounts in which funds not remitted at

specified date have to be raised and refunded to employees RSAs. This result practically showed that it is possible to predict the portion of funds coming into employees' retirement saving accounts as well as portion representing funding gaps which have not been looked at by other studies. Hence this study contributes to existing literature in the sense that it will enable regulators to ascertain the level of employers' indebtedness to employees.

However, there is need to develop models that will enable all the accumulated funds and amount of pension liabilities to be determined. The need to monitor the operations of the PFAs so that funds will not be leaking out through them cannot be overemphasized. This can be achieved by setting a benchmark of rate of returns that must be met by all the PFAs so that employees will not continue to lose substantial amounts of their contributions to capital market operations.

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