AN EVALUATION OF THE NIGERIAN PENSION REFORM

By

YUSUF, ISAH MAIKUDI B.Sc. (ABU 2000)
M.Sc./Soc. Sci./30031/2001-2002

A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA

IN PARTIAL FULFILMENT FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN ECONOMICS

DEPARTMENT OF ECONOMICS
AHMADU BELLO UNIERSITY, ZARIA
NIGERIA

OCTOBER, 2006

DECLARATION

I declare that the work in the thesis entitled “An Evaluation of the Nigerian Pension Reform” has been performed by me in the Department of Economics under the supervision of Dr. Abdul-Ganiyu Garba and Prof. Mike Kwanashie.

The information derived from the literature has been duly acknowledged in the text and list of references provided. No part of this dissertation was previously presented for another degree or diploma at any university.

_____	_____	_____
Yusuf, Isah Maikudi	Signature	Date

CERTIFICATION

This thesis entitled “AN EVALUATION OF THE NIGERIAN PENSION REFORM” by Yusuf, Isah Maikudi meets the regulation governing the award of the degree of Master of Science in Economics (M.Sc. Economics) at Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

_____ _____

Dr. A. G. Garba — Date
Chairman, Supervisory Committee

_____ _____

Professor Mike Kwanashie — Date
Member, Supervisory Committee

_____ _____

Dr. Mike Duru — Date
Head, Department of
Economics

_____ _____

Professor J. U. Umoh — Date
Dean, Postgraduate School

ACKNOWLEDGEMENT

I wish to express profound gratitude first to my parents, Mallam Yusuf A. Shua'ibu and Maryam A. Shua'ibu. May Allah (SWA) reward you for all your love and support.

Second, I want to acknowledge the contributions of my Major Supervisor, Dr. Abdul - Ganiyu Garba. His comments, corrections and constructive criticisms contributed immeasurably to the quality and successful completion of the Thesis. He has also been a mentor and a great source of inspiration to me.

I would also like to say thank you to my uncle, Dr. Hudu A. Abdullahi of the Department of Political Science, Faculty of Social Sciences, Ahmadu Bello University, Zaria. May Allah (SWA) continue to reward you for all the kindness and support you have shown my immediate family and me.

I must also acknowledge the support and encouragement of all the members of staff of the Department of Economics, Faculty of Social Sciences, Ahmadu Bello Univesity, Zaria. I especially appreciate the contributions of Mr Damian Lawong, Mr Jibrin Mohammed, Mr Abdulsalam and Mallam Muttaka.

I must also not forget to say thank you to my colleagues and supervisory managers at my place of work-Mobile Telecommunication Nigeria Ltd.- for their understanding, support and encouragement.

Lastly, I am grateful to all my friends and members of my extended family (too numerous to mention) who have shown concern, encouraged me, prayed for me or contributed in one way or the other to successful completion of this work.

ABSTRACT

The introduction of a new Pension Scheme in Nigeria in June 2004 changed the standard pay-as-you-go defined-benefit system to an individual account defined-contribution system. The Reform has been controversial with its proponents, i.e., the government and financial market operators on one-side, and its critics, i.e., workers and civil service organisations on the other. Given the emotions and interests that underpin the debate, an economic analysis is necessary to inform clear discussion of the pension reform. Conceptually, a pension scheme has three main functions: (a) to re-distribute income (re-distribution function), (b) to increase the savings rate (savings function), and (c) to provide security (insurance function). In addition, the global pension reform debate brings into focus issues of efficiency and sustainability. Economic efficiency entails maximizing the rate of return hence, ensures maximum benefit possible at minimum cost. Financial sustainability is achieved if the current value of projected pension payments and other expenses from the system over a 75-year period is equal to or less than the current value of projected revenue into the system over a 75-year period. It follows, therefore, that the Nigerian Pension Reform can be evaluated on the extent to which it achieves these three key functions of a pension scheme as well as in terms of its efficiency and sustainability. This study thus focused on an evaluation of the Pension Reform using a mix of deductive and inductive Methods. Both primary and secondary data were collected and analysed to answer the research questions about the efficiency and sustainability of the reform, and its capacity to achieve the savings, re-distribution and insurance functions. The findings of the study indicate that the new Pension Reform (a) is inefficient compared to the previous one. However, this will improve over time as the system matures (b) is likely to be financially sustainable and (c) is unlikely to be

politically sustainable because the case studies show that benefits in the old system are higher than benefits in the new system (d) will achieve the savings function. But the savings rate will ultimately depends on the level of compliance and coverage, and (e) has no provision for the effective redistribution of income from richer segments of the society to those with zero or low lifetime income (f) is unlikely to perform the insurance function because the balances in the Retirement Savings Accounts does not only offer lower retirement benefits compared to the former system, they are also sensitive to inflation and interest rate changes. The study also found that the major beneficiaries are likely to be the Government, Pension Administrators and Custodians while workers are likely to be the major losers.

TABLE OF CONTENTS

Title Page……...i

Declaration……...ii

Certification…….iii

Acknowledgements…….……iv

Abstract……...….v

Table of Contents……...……vii

List of Figures……...…….…..xi

List of Tables…….…….xii

List of Appendixes…….xiv

CHAPTER ONE

1.0 Introduction…….1

1.1 Background of Study…….…….1

1.2 Statement of Research Problem…….…….2

1.3 Objective of Study…….…….4

1.4 Justification of Study…….……4

1.5 Organisation of Work……...……..5

CHAPER TWO

2.0 Literature Review and Conceptual Framework..…….……...7

2.1 Conceptual Analysis……..7

2.1.1 The Concept of Pension…….…….……7

2.1.2 The Concept of Pension Scheme…….7

2.1.3 The Essence and Features of Pension Scheme……8

2.2 Types of Pension Plans……..…10

2.2.1 Defined Benefit Plan…….….10

2.2.2 Defined Contribution Plan…….……10

2.2.3 Comparing Defined Benefit and Defined Contribution Plan……11

2.3 Pension Crisis……...……18

2.4 Theories of Pension Reform……...…..21

2.4.1 Positive Theories of Social Security……..21

2.4.2 Welfare Analysis of Pension Reform……24

2.4.3 Political Economy of Pension Reform……..25

2.5 Alternative Pension Reforms: The Cases of Chile and Sweden……..….30

2.5.1 Comparing Pension Schemes…….……..30

2.5.2 Chilean Pension System/Reform…….…….33

2.5.3 Swedish Pension System/Reform……..……36

2.6 The Nigerian Pension System: Schemes and Reforms…….42

2.6.1 The Old Pension Scheme……...……43

2.6.2 The Nigerian Pension Reform…….……..47

2.6.3 Pension Reform Debate in Nigeria……56

CHAPTER THREE

3.0 Research Methodology……60

3.1 Main Concepts…….60

3.1.1 Efficiency……..……60

3.1.2 Sustainability……..……..61

3.1.3 Redistribution, Savings and Insurance Functions……..61

3.2 Theoretical Framework…….……62

3.2.1 Efficiency……...……62

3.2.2 Sustainability…….……64

3.2.3 Redistribution, Savings and Insurance Functions……..64

3.3 Empirical Framework……...……65

3.3.1 Measure of Efficiency……66

3.3.2 Measure of Sustainability……..67

3.3.3 Measure of Savings……69

3.3.4 Redistribution Function…….70

3.3.5 Insurance Function……...……..70

3.4 Data Sources and Analyses…….……..71

3.5 Scope and Limitations of Study……..…..73

CHAPTER FOUR

4.0 Data Presentation and Analyses……74

4.1 Introduction…….……..74

4.2 Analyses of the Efficiency and Sustainability of the New Scheme…..…….……74

4.2.1 Efficiency Analysis: Pre-Reform and Reform……..……..……..74

4.2.2 Sustainability Analysis-Case Studies.……...……81

4.3 Analysis of Redistribution, Saving and Insurance Function……..……..85

4.3.1 Redistribution Function……...……..85

4.3.2 Saving Function……85

4.3.3 Insurance Function……87

4.4 Likely Winners and Losers of the Reform……...90

4.4.1 Winners……..90

4.4.2 Losers……91

4.5 Summary of Findings……...92

CHAPTER FIVE

5.0 Summary, Conclusions and Recommendations……...93

5.1 Summary……..93

5.2 Conclusions……..94

5.3 Recommendations……..…96

LIST OF FIGURES

1. Pension Fund Balance Sheet……..……..…….16

2. Taxonomy of Social Security Systems…….…….30

3. Risk-Return Portfolio Opportunities in Mandatory Pension System.…….……...32

4. Architecture of the New Pension System.…….……..54

LIST OF TABLES

1. Investment Characteristics of Defined Benefit and Defined Contribution Pension..……13

2. Benefit Scale Prior to The Reform.…….……..…….46

3. Key Differences Between the Old and the New System..…….……..……..54

4. Comparison of the Three Pension Reforms..…….…..……..54

5. An Overview of Problems and Methods..……...……..66

6. Scenarios of Various Investment and Inflation Profiles…….……..…..……71

7. Reform Cost……...……75

8. Structure of Correspondence Rate..…….…..…..……76

9. Structures of Sexes of Respondents..…….……...…....76

10. Structure of Length of Service of Respondents.. ……77

11. Structure of Grade Level of Respondents..……..……..77

12. Frequency Table for Preferences.…..……..……..78

13. Frequency Table for Preferences...……...……..…….78

14. Frequency Table for Preferences...……..…….78

15. Frequency Table for Preferences..……..……..79

16. Frequency Table for Preferences…….…..……79

17. Frequency Table for Welfare Implication.…….……...79

18. Frequency Table for Welfare Implication.…….……...80

19. Frequency Table for Welfare Implication.…….……...80

20. Frequency Table for Welfare Implication.…….……...80

21. Frequency Table for Effect on Commitment……..……..81

22. Frequency Table for Effect on Commitment……..……..81

23. Yearly Contribution Series for Hypothetical Workers…….81

24. Monthly Pension Benefit in the New Contributory System……83

25. Estimates of Gratuity and Monthly Pension in the Old Scheme……..84

26. Balances in Retirement Savings Account…….……87

27. Benefits in the Old and New System - Scenario 1……..……..88

28. Benefits in the Old and New System – Scenario 2……..…….89

29. Benefits in the Old and New System – Scenario 3……...……89

LIST OF APPENDIXES

1. Investment Schedule For Junior Worker – First Scenario……107
2. Investment Schedule For Senior Worker – First Scenario……...108
3. Investment Schedule For Junior Worker – Second Scenario……...109
4. Investment Schedule For Senior Worker – Second Scenario……...110
5. Investment Schedule For Junior Worker – Third Scenario…….…….111
6. Investment Schedule for Senior Worker – Third Scenario…….……..112
7. Calculation of Administrative Charges Estimate……..…113
8. Sample Questionnaire..……..…114
9. Calculation of Pension Benefits in the Old and New Systems…….……118
10. Federal Civil Service Harmonised Salary Structure…..……...121

CHAPTER ONE

1.0 Introduction

1.1 Background of Study

Systems providing financial security to the retired are under increasing strain throughout the world (Schwarz and Demirguc – Kunt, 1999). Although each country has its own uniqueness, the problems of Pension Systems are universal and, according to World Bank (1994), rooted in demography and political economy. In industrialised countries, rapid demographic transition caused by rising life expectancy, the impending retirement of the "baby boom" generation and declining fertility mean that the proportion of retired people in the general population is growing rapidly. In developing countries, the Pension Systems have more or less collapsed as they are be-set by escalating cost and other management problems (World Bank 1994). In addition, the extended family and other traditional ways of supporting the retired are weakening due to urbanization, mobility, war and famine (World Bank, 1994).

The contemporary discussion of Pension Reform has been initiated mainly by concern for the long-term financial viability of existing government–operated pension systems (Lindbeck and Person, 2003). It is projected that over the next 35 years, the proportion of the world's population that is over 60 will almost double, from 9% to 16% (Schwarz and Demirguc – Kunt, 1999). While the definition of Pension Reform may vary, the theme has been consistent: public pay-as-you-go Pension Schemes are proving excessively burdensome and projections of the proportion of Gross Domestic Product (GDP) that will be "absorbed" by public pensions are high (Lindbeck and Person, 2003). In the United States of America and Japan for instance, projected retiree population as a percentage of the total population is expected to reach 22.3% and 29.6% respectively by the year 2030. Both countries are in various stages of reforming their

Pension Systems that will eventually reduce the generosity of the traditional pay-as-you-go system to avert the looming crises ahead (Burtless, 2002).

Despite the recognition of national specificities in the problems affecting national Pension Systems, the contemporary Pension Reform controversy compares and contrasts the 'radical' World Bank model and the model preferred by the International Labour Office (McKinnon and Charlton, 1999). The underling normative assumption of the World Bank's model is that Private Funded Schemes are inherently superior to Public pay-as-you-go Pension Systems. The ILO representatives however, argue that many of the existing Public pay-as-you-go Systems continue to function efficiently and with some reform could meet the demographic, productivity and administrative challenges (McKinnon and Charlton, 1999).

It is obvious that the ongoing debate about Pension Reforms has implications for Pension Reform in Nigeria.

1.2 Statement of Research Problem

The Nigerian government has been unable to make financial provision to match its pension commitments (Chinwuba, 2003). Studies such as Shams (2004) document the failures of the pay-as-you-go System. Pension Reform is thus imperative. In an attempt to reform the Nigerian Pension System, a Bill for an Act to repeal the Pension Scheme for employees in the Public and Private Sectors in the Federal Republic of Nigeria and for matters connected thereof, emanated from the Executive and was sent to the National Assembly on September 23, 2003 (Guardian 30 Dec, 2003). After intense debate, criticisms and contributions by various stakeholders, The Senate on March 23, 2004 passed The Pension Reform Bill meant to establish a Contributory

Pension Scheme for employees in the Federal Public Service and the Private Sector (This day Online News Roundup, 2003). The president signed the Bill into law on the 25th of June 2004.

The main features of the Pension Reform Act 2004 include:

(a) Contribution of funds by both the employer and the employee to fund retirement benefits;

(b) Crediting the employee's Retirement Savings Account with Pension Fund Administrators with any funds so contributed;

(c) Pension Fund Assets are to be privately managed and invested by professional pension fund managers;

(d) Strict regulation of the activities of Pension Funds Administrators and Custodians of Pension Fund Assets under uniform laws and regulations for both the Public and the Private Sectors; and

(e) Establishment of the National Pension Commission charged with the responsibility for matters relating to the regulation, supervision and effective administration of The Scheme, and for matters connected therewith.

However, despite the passage and signing of The Bill into law by The President, various stakeholders such as the Organised Private Sector (OPS) and the Nigerian Labour Congress (NLC) have expressed reservations about The Act. Some of the key issues raised include suitability of the model, stakeholders' participation, existing pension liabilities, undefined benefits, governance/representation, arbitrariness, excessive contribution rate and constitutional problems.

These issues and the global debate about Pension Reform raise four main questions. First, would the Pension System of the Pension Reform Act be efficient? Second, would The New System be sustainable? Third, to what extent will The New System achieve the Re-distribution, Savings and

Insurance functions of a Pension Scheme? Fourth, what are the likely effects of The New System on retirees, workers, the Organised Private Sector, and the economy as a whole?

1.3 Objective of the Research

The main objective of the study is to evaluate The New Nigerian Pension Reform Policy, which came into effect in July 2004 as a means of influencing ongoing debate. The specific goals are to:

(a) Evaluate the efficiency and sustainability of The New Pension System.

(b) Analyse the potentials of The Reform Policy in achieving the Re-distribution, Savings and Insurance functions of Pension Schemes.

(c) Identify potential beneficiaries and losers in The New Pension System.

1.4 Justification for the Research

A Pension Crisis does call for urgent reform given the welfare and efficiency implications. A case study of the Ahmadu Bello University Pension Scheme by Shams (2004) shows that the pension crisis in the institution have "caused economic hardship and regret on the part of retirees while it has decreased productivity, heightened labour cost and may be encouraging 'unethical and corrupt tendencies' in serving staff. This is in addition to the 'Brain Drain Syndrome', all of which tend to undermine the standard of the university"

However, Reform may create problems if not done properly. Policy Reforms tend to generate winners as well as losers who may facilitate or impede its success.

A clear analysis of the economics of The Reform is therefore very valuable because it will generate credible information for debate and for consensus building. For instance, empirical

analysis of the efficiency and sustainability of the new scheme may either convince sceptics to support the new system or convince government to make changes to enhance efficiency and sustainability. In addition, the evaluation of The New Scheme in terms of the multiple functions of a Pension Scheme may help the policy process focus on the essentials of a Pension Scheme while an analysis of winners and losers would help government to know if the new scheme may contribute to achieving the overall goals of economic reform.

1.5 Organisation of Work

This work is divided into five chapters. In chapter one, we gave a short but exhaustive background of study, which set the stage for us to conceptualise the work in our statement of research problem, research objectives and the justification of the research. This chapter also shows how the study is organised.

In chapter two, we did an extensive review of the relevant theoretical and empirical literature on Pension Schemes, Crises and Reforms. We also made an indebt comparative analysis of the Chilean, Swedish and the Nigerian Pension Reforms.

Chapter three is the Research Methodology. It includes a conceptual evaluation of the concepts of efficiency, sustainability, and the Redistribution, Saving and Insurance functions of a Pension Scheme. Also presented are the theoretical and the empirical frameworks for the study, data sources and the scope and limitations of study.

The presentation and analyses of data is in chapter four. We also gave an insight into the likely winners and losers of the New Pension Scheme and a summary of our findings.

Lastly, chapter five has the summary, conclusions and recommendations. Here, we gave a short overview of the work, highlights of our findings about the efficiency, sustainability, and the

saving, redistribution and insurance functions of the New Pension Scheme, and some suggestions on how to improve on the status quo.

CHAPTER TWO

2.0 Literature Review and Conceptual Framework

2.1 Conceptual Analysis

Pension Reform evokes certain primary questions: what is a Pension System? What is its essence? Why do governments interfere in this area throughout the industrial world and increasingly in developing countries? (Modigliani and Murahlidhar, 2004).

2.1.1 The Concept of Pension

Pensions are a form of Social Security for the retired. It is meant to serve as a supplementary source of income to retired workers when their current earning power ceases (Modigliani and Murahlidhar, 2004). It has been defined as "a sum of money paid regularly to a person who no longer works because of age, disablement etc., or to his widow or dependent children, by the state, by his former employers or from funds to which he and his employers have both contributed" (Onifade, 2001). According to the third edition of Longman Dictionary of Contemporary English (2000), the word Pension is an amount of money paid regularly by a government or a company to someone who is officially considered to be too old or ill to earn money by working. Alternatively, pension can also be defined as periodic payment to one who retired from work as a result of old age or disability (Chinwuba 2004).

2.1.2 The Concept of Pension Scheme

A Pension Scheme or System however, is the totality of plans, procedures and legal processes of securing and setting aside funds to meet the social obligation of care which employers owe their employees on retirement or in case of death and disability (NICON, Abuja). It serves as a structured method of providing economic security to an individual when he can no longer support himself. As a pre-arranged and well thought out plan, it gives the beneficiaries the

confidence that the benefits promised are being properly arranged and will be paid at the appropriate time (Onifade, 2001). It can also be viewed as a financial plan by which a worker's benefit is provided whenever it falls due according to the rules of the plan (Chinwuba 2004).

2.1.3 The Essence and Features of Pension Schemes

The primary purpose of a Pension System is to help households achieve an allocation of life resources by smoothing consumption over life, as postulated in the Life–Cycle Hypothesis (LCH). This is achieved by transferring resources from ones working life to post-retirement when income dries up (Modigliani and Muralidhar, 2004).

There are basically three reasons for the existence of Pension Plans. These are: Social Insurance, Re-distribution, and Savings (Modigliani and Muralidhar, 2004).

First, Social Insurance is particularly valid for public systems. It is equivalent to undertaking a social obligation to ensure that all citizens, especially the old, have the requisite resources to meet their basic needs thus insuring them against the many risks they are vulnerable to, mainly the disability, longevity, insolvency, inflation and investment risks (Modigliani and Muralidhar, 2004).

Second, Pension Schemes can be a re-distribution mechanism for transferring resources from the well–to–do to the poorer segments of society that cannot afford to accumulate adequate reserves. Although redistribution features are not a pre-requisite for a Pension Scheme, they differentiate a Pension Scheme from a "Social Security" scheme. Generally schemes with re-distribution tend to provide, or should provide, a basic (rather than a generous) minimum pension payment (Modigliani and Muralidhar, 2004).

Third, as economic theory demonstrates, countries need savings for capital formation, and individuals need savings to support themselves in the non-earning phase of their lives. Using a

variety of incentives (such as tax credits and deferrals) and mandated contribution rules, government encourage citizens to increase their rate of saving. The greater the need for such savings, the higher the contribution rate and, potentially, the benefit (Modigliani and Muralidhar, 2004).

Further, at macro level, a Pension Scheme allows individuals to adopt a Life–Cycle model of consumption, thus protecting myopic and unsophisticated individuals. This involves saving during working life to provide for post-retirement. At the corporate level, pensions are deferred wage payable only if the employee exhibits desirable characteristics, such as integrity and honesty. In addition, companies are able to induce the desired behaviour by offering matching contributions to ensure that employees retire without anxiety. A Pension Plan can be structured to attract employees to join an organisation, stay longer (typical corporate defined-benefit), have job flexibility (cash balance plan), and so on (Modigliani and Muralidhar, 2004).

Aaron and Reischaver (1998) suggest that the primary reasons for the state to provide this arrangement is the belief that many citizens are myopic and lack the information to enable them accumulate adequate resources for retirement. An extension of this paternalistic view is the idea that many segments of the society may not be sophisticated enough to set up appropriate arrangements. Another reason is the absence of developed insurance markets due to informal deficiencies and weak capital markets that put annuities beyond the reach of most people. In addition, pockets of severe poverty have developed among those whose lifetime incomes were too low to cover minimally adequate consumption levels during their retirement as well as working years (the long term poverty problem) (World Bank, 1994). All these have necessitated the need for government involvement in the provision of retirement benefits.

2.2 Types of Pension Plans

Pension Systems can be broadly categorised by the benefits they promise and the way they finance that promise. The choice is often between two types of pension plans: Defined-Benefit (DB) and Defined-Contribution (DC).

2.2.1 Defined-Benefit Plan

The essence of a Defined-Benefit Pension Plan is that it provides a "defined-benefit"– a pre-specified annuity either in absolute currency or as a fraction of a measure of salary (for example, a defined percentage of the final salary or an average of some past years of salary). The guaranteed pension benefit could be in either real or nominal terms. If real, it is indexed to the inflation rate and if nominal, it is not indexed to the inflation rate (Modigliani and Muralidhar, 2004).

In Defined-Benefit Plans, participants, sponsors, or both make contributions that could change over time. The ratio of annuity or benefit to a measure of salary is known as the "Replacement Rate". The participant may be unaware of any relationship between contributions and benefits. However, the administrators of the system and pension finance experts know there is a unique "budget constraint" that links contributions, returns, and benefits to a given replacement rate. Defined-Benefit plans rely on inter and intra generational pooling of investment and liability risk, which is called the "social allocation of risk" (Modigliani and Muralidhar, 2004).

2.2.2 Defined-Contribution Plan

In Defined-Contribution Pension Schemes, participants, sponsors, or both make pre-specified contributions. The Plan specifies contributions either in absolute currency or as a fraction of a measure of salary (e.g. N10, 000 annually or 5 % of annual pre-tax salary). These contributions

may also be partially or totally voluntary. Participants invest contributions in assets. *The final pension is uncertain (prior to retirement) because it depends entirely on asset performance of the accumulated contributions.* Accordingly, two individuals with identical contributions but different investment portfolios can receive widely divergent pensions. Further, two individuals with identical contributions histories can receive widely divergent pensions over different time periods (Modigliani and Muralidhar, 2004).

It is worth noting that, in defined-contribution plans, it is possible for contributions to change over time. This could happen because of changes in tax laws (either for mandated or voluntary schemes) or if existing contributions provide an insufficient or excessive replacement rate (Modigliani and Muralidhar, 2004).

2.2.3 Comparing Defined-Benefit and Defined-Contribution Pension Plans

Defined-benefit plans spread investment risk across a large number of individuals of different ages and over different time horizons (i.e., within a cohort and across cohorts). The plan sponsor, who generally bears the investment risk of the plan, has a much longer time frame and a much higher risk–bearing capacity than individuals in the plan. In other words, in a defined-contribution plan the time horizon is the life of one individual, whereas in defined-benefit plans the time horizon is much longer (if not infinite). For these reasons, defined-benefit plans on the average can take in more risk and generate higher returns, and their asset allocation policy tends to take longer to change than can individual plans (See Orszag and Stiglitz, 2001). However, by pooling assets, defined-benefit plans incur lower cost for managing assets but may be susceptible to government manipulation because government can control these assets. On the other hand, defined-contribution plans enable individuals to tailor their portfolio to the risk they wish to bear and allow for a better matching to their preferences. Individuals participate in all the gains and

losses of their plan but incur higher costs in managing their assets. However, it may not generally provide individuals with sufficient insurance because the market may be incomplete (e.g., no life annuities, no protection against inflation or anxiety about adverse selection). Hence, the trade-off in designing systems is that policymakers have to decide between individual or pooled arrangements and to explicitly trade-off choice and political risk versus risk sharing and lower cost (Modigliani and Muralidhar, 2004).

Defined-benefit plans provide stable retirement income based on salary; defined-contribution plans offer less predictable retirement incomes owing to their dependence on investment performance. By their very nature, defined-benefit plans are less flexible (Individuals have less freedom over their contributions) and are unresponsive to meeting the cash flow needs of individuals before and after retirement (Modigliani and Muralidhar, 2004).

Defined-benefit plans provide insurance for longevity. The possibility that the money will run out before the individual die is largely non-existent, unless the sponsor defaults and there is no insurance coverage. Country schemes do not require insurance because the state is the sponsor and has the ability to tax citizens. Insurance for corporate plans is usually provided by agencies such as the Pension Benefit Guarantee Corporation (PBGC) in the USA. However, individuals who contribute during their entire lifetime and die soon after retirement do not have the opportunity to bequeath a pool of funds to their heirs. Bequeathing monies to heirs in the event of premature death is possible only in defined-contribution plans though defined-benefit plans offer survivor benefit (Modigliani and Muralidhar, 2004).

Table 1: Investment Characteristics of Defined-benefit and Defined-contribution Pension Schemes

Defined Benefit	Defined Contribution
(1) Provide stable benefits.	(1) Allow for matching of cash flow with needs
(2) Plan sponsor bears risk	(2) Individual bears risk.
(3) Pool investment risk	(3) Individual has choice in investment.
(4) Provide insurance against longevity	(4) Allow for bequeathing of wealth.

A combination of DB and DC may be more advantageous

Source: Modigliani and Muralidhar, (2004).

The Table above summarises the comparison of defined-benefit and defined-contribution plans. Clearly, a mix of the investment characteristics of defined-benefit and defined-contribution plans would satisfy a larger group of individuals than would any one type of plan. *Innovative new plans that incorporate the beneficial characteristics of each type of plan can achieve the same objective* (Modigliani and Muralidhar, 2004).

It is important to note that choosing between defined-benefit and defined-contribution plans also has non-investment implications. For example, defined-contribution plans require a well-educated, financially literate group to use the freedom of choice to ensure adequate replacement rates at retirement. Defined-benefit plans have to be supported by strong government structures to ensure that sufficient funds are soundly invested to meet future liabilities. The relative mix of defined-benefit and defined-contribution plans is likely to be country and individual specific (Modigliani and Muralidhar, 2004).

This leads us to make a very important distinction between a defined-benefit and defined-contribution plan:

The essential characteristic of defined-benefit plan is that the terminal outcome is defined (a target replacement rate to be paid to participants is articulated by a sponsor), whereas in a defined-contribution plan, the terminal outcome is variable.

Traditionally, corporate defined-benefit pension formulas define annuities based on the number of years of service multiplied by some accrual factor. Implicitly, the product of these two factors is the replacement rate (e.g., see equation 2.5 below). The problem with this statement of benefits is that the inclusion of years of service in the formula creates non-linear growth in pensions as one ages, leading individuals to stay with the pension–proving institution because the cost of leaving increases over time. This creates a perverse incentive to stay (Modigliani and Muralidhar, 2004). One can see the relationship between contributions and returns in the simple equation (2.1) below.

Nominal contributions over working life, compounded at the expected return on assets (With or without volatility) = Expected wealth at retirement = Expected present value of desired annuity as of the retirement date (Which can be related to replacement rate).

The statement above can be represented algebraically as follows:

$$Ew_t = P_t (1+r)^t \quad \text{……..……Equation 2.1}$$

Where,

Ew_t = expected wealth at retirement

P_t = nominal contributions over working life

r = rate of return on investment

t = time or number of years

Nominal contributions are equal to the contribution rate multiplied by the nominal wage. That is:

$P_t = a\ (W_t)$. …….……Equation 2.2

Where,

P_t = nominal contributions over working life

a = contribution rate

W_t = nominal wage

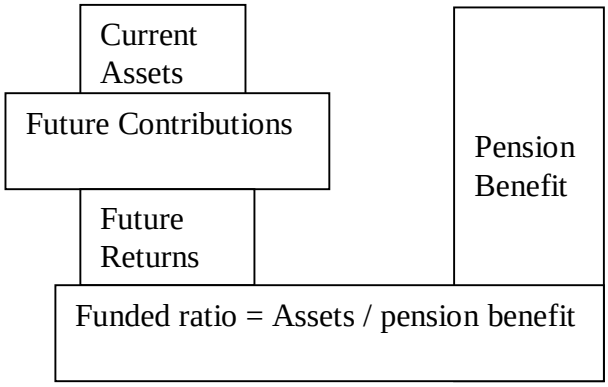
t = time or number of years

For simplicity, assume the contribution rate is fixed. When returns are volatile, this equation characterises a defined-contribution plan. If the volatility of returns is eliminated, either through an investment strategy or a guarantee, then final wealth and the present value of the annuity at retirement becomes a function of salary growth. In other words, if the rate of return is guaranteed, the replacement rate, which is the rate of pension annuity to some measure of salary (last year or average of last 35 years) can be guaranteed, given salary growth. This equation can, also characterise defined-benefit plans. Previous pension reform research has not recognised that good pension design can create a close link between defined-benefit and defined-contribution plans (Modigliani and Muralidhar, 2004).

There are several ways to fund defined-benefit or defined-contribution plans. Presently, Social Security Systems are overwhelmingly pay-as-you-go, defined-benefit schemes in which current participants are required to make contributions used to pay the benefits of retirees. In a pure pay-as-you-go, there is no accumulation of funds because all contributions are disbursed to service pensions. However corporate or occupational defined-benefit or defined-contribution schemes tend to be funded (partially and fully). Funding requires an accumulation of funds before retirement to service future liabilities. Funds are invested in marketable or non – marketable

assets. As a result, some combination of contributions and asset returns is used to service pensions.

Figure 1**:** Pension Fund Balance Sheet



Source: Modigliani and Muralidhar, (2004).

According to Modigliani and Muralidhar (2004), some researchers (e.g. Longue and Rader, 1997) have suggested that defined-contribution plans are always fully funded. This comment is true in the sense that the pension is entirely paid out of whatever capital has been accumulated, but it can be misinterpreted to suggest that the sponsor is indifferent to the size of the pension. Many researchers incorrectly assume that both sponsors and retirees are indifferent to the annuity paid out in defined-contribution plans. *It is critical, even in a defined-contribution plan, for participants to have a target replacement rate (though it is not guaranteed) and to select their contribution, investment policy, or both to achieve that target.* As a result, other researchers (e.g., Muralidhar and Van der Wouden, 1998b) have suggested that defined-contribution plans are under funded if the assets in the plan are insufficient to deliver a target replacement rate. Regardless of the funding method, a Pension Fund Balance Sheet can be distilled down as shown in figure 1 above, for which different funding methods place greater emphasis on contributions

or accumulated assets and asset returns to pay benefits. Similarly, Reform can focus on changes to (i) benefit (ii) contribution policy and (iii) investment policy. Any, or all, of these may require changes in the institutional arrangements of the current social security system of a country.

A Pension System is regarded as financially stable if the capital value of expected pension payments is equal to the capital value of the revenues to the system from contributions. The reason the issue of financial stability are problematic is that attempts to guarantee stability have consequences for income distribution and economic efficiency. If such consequences could be disregarded, shocks to productivity growth and demography would not threaten the financial stability of the system, in the sense that stability could be achieved simply by changes in contribution rates (in a defined-benefit system) and in benefits (in a defined-contribution system) (Modigliani and Muralidhar, 2004).

According to Lindbeck and Persson (2003), a quasi-actuarial pension system (sometime called "notional defined contribution" system) is more financially stable than a non-actuarial system. One conceivable justification for this view is that such a system mimics a fully funded system in certain respects. More specifically, a quasi–actuarial system may be equipped with property rights similar to those of a fully funded system. In an actuarially fair, fully funded system, the pension is based on the return on the individual's own contributions, and pension claims are regularly reported as an individually owned financial asset. Analogously, in a quasi-actuarial system with individual (so-called "notional") accounts, the pension is also based on the individual's own accumulated contributions-although as a rule the rate of return differs from the market rate of interest. In neither of these systems is the individual guaranteed a specific rate of return. The rate of return is, however, determined by simple and transparent rules: by the market interest rate in an actuarially fair system, and by the growth rate in tax base in a quasi-actuarial

system. The argument that a quasi-actuarial system is more stable than a non-actuarial one then seems to rest on the notion that the public is more likely to accept changes in pensions that are determined by such rules than by ad hoc government intervention.

As Nicholas Barr (2000) also pointed out, output and its growth is the key to financing pensions. *The much-debated choice between pay-as-you-go and fully funded is of secondary importance. It matters less than the capacity of the government to manage the economy effectively, to promote adequate growth of output, and to sustain a stable foundation for whatever pension system is adopted.* What is different between pay-as-you-go and fully funded is the way that claims on current output to satisfy the consumption of pensioners is met. Under fully funded, the retiree's claim on the goods they consume is met by spending the money accumulated in their own accounts while under pay-as-you-go, the retiree claims the goods by way of government taxes. As long as there is enough for workers and retirees, from a macroeconomic point of view, it is unimportant which system to adopt. If output remains constant or declines, even fully funded systems cannot avoid problems. Under such situation, the fully funded system cannot escape from inflation in the goods market or deflation of asset prices, both of which reduce the real value of the pension. So for pension systems, the crucial issue is always the level and rate of growth of output.

2.3 Pension Crisis

Pension crisis can be looked at from several angles.

(a) It could relate to the problems that governments have in funding the state Pension Schemes that will act as the support to the elderly.

(b) It could be looking at the problems firms have in meeting the pension obligations they have in fulfilling company Pension Schemes.

(c) It could be the problems faced by those who have contributed to company pensions but who now find that, as a result of the firms they have been working for years going out of business, they do not have access to the pension support they were expecting.

(d) It could be the fact that fewer young people seem to have pension provision at the head of their priorities implying that they are storing problems for their future welfare.

(e) It could be the move by businesses to switch from occupational Pension Schemes – where employers contribute a sum as well and which workers get fixed pension sums in relation to their final income to less attractive but cheaper to the firm non-earnings related schemes.

From a global perspective, these trends mean that there are more people who will require financial support in some form or another but less money to provide it. It is certainly a very worrying problem. This is because pay-as-you-go systems are fundamentally flawed in their structure. They do not produce or create any real investment, or wealth. They are simply transfer systems-they transfer wealth from today's workers to today's retirees. This system is supposed to continue indefinitely. Unfortunately, there are two major problems with the system (Tanner, 1998).

The first is demographic. Quite simply, we have an aging world. The proportion of the population over the age of 65 will double by the year 2030, from about 8% to more than 16%. And that phenomenon is even more acute in countries that are members of the Organisation for Economic Cooperation and Development–essentially the United States, Western Europe, and Japan. In those countries, the percentage of the population over the age of 65 will go from approximately 18% to an astounding 32%. Furthermore, we are experiencing a decline in

fertility rates around the world. In 1970 the fertility rate was approximately 3.3%. Today it is down to 2.96%, and by 2020 we expect it to be as low as 2.5%. In fact, in every country of Western Europe-with the exception of Ireland-the birth rate is now below the replacement rate. The result of changing demographics is that the worker/retiree ratio is shrinking rapidly. The number of workers paying into the system and transferring their wealth to retirees is getting smaller and smaller. In many nations-for example in Austria and Belgium-that ratio is already below two to one. And by 2030 it will likely be below one to one. Clearly, you cannot have a system under which each worker has to support a retiree (Tanner, 1998).

The second problem is perhaps more fundamental. Pay-as-you-go systems break the link between contributions and benefits thus opening the door for political mischief. Politicians are likely to succumb to the elderly lobby and attempt to increase payments when such a move is not economically feasible. Payroll taxes are already over 25% and approximately 50% in many countries of Western Europe and Eastern Europe respectively. Such burdens are simply crushing those countries' economies (Tanner, 1998).

The U.S.A Global Pension Watch on September 22, 2003 reported that the Nigerian Authorities have uncovered a huge deficit in the state pension fund amounting to at least N2 trillion (E9.3 billion, $14.8 Billion), confirming what many unpaid former state workers had feared for years while joining queues to claim their entitlements. Also, under the headline "Varsities groan under the burden of unpaid pensions" published on 3rd May 2003, it reported that the authorities of the country's first generation universities of Ibadan, Ile-Ife, Benin, Nsukka and A.B.U. Zaria were loosing sleep over the non-payment of pensions to retirees for about 17 months, many of whom have started giving up the ghost for want of money and medications for their health.

Further, the Vanguard Newspaper of October 16, 2003 reported that "in the swirling economic currents of rising cost of living, fuel price hikes, low wages, high rents, widespread poverty, low purchasing power and prevalent recession, unpaid pensions of retired teachers is sending many of them to the great beyond". The National President of Nigerian Union of Teachers (NUT), Abdulwaheed Ibrahim said "many retired teachers have died across the country without being paid their gratuities and pensions since 1994. Not a few have been thrown into destitution, undue dependence and state of extreme hunger, disease and untold suffering".

The immediate past Finance Minister, Ngozi Okonjo Iweala, announced that the Federal Government would, this year (2006), commence the payment of all outstanding pension arrears with the issuance of a three to five year bond at competitive interest rates. The bond would be a liquid instrument that can be traded at banks and discount houses for cash at a discount level (Maiturare, 2006).

2.4 Theories of Pension Reform

A good theory of Social Security needs to explain not only why Social Security exist, but also what the social, economic and political forces that create these programs, keep them in place and allow them to evolve (Mulligan and Sala-i-Martin, 1999). Below is a review of some relevant theories of Social Security Systems and the Political Economy of Pension Reform.

2.4.1 Positive Theories of Social Security

In the debate about reforming old age Social Security, two important questions are central. First, is reforming social security desirable? That is, will it improve welfare for a significant number of people? Answering this question is impossible without a positive theory of the creation and evolution of social security. The second question in evaluating reform is whether it is sustainable. In particular, is a "fully-funded" system sustainable? Is an "individual accounts"

system sustainable? An important reason to question the sustainability of fully funded reforms is that no social security program in history has been fully funded for any important length of time. To answer the question of whether reforms are sustainable, we also need a positive theory of social security (Mulligan and Sala-i-Martin, 1999).

According to Mulligan and Sala-i-Martin (1999), theories of Social Security can be divided into two broad categories, viz: political and efficiency theories.

Political theories view social security as redistribution, the outcome of a political struggle where two or more groups of citizens fight (politically) to extract resources from each other. And, if a theory predicts the elderly winning the fight, it becomes a social security theory.

On the other hand, efficiency theories are those theories identifying market inefficiencies. These theories of Social Security are based on the idea that the market "fails" to alleviate the poverty of the old (that is, it fails to guarantee an income/wealth distribution which is "socially acceptable") and the government has to step in to create a social security programme that solves this problem, to regain "optimality". Usually, these theories explain why it must be the government who administers a Social Security programme (see Mulligan and Sala-i-Martin, 1999).

Theories within these two basic groups share a number of characteristics and predictions. One characteristic shared by all purely political theories of social security is that the outcomes of political struggles are likely to be economically inefficient. Hence, these theories suggest that there are Social Security Reforms, which may increase welfare. The problem is that the same theories tend to predict that social security reform may not be feasible without political reform. In contrast, while efficiency models argue that Social Security is the optimal policy to combat some kind of market malfunction, they will tend to predict that social security reform is less likely to increase welfare (Mulligan and Sala-i-Martin, 1999).

On one hand, an explicitly political model could generate refutable predictions about the relationship between political activity and Social Security (maybe based on explicit game theoretic political models). On the other hand, the efficiency approach suggests that the design of Social Security depends more on economic considerations than on political considerations, a suggestion which is consistent with findings that democracies and non-democracies have similar Social Security programmes, (holding constant economic variables) (Mulligan and Sala-i-Martin, 1999).

Finally, political theories predict that Social Security results in redistribution from young to old (that is what the political struggle is all about!), while efficiency theories do not necessarily make this prediction (Mulligan and Sala-i-Martin, 1999).

However, it had earlier been argued by Sala-i-Martin (1996) that "the main idea is that pensions are a means to induce retirement, i.e. to buy the elderly out of the labour force. The reason is that aggregate output (GDP) is higher if the elderly do not work". This is modelled through the positive externalities in the average stock of human capital because skills depreciate with age so the elderly tend to have less than average human capital and as a result, the elderly have a negative impact on the productivity of the young. The young therefore have incentives to induce the elderly to work less or even retire. This is why Social Security programs are introduced and why they tend to induce retirement. In other words, it is "pareto-improving" for the young to trade money for the jobs of the old.

Further, one widespread (efficiency) theory is the prodigal father problem. According to this theory, Social Security takes care of the elderly because some of them engage in prodigal behaviour when they were young and did not save enough to support themselves later in life.

There are two versions of this theory, viz: myopic prodigality and rational prodigality (Mulligan and Sala-i-Martin, 1999).

The first version (myopic prodigality) assumes that parents were not looking forward enough when they were young. According to this version people make "mistakes" when they are young and they save too little. Diamond (1977), suggests several possible "reasons" for this, viz:

(i) People may lack the information necessary to judge their needs in retirement.

(ii) People may be unable to make effective decisions about long-term issues because they are not wiling to confront the fact that one day they will be old.

(iii) They may simply fail to give sufficient weight to their post retirement needs.

The second version of the theory (rational prodigality) seems to be exactly the opposite i.e. parents were forward looking to such an extent when they were young they anticipated not only their needs for retirement, but how their children and others in society would react to those needs (e.g. Laiter 1988). In particular, they expect society to aid them in desperate situation (e.g. poverty) even when those situations are self-induced (Mulligan and Sala-i-Martin, 1999).

2.4.2 Welfare Analysis of Pension Reform

Pension Reform is usually discussed in a neoclassical economic framework, where utility maximization and efficiency-improvement are the main justification for reform. The main argument of the neoclassical theory for Pension Reform is based on the different impact on savings caused by pay-as-you-go and fully funded. Theoretically, there is no long run effect on capital accumulation with a moderate funded system but if the funded system is expanded to a higher level, then there is an increase in capital supply due to forced savings, while a pay-as-you-go system has a negative effect on savings and thus the capital supply is reduced (Blanchard and Fischer, 1989). From Solow (1956) growth model, the "Golden Rule of Growth" has been

derived (Phelps, 1961, 1966), where the capital-labour ratio is such that the marginal product of capital is equal to the economic growth rate, that is the sum of population growth rate (n) and productivity growth rate (g), to maximise the consumption per capita now and forever: $f'(k)=n+g$. Based on the Diamond (1965) OLG (overlapping generations) model with capital, in situation where the population growth rate exceeds the steady state marginal product of capital, or equivalently the economy is consistently investing more than it is earning in profit, the economy is said to be dynamically inefficient (Abel, 1986). For a dynamically inefficient economy, in which the marginal product of capital is lower than the economic growth rate, introducing a pay-as-you-go system will increase consumption per capita in the long run as well as short run. On the other hand, in a dynamically efficient economy, a fully funded system is optimal because it generates more savings (Abel, 1986).

2.4.3 Political Economy of Pension Reform

The World Bank (1994) proposal for mandatory funded Pension System managed by private institutions assumes that savings determined investment and that private sector allocate resources to their most productive uses, compared to the public sector. Thus, funding retirement, rather than taxing current workers, increases savings available for investing. Feldstein (1996) shares this view and argues that pay-as-you-go system distort individual saving behaviour by inducing people to save less because government transfers will solve retirement needs. This diminishes funds available in equity markets and economic growth is compromised.

Despite these arguments in favour of deepening capital markets, critiques of modern finance market point to the following problems, Viz: Imperfect and asymmetric information (stiglitz, 1989), short-termism and speculation (Singh, 1996; Lazonick, 1992), and agency problems (Jacobs, 1994).

The market for corporate control as well as shareholder rights movements in the U.S and Europe have been viewed as solutions for classic agency problems- that is, where the managers of the companies do not represent the interest of the owner. Instead they pursue their own objectives. In developed economies, elaborate regulations allow investors to know and investigate the companies they own. Shareholders vote proxies, go to shareholder meetings, and hire and fire boards of directors (Ghilarducci and Liebana, 1998).

Imperfect and asymmetric information in financial markets causes restricted and high cost borrowing (Stiglitz, 1989; Jacob, 1994). As a result, financial market can be extremely inefficient in directing capital to productive uses, especially, ventures with medium to long-term time horizons. Government provisions of information, subsidies for housing, local economic development and venture capital are most often required (Ghilarducci and Liebana, 1998).

Only in neoclassical theory does saving axiomatically equal investment. Yet, savings only allow investment; its mere supply does not determine the demand for investment goods. Even the most developed capital markets require sophisticated regulation and monitoring; they change unpredictably, rapidly, and are prone to speculative bubbles and crisis. In sum, increasing savings does not generate efficient capital markets. Efficiency requires transparent information about ownership, active and involved owners, and a trusted supervisor to make financial institutions and corporations accountable (Ghilarducci and Liebana, 1998).

In industrialized democratic markets economies, union routinely control and influences pension funds. Unions have joint control over workers pension fund investments in the Netherlands, the United Kingdom, France, Australia, and through worker co-determination in Germany. Eight per cent of funds in the United States are jointly controlled union-management funds and union negotiates over 50% of company sponsored pension funds (Ghilarducci and Liebana, 1998). The

American Federation of Labour Unions, the ASFL-C10 uses sophisticated corporate campaigns by asserting shareholder right to question the broad policies of corporate management (Glilarducci, 1997; AFL-C10, 1996). Even more union and government agencies are targeting pension funds towards investments that earn market rates of return and yield economic development goals such as job creation and housing (Ghilarducci and Liebana, 1998).

Union also support pension systems that balance six micro region goals: adequacy, redistribution, individual and horizontal equity, efficiency, and finally, social and economic stability (Steurerle and Bakija, 1994). Economic stability refers to the Keynesian notion of maintaining consumption during recession, and social stability refers to the ability of social insurance programs to quell working class "revolt" (Pampel and Williamson, 1993). First, an old age pension system helps redistribute income, through minimum pensions, progressive taxes financing, and high replacement rates for low earners. Second, individual equity goals ensure individuals obtain a "fair" return from individual effort- higher income workers receive higher pensions. Third, horizontal equity is met when workers in similar work situations receive similar pensions. Individual capitalized plans violate this goal because rates of return differ. Efficiency matters. High administrative cost and perverse incentives, like encouraging retirement at a very early age or requiring a very small number of years for eligibility, diminish the amount of pensions paid (Ghilarducci and Liebana, 1998).

Workers and unions want Social Insurance in order to reduce risk. In market economies, most income comes from work. Disability and superannuation are always present risks. Workers saving for pensions face a number of risks: (a)"Longevity risk"- the risk of outliving retirement accounts; (b) financial risk of market failure and bad investment decision; (c) inflation; (d) non-compliance risks- the risk that the worker does not save steadily and the account is too small

(Turner, 1997; McGillivary, 1998). Adverse selection is a problem for insurance companies selling guaranteed streams of income. Private insurance companies know workers can assess their longevity better than the company and long-livers will be more likely to buy the guarantee. Thus, every insurance company expects a high priced group and charges higher fees to make up the increased risk. Social insurance plans avoid adverse selection by making participation mandatory and universal. All workers take an annuity, not just those who perceive they will live a long time. In addition, mandatory participation, bypasses myopia- the tendency for humans to be shortsighted and not foresee substantial future income needs. Social Insurance Schemes pay, most often indexed, annuities and base pensions on years worked and wages-thus avoiding all financial, longevity, inflation, and non-compliance risks. However, workers in government systems face the risk that politician can change the benefits- the political risk-and mismanage the system (Diamond, 1994).

In these systems, the financial health of the Universal Social Insurance program is based on the financial health of the labour force. For example, half of the projected United States Social Security deficit would not exist if United States wages had kept up with productivity in the 1980's (Ghilarducci and Liebana, 1998).

With privatisation, retirees and workers no longer gain unambiguously when wages and productivity rises. In fact, workers could be torn between wanting sharp rises in share values even if they are fuelled by deep wage cuts and unemployment (Ghilarducci and Liebana, 1998).

Marxist scholars have criticized pay-as-you-go system because they redistribute payroll contributions between workers and do not fundamentally alter the balance of power between capital and labour (Katz Olson, 1982). Yet, in pay-as-you-go system, retired workers are aligned with the interest of current workers because the strength of the pension depends on payroll

growth and union political strength. According to José pin era (1988), the political economy purpose of the pension reform:

"… establishes a necessary connection between efforts and benefits….. The reform will have profound political consequences as well: a dramatic increase in individual freedom, which with the participation in social life and economic progress will constitute an insurmountable barrier against communism… establishing benefits proportional to effort, a huge source of state power and discretion disappear […] Just as with the labour plan, we have the certainty of giving another mortal blast to the politicisation of social life and to Marxism, and particularly to poverty and injustice" [Author's Translation].

Privatization creates winners and losers. The winners, when the private sector takes over a government function are, first and obviously, the vendors – the pension administration industry. Employers also gain because they are exempted from paying pensions. Nevertheless, employers lose long-term relationship with workers encouraged to accrue pension benefits. This may have detrimental consequences for the economy depending on the lost productivity effects of employers' pension programs. Certain workers gain-those who do not live long, are savvy or lucky in investing and do not have dropout years when they are not contributing regularly in the formal sector. Losers include disabled workers, workers outside formal labour market, and long-livers. Women are likely losers because of culture, biology, and economics-they raise children, livelonger, and are paid less (Barrientos and Firinguetti, 1996; Arenas de Mesa and Bertranou, 1997).

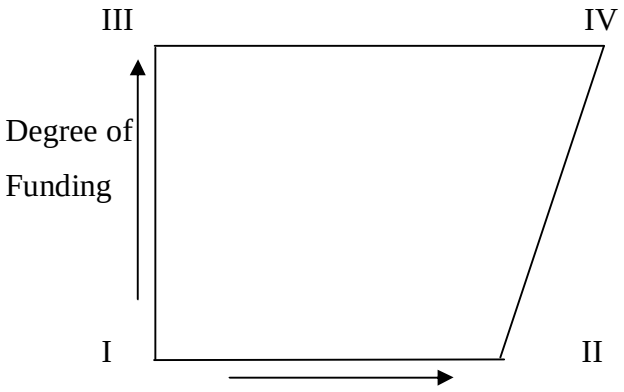
High-income workers may have better investment advice and have longer careers. The state wins, at first, by leaving the pension "business". However, if pensions are inadequate, the government or more accurately taxpayers, lose by paying more welfare benefits in future. The state, also incurs the expenses of regulating and monitoring the "private" system for malfeasance and union may participate more, especially if legislation allows group affiliation (Ghilarducci and Liebana, 1998).

2.5 Alternative Pension Reforms: The Cases of Chile and Sweden

2.5.1 Comparing Pension Schemes

For the purpose of analysis, we present a three-dimensional classification of Pension Systems, viz: defined contribution versus defined benefit, funded versus un-funded and actuarial versus non-actuarial pension system (the term "actuarial" is used to describe the relation (link) between contributions and benefits at the individual level). Our three-dimensional classification facilitates separating the consequences of pension system for work incentives (highlighted by the actuarial non actuarial dimension), capital formation (highlighted by the funded non-funded dimension) and risk sharing (highlighted by the defined benefit/defined contribution dimension). Regardless of the immediate objective of a Pension Reform, it can often be described as a movement in these three dimensions (Lindbeck and Persson, 2003).

Figure 2**:** Taxonomy of Social Security Systems



Source: Lindbeck and Persson, (2003).

Making the System more Actuarial: A Move from I to II

Most countries contemplating pension reform today start from systems in the neighbourhood of position I in Figure 2. Some countries limit their ambitions to marginal (parametric) reforms by either reducing benefits or raising contribution rates, without changing the basic rules of the

system. Other countries change the benefits rules in an actuarial direction, while maintaining a pay-as-you-go system. Still other countries undertake systemic reforms of their pay-as-you-go system, by a radical shift from a position close to I to a position close to II, with individual, so-called notional account of pension claims. In the generic case, these accounts are credited with an annual return equal to G (G=growth rate in tax), and the pay-as-you-go system thus mimics a fully funded system although with a lower rate of return. While the main rationale for introducing a system of this type is to improve the economic efficiency and financial stability of a Pension System, it may also have important consequences for the distribution of income (Lindbeck and Persson, 2003).

Shifting to a Funded System: A move from II to IV

Three often-mentioned arguments for shifting to a funded system are:

(i) The individual would receive a higher return on his mandatory saving;

(ii) Aggregate national saving would increase; and

(iii) Better risk diversification of pension claims could be achieved.

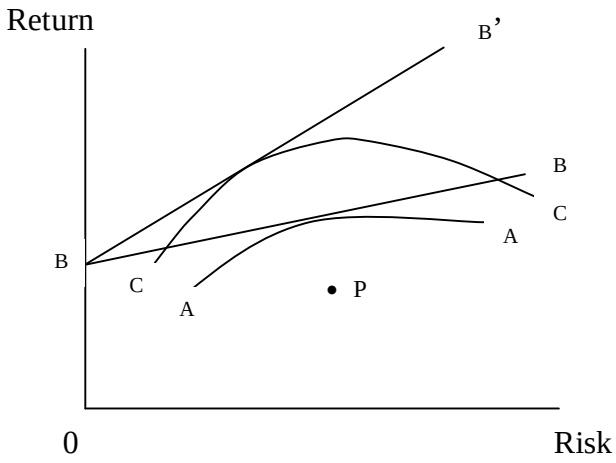
In a shift from a quasi-actuarial to an actuarially fair, fully funded system, an individual will experience two changes in his budget constraint; he will receive a market return on his mandatory savings (rather than a return equal to the growth rate in the tax base), and he may have to pay a new tax in order to honour the claims of the old pay-as-you-go pensioners. This new tax could, off-course be imposed on any tax base, such as income or consumption (Lindbeck and Persson, 2003).

Defined-Benefit/Defined-Contribution Dimension-A Portfolio Approach

In fig 2 below, we have drawn the efficient frontier, depicted by the curve CC, above the AA curve- but it could just as well be below AA. A non- constrained individual will then choose a

combination of the risk-free asset, traditional risky asset, and the mandatory pay-go asset-a position located somewhere on the capital-market line BB in the figure. For a liquidity constrained individual, on the other hand, the introduction of a pay-as-you-go system means that he will be confined to point P. According to the government revealed preference, point P is superior to point O, which the liquidity constrained individual would choose in the absence of a mandatory system. Indeed, this is one reason why a pay-as-you-go system is introduced in the first place (Lindbeck and Persson, 2003).

Figure 3**:** Risk – return Portfolio Opportunities in Mandatory Pension Systems



Source: Lindbeck and Persson, (2003).

If there is a total shift to a fully funded system, the pay-go asset, i.e., pension claims with an uncertainty yield tied to the growth rate of the tax base, disappears. A non-constrained individual can then choose a risk/return combination along the capital market line BB that is tangent to the original efficiency frontier AA- just as if there was no mandatory system whatsoever. Theoretically, this conclusion holds not only if the individual can choose among many competing pension funds, but also if there is a single government operated fund-provided that

well functioning derivative market exist and that the individual is able and willing to transact in these markets. (Lindbeck and Persson, 2003).

2.5.2 Chilean Pension System/Reform

In May 1981, Chile replaced its government run pay-as-you-go retirement scheme with a private system where workers fund their own retirements through compulsory savings. This system is a fully funded defined-contribution scheme that is mandatory for all workers who entered the labour force after January 1983. Workers, who were in the labour force prior to January 1983, had the option of remaining in the old government run system (pay-as-you-go), or moving to the new system. Workers who remained in the old system received their pension rights guaranteed under the new law, while those who moved received from government "recognition bonds" that acknowledged their contributions under the old system. The recognition bond matures when the workers reaches retirement age, dies, or becomes disabled (Asset and Resource Management Company Ltd., 2004).

The new defined-contribution Pension Scheme is administered by specialised private companies called Administrasdoras de Fondos de Pensiones (AFPs) which are pension fund administrators. Each month workers deposit a minimum of 10% of their wages in their individual pension savings accounts, managed by AFPs of their choice (Asset and Resource Management Company Ltd., 2004). This percentage applies only to the first $22,000 of annual income. Therefore, as wages go up with economic growth, the "mandatory savings" content of the pension system goes down (Lawong, 2005).

A worker may contribute an additional 10% of his wages each month, which is also tax deductible, as a form of voluntary savings (Lawong, 2005).

The workers contribution are invested in various securities such as equities and fixed income instruments amongst others. The contributions and the returns are tax deductible (Asset and Resource Management Company Ltd., 2004).

The Chilean Pension System is regulated by an independent government agency, i.e., the Superintendencia de Administradoras de Fondos de Pensiones or Superintendence of Pension Fund Administrators. At the point of retirement, beneficiaries are provided with three retirement options, as follows:

(a) Lifetime Annuity: Beneficiaries may use the accumulated monies in their retirement accounts to purchase lifetime annuities from insurance companies. The purchase of lifetime annuities enables the beneficiary to have entitlements to a recurring income stream for as long as he/she is alive.

(b) Programmed withdrawals: Beneficiaries make programmed withdrawals from their accounts. This is based on their life expectancy and those of their dependants.

(c) Temporary Programmed Withdrawals with a Deferred Lifetime Annuity: This is a combination of the first two. With this option, the worker chooses to transfer only part of his fund to a Life Insurance Company, in other to finance a Life Annuity, which will start payment at an agreed date. The balance, which he decides to keep in his individual account, will serve as a source of temporary income until such time as the payment of a life annuity begins (Asset and Resource Management Company Ltd., 2004).

In the Chilean pension model, employers do not contribute directly to the employees' retirement savings account. However, at the onset of the reforms, employers had to increase employees' salaries to cover the pension contribution (Asset and Resource Management Company Ltd., 2004).

The Pension Reform in Chile have been reported to have contributed significantly to the economic growth of the country, although these were carried out at about the same time other economic reforms were being implemented. For example, the private Pension System has been a major factor in increasing savings. Between 1984 and 1997, the country's economy grew at about 7% on average per year, investment and savings boomed and inflation was reduced from around 25% to 2-4% range. This was an outstanding achievement, which produced a massive change in the standard of living of the population (Asset and Resource Management Company Ltd., 2004).

However, several drawbacks of the Chilean model of Pension Reform have been identified identified. First, according to Gillion and Binilla (1992), the risks involved for the individual pensioner includes the risk of personal misfortune (e.g. sickness, invalidity) that could make a worker's contribution inconsistent and the risk associated with volatility in the rates of return on investment funds. In the opinion of the two authors, the scheme falls short of the standards imposed by the ILO Convention on Social Security (Minimum Standards) and that on Invalidity, Old Age and Survivor's Benefits. Second, it is shown that the Chilean Scheme has very high transitional cost in terms of the pension liabilities from the old system, particularly for the government. These have been estimated to amount to almost 5% of GDP in recent years which most poor countries can ill afford (Uthof, 1993). Third, although the scheme has 86% of the labour force affiliated to it, the compliance rate has been poor. Those actually contributing to the scheme have never been more than 55% of the labour force (Singh, 1996). Four, the Chilean scheme has adverse distributional effects. Not only is the compliance rate of the rich much higher than that of the low paid workers, the rich also earn higher rates of return on their investment funds (Singh, 1996). Five, the scheme is not only inequitable within social groups of

the same generation, but unlike the pay-as-you-go systems, it does not provide for any inter-generational solidarity (Singh, 1996). Six, the scheme has high administrative cost compared with publicly managed provident funds schemes. In 1990, administrative cost in the Chilean case amounted to 15% of the contributions and derive in large measure from the fund managers' on advertising and sales (Singh, 1996).

2.5.3 Swedish Pension System/Reform

Sweden's Public Pension System underwent sweeping reforms in 1999, intended to eliminate most of the subsidy in the system and tie benefit more closely to contributions. The new system applies to all employees born after 1954 and is being gradually applied to those born between 1938 and 1953; employees born before 1938 will not participate in the new system. The new public system has three tiers: an "Income Pension", a "Premium Pension" and a "Guarantee Pension" (Palme, 2003).

Income Pension

Regarding the basis of determining the size of benefits, the reform introduces a number of modifications. One fundamental change is that the earnings related component becomes the "first tier". Another is that the benefit formula must adhere to the principle of defined contribution. Here, it is important to point out that the total size of the contribution (18.5%) has been defined with a view to maintaining the replacement levels of the old system in expenditure terms. The reform involves an increase roughly equal to a scenario in which the ceiling of the old system is linked to earnings. The concept of notional accounts means that the "pay- as- you-go" character of the system is retained in this part since the contributions (which is 16% of earnings) of the working age population are used to pay the pensions of the retired population. However, the size of the contribution is registered in the individual (notional) accounts. The principle is

that all contributions are “accumulated” and attributed a rate of return equal to the growth in average annual pensionable income of all insured person. The reform thus introduces a new logic for determining benefit size. The amount in contribution going to the “notional account” was set at a level assumed to be high enough to cover the earned entitlements in the old system (Palme, 2003).

Although there is no fixed retirement age in the new system, the pension cannot be drawn before the age of 61 and there is no legal right for employees to continue in employment beyond the age of 67. Withdrawal is flexible, not only beyond the age 67, but also in terms of percentage. The size of the pension is determined by the accumulated notional wealth and the life expectancy of the cohort (although the pension is life long for each individual). The “annuity” from this part of the system is calculated at an interest rate of 1.6%. This interest rate has been imputed in the conversion of the accumulated notional wealth in order to ensure a more even income distribution over time during retirement. The pension of people born in 1954 and later will be fully calculated in accordance with the new benefit formula. Pension of people born between 1938 and 1953 will be determined by a combination of old and new rules. The cost of administration has been calculated at 0.7% of contribution or 0.02% of notional capital (Palme, 2003).

The benefit formula was designed in accordance with the principle of lifetime earnings as the basis for determining the size of future pensions. This is shown in algebra as follows:

$$\text{Annuity}_{\text{with r}} = C/G_{i,r} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{Equation 2.3}$$

Where,

C = notional capital accredited at the time of retirement

$G_{i,r}$= life expectancy from the time of retirement with a real rate of return r

In the formula above, $G_{i,r}$ is defined as follows:

$$G_{i,r}=\frac{\sum_{t=i}^{N}(1+r)^{-(N-i)}\,lx_i}{lx_i} \quad \text{…….…… Equation 2.4}$$

Where,

Lx = value for the age we are considering

N = last year for which people presently living are alive

t = time period

r = real rate of return (1.6%)

An important motive here is the creation of a structure that will provide a strong incentive to increase the labour supply. An important feature of the reformed system is that, it attempts to make all types of redistribution occurring within the system explicit and motivated by social policy consideration. Thus, future entitlements to income pension are not only linked to earnings but also to other forms of income such as social insurance benefits, including credits for having small children, engaging in tertiary education and doing national service. Children rearing provide special grounds over and above income and other earnings for awarding pension entitlements. There are three different ways of calculating additional entitlement on top or in addition to the entitlements generated by parental leave benefits. These are:

a) Based on a supplement equal to 75% of average earnings for all covered persons.
b) Based on a supplement up to the individual's own earnings the year prior to childbirth.
c) Based on a supplement consisting of a fixed amount, indexed in time to the (covered) wage per capita (Palmer, 2000).

The alternative most favourable to the beneficiary is applied automatically by the social insurance administration (Palme, 2003).

Guarantee Pension

The provisions for low-income pensioners constitute the strongest redistribution elements. As indicated above, the old mechanism for providing basic pensions, the universal pension (FP) and the graduated supplement (SPT), have now been replaced by the guarantee pension (GP). The GP is linked to the income pension (IP). This means that only those who lack an IP will get a GP at the maximum rate. Those who have an IP below the guaranteed level will receive a GP supplement. This differs from the old system in that those who have earned entitlement to IP will get a slightly higher total statutory pension (sum of GP and IP) than those with only a GP (Palme, 2003).

The universality of the basic provisions is important in relation to the classical social policy goal of combating poverty. It is also of vital importance in terms of the public and private boundaries of old- age security and the interplay between these two spheres. The reformed public system is insulated from what happens with private provision since the GP is only linked to the IP (including the funded component) and not to private pensions, whether occupational or individual. In principle this is not new. However, in one respect, related to the tax system, universality has been strengthened. Neither private occupational nor private individual pension savings will have any effect on present and future public pension benefits. This provides stronger incentives for private savings without reducing public commitments (Palme, 2003).

Fully Funded Individual Account within a Public Framework

This part of the reform opens up the possibility for private fund managers to handle individual contributors within a public framework where public authorities both collect contributions and

pay out the pensions. Moreover, it introduces individual risk-taking within the social insurance system, where programmes are usually designed for collective risk sharing. As indicated above determinations with regard to the size of the total contribution rate in the new system were guided by a desire to secure the same benefit levels as in the old system, while the size of the notional accounts benefits was determined by the explicit goal of maintaining earned entitlements. This left 2.5% for a pre-funded element. The design is the result of a political compromise, in which the centre- right accepted a higher contribution rate than required by past commitments on condition that an individual solution was found with regard to the funded component (Palme, 2003).

Contributions to the Swedish System are compulsory. They are collected jointly with the other contribution by the National Tax Board (RSV). The National Debt Office (Riskgaldskontoret) manages the funds until the final assessment of a person's taxable income is made. The money is then transferred to the Premium Pension Authority (PPM) The PPM manages the individual account of all contributions to the system. In 2000, this number was more than 4 million and it is expected to rise to 6 million in the near future. Each individual can choose a maximum of five different fund managers for his/her accumulated funds and fund manager(s) can be switched each day of the working week without cost (Palme, 2003).

The PPM aggregates all individual choice everyday and trades them with the fund managers, thus ensuring saver anonymity. The accumulated funds of each individual are equal to the contributions and annual return on investment (plus inheritance gains and minus administrative costs). Funds can be withdrawn from the system starting at the age of 61 but can be postponed as long as the contributor wishes. The withdrawal is always in the form of an annuity provided by PPM. The annuity is either a fixed interest annuity or a variable annuity. The proportion of funds

that can be withdrawn is flexible. The administrative cost of the PPM is currently about 0.3 percent of assets. To this about 0.5 percent for the fund managers' administrative cost must be added (Palme, 2003).

There are many benefits to Sweden's new system. The combination of partial privatisation and reform of the pay-as-you-go portion of the retirement system has resulted in a fiscally sustainable system. Others are greater incentive to work, increased national savings, a flexible retirement age, lower taxes and less government spending, opportunities for more reform, a fairer system that no longer redistributes income from the poor to the rich, and greater retirement income for retirees (Norman and Mitchelle, 2000).

While the Swedish experience confirms that personal retirement accounts are good public policy, it did not make a perfect transition to the new system. Poor planning, for instance, stalled Sweden's shift to personal accounts, which did not become fully operational until 2000 (Norman and Mitchelle, 2000).

Furthermore, although the real assets in the Swedish Trust Fund are a benefit, these real assets are accompanied by risks. Politicians control how the money in the trust fund is invested. Countries that have government-controlled investment almost always succumb to the temptation to invest money for political purposes. Politically inspired investment harm workers by putting their retirement funds at risk and harm the economy by misallocating savings (Norman and Mitchelle, 2000).

Lastly, the Pension Reform has not dealt with one of Sweden's major structural problems, in other words, absenteeism. Although it has increased for twenty years, mainly due to women changing from part-time work to full-time work, the annual number of per capita hours worked has fallen on the average by 0.4% per year since 1960 (Norman and Mitchelle, 2000).

2.6 The Nigerian Pension System: Schemes and Reforms

A reform of the Pension System in Nigeria was necessary because government was no longer able to adequately meet its pension obligations. Between 1998 and 2000, for instance, pension entitlements increased by about 750%. This means that a pensioner on an allowance of N10, 000 per month in 1998 was, as at 2000, receiving about N75, 000 per month. These increases in the pension entitlements were done with little or no thought to the fiscal consequences (Asset and Resource Management Company Limited, 2004).

In the previous pay-as-you-go system, the government taxes active workers to pay for the benefits of retired workers. Retirement benefits was a function of the rate of growth of the tax base, which in turn depends on the rate of growth of the labour force and the rate of growth of real wages per worker (i.e. increase in labour productivity). Consequently, the defined-benefit pay-as-you-go system became unsustainable with outstanding liabilities nationwide estimated at N2 trillion, or approximately 25% of the GDP. The increase in government spending on pension was then estimated at 4.8% of the national budget and 1.15% of GDP was not near enough to cover this outstanding liability (Asset and Resource Management Company Limited, 2004).

The private sector was not left out of the pension dilemma. Pension schemes in the private sector were not mandatory, and even where they exist, unclear regulatory provisions and inadequate returns in some cases have made the beneficiaries dissatisfied with their administration (Asset and Resource Management Company Limited, 2004).

2.6.1 The Old Pension Scheme

The Public Service Pension was based on defined-benefit structure. The Pensions Act No. 102 of 1979 was enacted with commencement date of 1st April 1974. It was the basic pension law from

which other pension laws in public service of Nigeria have developed. The other laws, which catered for specific professional groups but retained the minimum ingredient of the pension Act No. 102 of 1979, were:

- The Armed Forces Pensions Act No. 103 of 1979
- The Pension Rights of Judges Act No. 5 of 1985 and the Amendments Act No. 51 of 1988, 29 of 1991 and 62 of 1991.

The State Governments were responsible for funding the retirement benefit of their staff from their annual budget. It is to be emphasised, however, that legislation on pension was an exclusive Federal Government matter. Accordingly, the states apply the laws, circulars, rules and regulations on pension matters issued from time to time by the establishment and pension's office.

Major Provisions of the Pensions Act No. 102 of 1979 Relating To Pension Administration

1. Eligibility

The former Pensions Act provides that only employees on permanent and pension-able appointment are entitled to receive retirement benefits if they retire from the service in pension-able circumstances. Persons under 15 and above 50 years old shall not be employed on permanent and pension-able terms.

2. Computation

Section one of the Act provides that pensions shall be computed on the final pay of the person entitled thereto.

3. Funding

Section two provides that pensions are to be charged on and paid out of the consolidated revenue fund of the federation. At no point in time is an employee expected to make any contribution.

4. Payable Circumstances

Pensions are to be paid on retirement on any of the following circumstances:

i. Voluntary retirement after qualifying service of ten years;

ii. On attaining 60 years of age or 35 years of service, whichever comes first;

iii. On certification by a medical board that an officer is either mentally or physically inefficient for service;

iv. On total or permanent disablement while in service;

v. Compulsory retirement in the public interest;

vi. The death of an officer whereby pensions will be paid to the next of kin for five years (section 5);

vii. Other definite certified circumstances.

5. Qualifying For Service

The qualifying service for gratuity was 5 years, while pension was 10 full years. An officer who retires voluntarily cannot draw pension until he attains the age of 50 years.

6. Calculation of Pension Benefit/Gratuity/Death Benefit

A retiree was entitled to a maximum of 300% of his total annual emolument as gratuity for 35 years service and 80% for pension. Death Benefit equals all accrued entitlements plus five year's pension. Pension, Gratuity and the Death Benefit can be computed using the following formulas (Maiturare, 2006):

Pension: $Pn = 0.3S + S \times (n - 10) \times 0.02$, for $n \geq 10$ ……..….2.5

Where,

Pn = Pension

n = number of years in service

S = final total emolument

Gratuity: $Gn = S + S \times (n - 5) \times 0.08$, for $4 < n < 10$ ……2.6

$Gn = S + S \times (n - 10) \times 0.08$, for $n \geq 10$……..2.7

Where,

Gn = Gratuity

n = number of years in service

S = final total emolument

Death Benefit: $Dn = Gn + Pn \times 5$ ……...……2.8

Where,

Dn = Death Benefit

n = number of years in service

The level of benefit was revised in favour of some cadre of professional groups. In the case of academic staff of universities, Act No. 11of 1993 stipulates that a person who retires as a professor in the university or has continuously been in the service of a university in Nigeria up to retiring age shall be entitled to 100% of his terminal annual emolument as pension. The same applies to high court Judges and the armed forces Chiefs including the Inspector-General of Police (Shams, 2004).

7. Scale of Benefits

The scale of benefit was graduated based on the officer's length of pension-able service. The computation of an officer's benefit is based on his total annual emolument. Gratuities and pensions are computed based on the table below, revised upward in 1992.

Table 2: Benefit Scale Prior to the Reform

Years of Service	Gratuity (% FPS)	Pension (% FPS)
Less than 5 years	-	-
5	100	-
6	108	-
10	100	30
15	140	40
20	180	50
25	220	60
35+	300	80

Source: H R Nigeria Ltd. Consultants and Actuaries, 2005

From the table 2 above, if one spends 5 years in service, he/she is entitled to 100% gratuity only, i.e., one's total annual salary paid at once. If it is six years, one is still entitled to gratuity only plus one year and the rule is to add 8% each year. Thus, while 5 years = 100% annual emolument, 6 years = 108%, 7 years = 116%, 8 years = 124%, 9 years = 132% of total annual emolument. At ten years of service, one is eligible for pension and gratuity. He receives 100% of total annual emolument as gratuity and 30% as monthly pension. Furthermore, each year will see an increase in gratuity by 8% while pension will increase by 2% annually as shown in table 2 above (Shams, 2004).

Decentralisation of the Payment of Gratuity

In accordance with the provision of circular number B 49951/s.4/VI/337 of 21st August 1985, the payment of gratuities and pensions was decentralised. Each ministry, extra-ministerial

department was expected to apply to Establishment and Pensions office for funds to settle the gratuities of its retiring staff. The objective was to remove the bureaucratic bottleneck experienced when Establishment and Pensions office paid all gratuity and pensions (Shams, 2004).

2.6.2 The Nigerian Pension Reform

The Pension Reform Bill, an Executive Bill, was submitted to the National Assembly in September 2003. The Bill sought to repeal all existing Pension Schemes including the Nigeria Social Insurance Trust Fund (NSITF) and replace it with a contributory and privately managed Pension Scheme. The Senate on the 23rd March 2004 passed the Pension Reform Bill and the President signed it into law on the 25th of June 2004. The implementation of the Act began on the 1st July 2004. The Act has brought about fundamental changes to the structure of leaving service benefits and the way they are provided for.

Overview of the Pension Reform Act, 2004

(A) The Scheme:

The Act in section 1 establishes a contributory Pension Scheme for any employment in the Federal Republic of Nigeria. The scheme ensure that every worker (public or private) receives his retirement benefit as and when due, assist improvident individuals save for their old age and establish a uniform set of rules for administration and payment of retirement benefits. It is useful to note that all pension schemes existing before the commencement of this Act ceased to operate.

(B) Application

The Act applies to persons in the permanent employment of the public sector as well as private sector employees who are in the permanent employment of organisations in which there are five

or more employees subject to the provision of section eight. However, a firm having less than five employees are eligible to participate in the scheme.

Every employee will with any Pension Fund Administrator (PFA) of his choice maintain a Retirement Savings Account (RSA) and each employee shall neither have access to the account nor have any dealings with the custodian with respect to the Retirement Saving Account except through the Pension Fund Administrator. The employer shall deduct at source the monthly contribution of the employee and remit an amount comprising the employees' contribution and the employers' contribution to the custodian, specified by the Pension Fund Administrator, of the employee to the exclusive order of such Pension Fund Administrator not later than 7 working days from the day the employee is paid. The custodian shall notify the Pension Fund Administrator who shall cause the Retirement Saving Account of such employee to be credited.

The rates of contribution to the Retirement Saving Account by the employee and the employer are specified in section 9 (1). However, these rates of contribution may upon agreement of the employer and the employee be revised from time to time and notice of such revision shall be given to the commission.

Ceteris paribus, the value of the contributions at any point in time can be estimated using the following formula (Maiturare, 2006):

$$Cn = A \times [(1 + i)^n - 1]/i \quad \text{.....2.9}$$

Where,

Cn = value of contribution

n = number of years of contribution

A = average annual contribution

i = average (net) investment yield over the n period

However, to obtain a more accurate result, the total amount in the account of each worker can be calculated using an investment schedule. We can calculate the level of monthly retirement benefits (annuity) a worker would get when he/she retire with the following formula:

$$\text{Annuity} = \frac{\text{Capital}}{\text{Life Expectancy}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2.10$$

(D) Life-Insurance Policy

In addition to the contribution rates, every employer shall maintain Life Insurance Policy in favour of an employee for a minimum of three times the annual emolument of the employee.

(E) Entitlement

The Act also restricts the withdrawal from the Retirement Saving Account and no person shall be entitled to make any withdrawals from such account before attaining the age of 50 except where such employee is retired:

a) On the advice of a suitably qualified physician or properly constituted medical board that such employee lacks physical and mental capacity.

b) Due to his total or permanent disability either of mind or body.

c) Before the age of 50 in accordance with the terms and conditions of his employment.

(F) Minimum Pension Guaranty

All Retirement Savings Account holders who have contributed for a number of years shall be entitled to a guaranteed minimum pension as may be specified by the Government on the recommendation of the Commission.

(G) Taxation

The amount payable as retirement benefit shall not be taxable except for any voluntary contributions made by the employee, which shall be subject to tax at the point of withdrawal

where the withdrawal is made before the end of 5 years from the date the voluntary contribution was made. Contributions by an employer or employee to the scheme shall form part of tax – deductible expenses in the computation of tax payable by an employer or employee under the relevant income tax law.

(H) Retirement Benefit Bond Redemption Fund

The Commission shall maintain the above–mentioned fund to be called the "Redemption Fund" into which the Central Bank of Nigeria shall pay into the Redemption Fund an amount equal to 5% of the total monthly wage bill payable to employees in the Public Service of the Federation and the Federal Capital Territory. The amount in the Redemption Fund shall be used by the Central Bank of Nigeria to redeem any Retirement Benefit Bonds issued pursuant to section 12 of the Act.

(I) The Commission

The Act establishes the National Pension Commission, which shall be a body corporate with perpetual succession and a common seal, to regulate, supervise and ensure the effective administration of pension matters in Nigeria. The Commission consist of a part-time Chairman, a Director General, 4 commissioners (appointed by the president) and representatives of the Head of the Civil Service, Federal Ministry of Finance, the Central Bank Nigeria, Nigeria Labour Congress, National Union of Pensioners, Nigerian Employers Consultative Association and the Securities and Exchange Commission.

The Commission shall have power to formulate, direct and oversee the overall policy on pension matters in Nigeria. This includes supervising the scheme, issuing guidelines for the investment of pension funds, public awareness and education; regulate Pension Fund Administrator, Custodians and any other institutions in this regard, etc.

The Commission shall be funded essentially by initial take-off grant by Federal Government, annual subvention from the Federal Government, fees and commission charged by the Commission and income from investments of the Commission.

(J) The Departments

The Act establishes pension transitional arrangement departments, which in the case of the Federal Government shall consist of the existing pension departments being the;

a. Civil Service pension department

b. Military pension department

c. Police pension department

d. Customs, Immigration and Prisons department

e. Security Agencies pension department.

In the case of the private sector any Pension Scheme existing before the commencement of this Act may continue to exist subject to the provisions of section 40 of the Act and employers in such circumstances may apply to The Commission to be licensed as a closed PFA.

(K) Notable Persons

The Pensions Act creates two notable persons with distinct roles in the administration of pensions: the Pension Fund Administrator (PFA) and the Pension Fund Custodian (PFC).

Under The Act, Pension Fund shall only be managed by PFA licensed by The Commission. The essential function of Pension Fund Administrators is to open Retirement Saving Account, invest pension funds, keep books of accounts on all transaction relating to pension funds, calculate and procure the payment of retirement benefits to employees, etc.

Criteria for Licensing as Pension Fund Administrator

1. Limited liability Nigerian company with an object to manage pension funds and undertakes not to engage in any other line of business.
2. Minimum paid-up share capital of N150, 000,000.00
3. A listed company (if a new company will be listed within 2 years).
4. Has professional capacity to manage pension funds and administer retirement benefits.
5. Good track record in the business.

The custodian on the other hand is responsible essentially for holding pension fund assets in safe custody, receiving total contributions remitted by the employer on behalf of the PFA and executing transactions and undertaking activities relating to the administration of pension fund investments including collection of dividends.

Criteria for Licensing as Pension Fund Custodian

1. Limited Liability Nigerian company with an object to hold pension fund assets on trust for its client and undertakes not to engage in any other line of business.
2. Has a minimum net worth of N5, 000, 000, 000.00 unimpaired by losses or is wholly owned by a company with a minimum net worth of N5, 000,000,000.00
3. Belong to a group whose consolidated balance sheet is at least N125, 000,000,000.00
4. Undertakes to hold the pension fund assets to the exclusive order of the PFA on trust for the respective employees
5. Has a professional and technical capacity and adequate operational system to perform its functions.
6. Good track record in the business.

It is also useful to note that the affairs of the PFA and the custodians are to be conducted subject to the public scrutiny as the Act provides for the keeping of proper books of accounts, annual reports and records which are subject to audit and publication in at least two national daily newspapers.

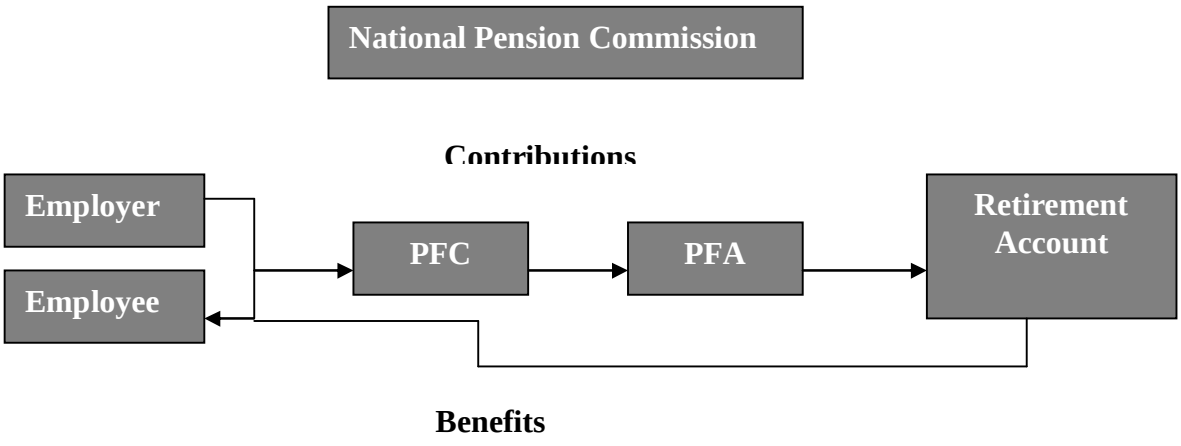
(L) Statutory Reserve Fund

Every Pension Fund Administrator shall maintain a statutory reserve fund, which shall be credited annually with 12.5% of the net profit, or such other percentage of the net profit as the commission may from time to time stipulate as contingency fund to meet claims for which it may be liable as determined by The Commission.

(M) Transitional Arrangement

The Reform will have 3 years transition period within which the contributory scheme should be fully established. The implication is that, all officers who have only three years or less to retire from service will not be part of the new scheme and will therefore not be expected to contribute to the scheme. They would be covered by the old scheme under the pay-as-you-go system.

Figure 4: Architecture of the New Pension System



Source: Provident Alliance Ltd, 2005

Table 3: Key Differences between the Old and New Pension System

Feature	Old	New
Benefit Entitlement	Fixed and Defined	Variable- Function of the Retirement Account Balance
Contributions	Unfunded/Very Limited Funding	Funded by Employer and Employee
Mode of Withdrawal	Gratuity and Pension	Annuity or Programmed Withdrawal + Lump Sum Above Specified Minimum.
Regularity/Payment	Depend on Government/Employer	Independent of Government

Source: Provident Alliance Ltd, 2005

Table 4: Comparison of the Three Pension Reforms: Chile, Sweden and Nigeria

Feature	Chile	Sweden	Nigeria
1. Old Pension Scheme	o Defined Benefit	o Universal Pension (FP) and Graduated Supplement (SPT)	o Defined Benefit
2. New Pension Scheme	o Defined Contribution	o Three Tier System with Savings, Insurance and Re-distributive Functions: • Income Pension • Guarantee Pension • Premium Pension	o Defined Contribution
3. Date	o 1981	o 1999	o 2004
4. Goals	o To create a social security system opened for all citizens, based equally on freedom and solidarity, promoting fairness as well as efficiency.	o Insurance, Savings and Re-distribution	o Ensure that every pensioner would receive benefits regularly; assist individuals save and establish uniform rules for pensions.
5. Employee Contribution	o 0.1*E; where E is less than or equal to $22,000	o Income Pension-0.16*E (notional account) o Premium Pension-0.025*E (fully funded individual account)	o 7.5% of Monthly Emolument o 2.5% of Monthly Emolument for the Military
6. Employer Contribution	o Zero	o Zero	o 7.5% of Monthly Emolument. o 12.5% of Monthly Emolument for the Military.
7. Tax Implications	o Tax Deductible	o Tax Deductible	o Tax Deductible
8. Institutions	o Superintendence of Pension Fund Administrators	o Premium Pension Authority o National Tax Authority o National Debt Office o National Social Insurance Board o Local Insurance Offices	o National Pension Commission (NPC) o Transitional Departments (Civil Service, Military, Police, Customs, Immigrations and Prisons and Security

			Agencies)
9. Pension Fund Managers	o Administrasdoras de Fondos de Pensiones (AFPs)	o Premium Pension Authority	o Pension Fund Administrator (PFAs) o Pension Fund Custodians (PFCs)
10. Safety Nets	o Minimum Pension Guaranty	o Notional Accounts First Pillar	o Minimum Pension Guaranty but only for those that have contributed for a certain number of years-yet to be specified.
11. Investment Options	o Equities and Fixed Income Instruments	o Equities and Fixed Income Instruments	o Equities, Fixed Income Instruments and Real Estate
12. Rate of Return and Risk	o Uncertain but must not be lower than specified minimum	o Income Pension: the growth in average annual pensionable income of all insured employees. o Guarantee Pension… o Individual Account: Uncertain	o Uncertain but must not be lower than a minimum (yet to be specified)
13. Freedom of Choice visa-vis fund managers	o Workers are free to choose any AFP and transfer from one to another up to twice in a year.	o Up to five fund managers and funds can be switched each day of work at no cost.	o Free to choose any PFA but can only switch from one to another at least once in a year.
14. Retirement Age	o Not Specified	o Not Specified	o Not Specified
15. When Pension Can be Drawn	o Retirement, Death or Disability	o From 61 years	o Retirement or from 50 years (subject to section 3 (2)) whichever is later
16. Choices When Pension Could be Drawn	o Lifetime annuity o Programmed Withdrawal o Temporary Programmed Withdrawal and Deferred Lifetime Annuity	o Income Pension and Graduated Pension: Annuities o Individual Account: fixed interest annuity or variable annuity	o Programmed monthly or quarterly withdrawals o Lifetime Annuity o Conditional Lump sum withdrawal
17. Administrative Cost	o Variable – as high as 15% of contribution in 1990	o Income Pension: 0.7% of Contribution or 0.02% of Notional Capital o Premium Pension: 0.3% of assets (PPA) + 0.5% of assets (Pension Fund Managers)	o 3% of investment returns • 2% for PFA • 0.6% for PFC • 0.4% for NPC
18. Determinants of Benefits	o Contributions, rates of return, inflation, risk and uncertainties	o Income Pension: Accumulated Notional Wealth, Life Expectancy, Social Insurance Benefits (credit for children, education and national service) o Guarantee Pension: Annuity from income	o Contributions, rates of return, inflation, risk and uncertainties

		pension o Premium Pension: Contributions, rates of return, inflation, risk and uncertainties	
19. Transition Mechanism	o Recognition Bonds Payable at the time of Retirement.	o Compensatory pension in transition to notional accounts	o Federal Government Retirement Bonds Redeemable at the time of Retirement
20. Freedom of choice between new and old schemes	o Mandatory for all workers who entered the labour force after January 1983 but optional for those who were in the labour force before then.	o Mandatory for all employees born after 1954. Gradually applied to those born between 1938 and 1953. Those born before 1938 are not eligible to participate in the new system.	o Mandatory for all employees that have three years or more to retire as at 1st July 2004. Those that have three years or less to retire as at that date are exempted.

Source: Author-compiled from literature review on the three reforms

2.6.3 Pension Reform Debate in Nigeria

The Academic Staff Union of Universities (ASUU) through its former President led other stakeholders in criticising the Pension Reform Act. First, he argued that given the low wage level, unstable exchange rate and high inflation, the benefits might be inadequate to guarantee living standards above the poverty level. Second, he criticised the ambiguity in the conditions of withdrawing from the retirement savings account as a result of the seeming decrease in the retirement age from 55 years to 50 years. Also criticised is the uncertainty introduced into the payment of "gratuity". A retiree can only receive a lump sum if what is left will be enough to procure him/her an annuity that will not be less than half of his terminal monthly emolument. Third, questions were raised on the scientific means through which we hope to determine expected life span of the various individual employees with respect to payment of pension in the form of "programmed monthly or quarterly withdrawals". Fourth, he questioned the rationale behind excluding a class of employees from the new scheme if the old arrangement is no longer desirable, adding that the transition arrangement is bound to be overly and excessively bureaucratic, cumbersome and expensive. Lastly, he argued that the discrimination in the rate of

contribution between the military and civilian employees negates egalitarian principles and that the grounds of the disparity are not clear (Vanguard April, 2004).

Furthermore, the Organised Private Sector is of the opinion that the reform should be restricted to the public sector only and should take the form of defined-contribution as already well espoused in the Act. The Organised Private Sector (OPS) accepts the establishment of a National Pension Commission that will monitor and supervise all pension fund schemes. While acknowledging the need for a reform of the existing Pension System in the country, it frowned at the inappropriate and undue haste to merge public and private sector workers into one scheme and the visible and technical differences between them. Specifically, the OPS said that the major problems of Pension Funds in the country are mostly restricted to the public sector and demanded that critical attention should be paid to that sector alone. Also, the OPS opined that the defined contribution system could provide less retirement benefit to the employee at the end of service than the defined benefit system. This is because unlike the defined benefit system, which more or less guarantees a certain sum at retirement, employees are exposed to the caprices of the financial markets under a defined contribution system. Consequently, retirement benefits would be based on investment performance. In addition, in the defined contribution system, employees would be required to contribute to the scheme. These have been considered to placing employee at a disadvantage and thus contradicting section 173 of 1999 Constitution, which states that any benefit to which a person is entitled under the law shall not be altered to his disadvantage (Shams, 2004).

On its part, the Nigeria Labour Congress (NLC) and its 29-affiliate unions rejected the Act contending that the new scheme had the capacity to impoverish Nigerian workers. This view is a corollary of the inadequate ‘living wage’ to meet personal and family needs, talk more of having

surplus to save and contribute. In addition, the Trade Union Congress (TUC), the umbrella body of Senior Staff Association in the country, criticised the Pension Reform Act describing it as "undemocratic" because it denied workers the right of choice between the old pension scheme and the new scheme. Furthermore, the TUC President-Mr Brown-Ogbeifun, acknowledged the advantages of contributory pension scheme in both private and public sector but differed that contributory scheme does not necessitate parity in contributions made by both employer and employee (Shams, 2004).

In a paper on Pension Reform presented at the ICAN All Nigeria Stakeholders' Summit (Dec. 2003) by Ivor M. Takor, he stated that organised labour is strongly opposed to the new Act not because it is opposed to reform but because apart from the fact that in its present form, it cannot help in solving the pension problems in the public sector, it is also deficient in stockholder's input. Ezekiel O. Chiejina at the same summit noted that although reform is desirous, its over ambitiousness and unnecessary revolutionary nature breeds critics' fear that the Act contains elements of dubious privatisation. Instead of attempting to solve the problem of existing pension arrears, government is dumping all existing pension providers preferring jumbo, monster Pension Fund Administrators.

CHAPTER THREE

3.0 Research Methodology

This chapter presents analyses of the relevant concepts of efficiency, sustainability, and the re-distribution as well as saving and insurance functions of a Pension Scheme. The chapter also presents the theoretical as well as the empirical frameworks for the study.

3.1 Main Concepts

3.1.1 Efficiency

The assessment of the economic efficiency of a Pension Scheme/Reform is usually based on its rate of return. It entails maximizing the rate of returns and hence, ensures maximum benefits possible at the minimum cost (Aaron, 1966 in Mora, 2005). The following equations show the cost (3.1), benefit (3.2) and net benefit (3.3) functions of a Pension Scheme:

$$C_t = Ca_t + Cf_t \pm Wi_t \quad \text{3.1}$$

$$B_t = B_{t-1} + Cb_t + Ir_t \quad \text{3.2}$$

$$B_t - C_t = B_{t-1} + Cb_t + Ir_t - (Ca_t + Cf_t \pm Wi_t) \quad \text{3.3}$$

Where,

C_t = total cost

Ca_t = administrative cost

Cf_t = fiscal cost

Wi_t = work incentive (relative cost)

B_t = total benefit

B_{t-1} = accrued benefit from the PAYG system (if any)

Cb_t = total contribution (employer/employee)

Ir_t = return on investment

$B_t - C_t$ = net benefit

t = time

3.1.2 Sustainability (Actuarial Viability)

A Pension System/Reform is financially sustainable if the current value of projected pension payments and other expenses (outflows) over a 75 years period is equal to or less than the current value of projected revenue to the system (inflows) over a 75 years period (American Academy of Actuaries, 2002). Financial sustainability of a Pension Scheme can be represented with the following inequality:

$$P_r - P_{pp}, \geq 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.4$$

Where,

P_r = projected revenue (total contributions/payroll taxes/investment return)

P_{pp} = projected pension payments (benefit payments/administrative cost)

3.1.3 Re-distribution, Savings and Insurance Functions

Re-distribution, Savings and Social Insurance are the three basic functions of a Pension Scheme.

Re-distribution Function

Re-distribution is the poverty alleviation function of a Pension Scheme and it entails transferring resources from the well to do to the poorer segments of the society that cannot afford to accumulate adequate resources (Modigliani and Murahlidhar, 2004). The key issue in analysing pension reform is the existence or lack of provision on redistribution of income or transfers to vulnerable retirees.

Savings Function

Economic Theory demonstrates that countries need savings for capital formation, and individuals' needs saving to support themselves in the non-earning phases of their lives. Thus,

using a variety of incentives (such as tax credits and deferrals) and mandated contribution rules, government encourage citizens to increase their rate of savings (Modigliani and Murahlidhar, 2004). Ceteris paribus, total savings at the micro or macro level within the context of a Pension Scheme/Reform can be represented by the following equation:

$$S_t = C_{bt} + I_{rt} - C_{at} - C_{ft} \quad \text{.....3.5}$$

Where,

S = net savings

C_b = total contribution (employer/employee)

I_r = investment return

C_a = administrative cost

C_f = fiscal cost

t = time

Insurance Function

Social Insurance is a social obligation to ensure that all citizens, especially the old, have the requisite resources to meet their basic needs thus insuring them against the many risks they are vulnerable to, mainly the disability, longevity, insolvency, inflation and investment risks (Modigliani and Muralidhar, 2004).

3.2 Theoretical Framework

3.2.1 Efficiency

Efficiency of the Pension Scheme/Reform would ensure that retirees get maximum benefits possible (via higher rates of return) at minimum cost. It is immediately clear that there is a trade-off between cost and benefit of a scheme because a system that minimises cost is more likely to

be efficient (maximise benefit). In the case of a mandatory individual accounts Pension System, pension cost demands attention for several reasons.

(a) A System that costs more to administer generates smaller net investment during the work life and hence produces lower retiree benefits (ceteris paribus).

(b) High administrative cost raises equity concerns regarding low-wage workers. A government that mandates a pension system will seek to avoid the perception that low-wage workers' contributions are more heavily "taxed" by administrative cost that in turn cut their eventual retirement benefits.

(c) Higher pension administrative costs can raise retirees' claims on future government revenues. This is because some countries guarantee minimum retirement benefits to workers with inadequate pension accounts; more people will be eligible for guaranteed benefits, the higher are costs associated with the individual accounts.

(d) Higher pension expenses increases incentives for low-wage workers to evade the pension system. That is, once a minimum wage worker has contributed enough years to be assured the minimum guarantee benefit at retirement age, additional contribution will be perceived as a pure tax.

(e) Economic efficiency concerns imply that Pension System charges should reflect the value of resources used to mount and sustain the pension system. Otherwise systems participants may over-or-under consume retirement savings as compared to other economic activities (Mitchell, 1999).

Equation (3.1) shows that the main costs are (a) administrative, (b) fiscal and (c) work incentive. The more efficient system is likely to have lower administrative and fiscal costs. In the PAYG system, the cost is mainly fiscal allocations while in the new scheme, the fiscal cost, i.e.,

allocations to the National Pension Commission and the Transitional Departments, etc., is distinguished from administrative cost i.e., cost of the services of Pension Fund Administrators (PFAs), Custodians (PFCs) and the National Pension Commission (NPC) (if any). Ceteris paribus, the new pension scheme would be more efficient than the PAYG scheme IFF:

$$Ct_{NPS} < Ct_{PAYG} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.6$$

Where,

Ct_{NPS} = cost of the new pension scheme

Ct_{PAYG} = cost of the PAYG system

A positive impact of the new scheme on the productivity of workers would reduce cost while a negative impact would increase cost.

3.2.2 Sustainability

A Pension System/Reform is financially sustainable if the current value of projected pension payments and other expenses (outflows) over a 75 years period is equal to or less than the current value of projected revenue to the system (inflows) over a 75 years period (American Academy of Actuaries, 2002).

In other words, from equation 3.4, the sustainability of the system is guaranteed if projected revenue (P_r) is at least equal to the projected pension payments (P_{pp}) over a period of 75 years.

The evaluation of the sustainability of a Pension Scheme/Reform can also be achieved by a comparative analysis of the PAYG and the New Pension Reform System.

3.2.3 Redistribution, Savings and Insurance Functions

Re-distribution Function

Pension Scheme as a tool of Social Security is meant to provide a basic income floor that protects those with low life time income and give them an adequate retirement benefit or income

to acquire a decent minimal standard of living, irrespective of how low their incomes may have been during their working years. This redistribution function is the poverty alleviation function of pension scheme. The main question here is, does the New Pension Scheme provide for a redistribution function? Simple evaluation of the New Pension Act would provide answer to this question. The procedure is to determine if the Pension Reform Act has provision on transfers to retirees where Retirement Saving Account has balances that cannot keep them above the poverty level.

Savings Function

Equation 3.5 indicates that we can measure net savings (S) or total contributions (Cb) as measures of savings. We can, therefore, based on availability of data choose either S or Cb.

Insurance Function

The main question is would retirees receive an income that secures them against uncertainty and poverty? There are two ways of answering this question. The first is that we could use hypothetical cases to estimate projected income stream under the new scheme and draw inferences from it. The second method is to compare the PAYG payment stream to that of the New Pension Scheme. The study would adopt both methods.

3.3 Empirical Framework

Table 5 below provides a summary of the framework for the study by matching questions to the equations to be used in answering them.

Table 5: An Overview of Problems and Methods

S/NO.	Problems	Equations/Methods
1	Efficiency	3.1-3.3 (estimation of cost or net benefit, survey of employees)
2	Sustainability	3.4
3	Savings	3.5 (estimation of net savings or total contributions)
4	Re-distribution	Provisions of New Pension Act
5	Insurance	Cases and comparison of payment streams of PAYG with those of the pension reform

Source: Author – compiled from theoretical framework

3.3.1 Measure of Efficiency

Equation 3.1 – 3.3 imply that to measure efficiency, we would have to estimate and compare cost (C_t) or net benefit ($B_t - C_t$) of the old and the new pension schemes. The direct measure of efficiency is estimates of cost while the indirect measure is the net benefits. For clearer results, we would adopt the direct measure, that is, the estimates of cost. The estimate of cost in old pay-as-you-go system is ascertained by adding all allocations to settle pension claims and maintain pension institutions one year prior to the commencement of the New Pension Scheme, i.e., from July 2003 to June 2004. This is then compared with the total cost of the New Pension Scheme in 2005, to determine whether the New Scheme is efficient or not. We decided to estimate our post reform cost from 2005 to give room for the weak implementation framework of the reform. From equation 3.1, the main items of cost are:

(a) Administrative Cost: The guidelines for the New Pension Scheme in Nigeria as provided by the National Pension Commission pegged total administrative charges at 3% of investment

returns for PFAs (2%), PFCs (0.6%) and the NPC itself (0.4%). In comparison, the Chilean reform has a variable administrative cost which was as high as 15% of pension contribution in 1990. In the Swedish reform, however, the cost of administration is 0.7% of contribution or 0.02% of notional capital for income pension and 0.8% of assets for the premium pension. These figures show that the Swedish system has the lowest administrative cost while the Chilean system has the highest.

(b) Fiscal Cost: The fiscal cost in the Nigerian reform are allocations to the National Pension Commission, the Transitional Arrangement Department, Redemption Fund, and the share of government contribution to the Retirement Savings Accounts of its employees. There is also the provision for life insurance of public servants. In the former PAYG system, all cost are fiscal because the government funds the whole scheme.

(c) Work Incentive: This is the measure of the impact of the New Pension Scheme on Productivity. This is measured through questionnaires administered to 400 employees in the following institutions: Ahmadu Bello University (200) , Federal College of Chemical and Leather Technology (100) and the Nigerian College of Aviation Technology (100) all located in Zaria. Variables relevant to the research question of efficiency visa-vis work incentive are analysed to determine the frequency of the workers' preferences and perception. The result from the data analysed shows whether the new scheme has a positive or negative impact on productivity of the employees in these institutions.

3.3.2 Measure of Sustainability

The New Pension Scheme is a defined contribution scheme. Consequently, it is unlikely that projected payments would exceed projected revenue to the system.

The sustainability issue therefore, may not be actuarial but socio-political. In other words, what are the chances that the system would be sustained? It may be proposed that the socio-political sustainability would depend on the differences in benefits between the new system and the former PAYG system. If benefit in the New Pension Scheme exceeds that of the PAYG system, it is likely to be socio-politically sustainable, and vice-versa. Therefore, we would compare the benefits under the new scheme and the old PAYG system using the benchmark scenario in our hypothetical case study of two employees in the federal civil service. Benefits in the PAYG system can be calculated using the following formula (Maiturare, 2006):

Pension: $Pn = 0.3S + S \times (n - 10) \times 0.02$, for $n \geq 10$ …….. 3.7

Where,

Pn = Pension

n = number of years in service

S = final total emolument

Gratuity: $Gn = S + S \times (n - 5) \times 0.08$, for $4 < n < 10$ ……3.8

$Gn = S + S \times (n - 10) \times 0.08$, for $n \geq 10$……...….3.9

Where,

Gn = Gratuity

n = number of years in service

S = final total emolument

On the other hand, the value of contributions in the New Pension Scheme is calculated using an investment schedule. The schedule shows the yearly stream of contributions, cumulative amount in the worker's fund, investment return, gross amount in fund, administrative cost, inflation and the net amount in fund respectively. When a worker retires, his annuity is calculated thus:

$$\text{Annuity} = \frac{\text{Capital}}{\text{Life Expectancy}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.10$$

3.3.3 Measure of Savings

Due to the non-availability of data, we would use total contribution in the public sector as our measure of savings. The New Scheme provides for 15% of basic salary, housing and transport allowances (BTHA) as pension contributions for employers and employees (in both the private and the public sectors of the economy). Therefore, total contribution (C_b) at month t for one employee is given by:

$$C_{bt} = 0.15BTHA_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.11$$

Where,

C_{bt} = total contributions at month t

BTHA = basic, transport and housing allowances

t = time

At year t, total contribution for one employee is:

$$\sum_{t=1}^{12} C_{bt}$$

After n years, the total contribution for one employee is:

$$\sum_{t=1}^{12Xn} C_{bt}$$

The summation above gives us the total contribution for one employee over n years. With an estimated work force of 160,000 employees in the Nigerian Civil Service, total savings can be estimated.

3.3.4 Re-distribution Function

A simple assessment and comparison of the provisions of the New Act with the Swedish system would be used to evaluate the potential of the reform policy to achieve the redistribution function of a pension scheme.

3.3.5 Insurance Function

The main question is would retirees receive an income that secures them against uncertainty and poverty? As indicated above, the question would be answered using two hypothetical case studies and a comparison of payment streams of the two systems.

Case 1 (Mrs. Ahmed) - Assumptions

1. Mrs Ahmed joined the services of Industrial Development Centre, Zaria in 2004 after graduating with B.Sc. Economics from ABU, Zaria. She was 25 years old.
2. Her entry point was HAPPS 07 and her starting monthly emolument was N16, 943.08 (i.e., basic salary, transport and housing allowances).
3. She works with the Centre for the next 30 years, gaining promotion every 3 years.
4. While employed by IDC, Mrs Ahmed's salary was increased by 10% every 5 years.
5. When she retired at HAPSS 17 (at the age of 55 years), and she is to start receiving her pension, she chose a monthly-programmed withdrawal calculated on the basis of an expected lifespan of 65 years.

Case 2 (Mr. Ayuba) – Assumptions

1. Mr Ayuba joined the services of Industrial Development Centre, Zaria in 2004 as a messenger. He was employed with his primary school leaving certificate at the age of 25.

2. His entry point was HAPPS 01 and his starting monthly emolument was N7, 875.00 (i.e., basic salary, transport and housing allowances).
3. He works with the Centre for the next 30 years, gaining promotion every 2 years.
4. While employed by IDC, Mr Ayuba's salary was increased by 10% every 5 years.
5. When he retired at HAPSS 06 (at the age of 55 years), and he is to start receiving his pension, he chose a monthly-programmed withdrawal calculated on the basis of an expected lifespan of 65 years.

Each case study has three scenarios to enable us test the sensitivity of payment streams to different rate of return and inflation rate profiles. Assumptions on rate of return and the inflation rate visa-vis the three different scenarios for the two case studies are presented in the table below:

Table 6: Scenarios of Various Investment and Inflation Profiles

Scenarios	Interest Rate	Inflation Rate
1 (Benchmark)	10%	5%
2	15%	*11.7%
3	20%	*23.09%

Source: Author-based on assumptions and data on inflation rate

*11.7% is the average rate of inflation between 1999 and 2005.

* 23.09% is the average rate of inflation between 1975 and 2005.

3.4 Data Sources and Analysis

The study requires primary and secondary data. The primary data is required to determine the work incentive effect of the new Pension Scheme while the secondary data is required for the

analysis of efficiency, sustainability, and the redistribution, savings and insurance functions of the new pension scheme.

Primary Data

(a) Population and Sample

The primary data was collected through the administration of questionnaires to workers of Nigerian College of Aviation Technology (NCAT), Ahmadu Bello University (ABU), and Federal College of Chemical and Leather Technology (CHELTECH) all located in Zaria. A sample size of 400 workers (100 each from NCAT and CHELTECH, and 200 from ABU) was selected. We feel the sample size of 400 is adequate visa-vis the population of the workers of the three institutions and also, in order to save time and cost.

(b) Sampling Technique

Simple Random Sampling is used to choose the samples from the three institutions. This is to ensure that bias is eliminated.

(c) Overview of Questionnaire

The questionnaire is divided into seven sections. It is designed to elicit information on the following: (a) bio-data of respondents (b) awareness of the highlights of the reform policy (c) perception of respondents on efficiency of the reform (d) perception of respondents on sustainability of the reform (e) perception of respondents on the capacity of the reform to achieve the redistribution function of a pension scheme (f) perception of respondents on the capacity of the reform to achieve the savings function of a pension scheme and, (g) perception of respondents on the capacity of the reform to achieve the insurance function of a pension scheme.

(d) Data Analysis

A simple frequency table is used to analyse the preferences and perceptions of employees with respect to the work incentive implication of the old and the new pension scheme

Secondary Data

The stream of pension contributions for the two hypothetical case studies were generated from the harmonized salary structure of the Federal Civil Service under the assumptions stated in the two hypothetical cases. With this information, we did a simulation of the two hypothetical workers' pension benefit after retirement guided by the provisions in the New Pension Reform Act (2004). This is compared with another simulation of the hypothetical workers' benefit under the old PAYG system.

3.5 Scope and Limitations of Study

This study specifically focuses on the current effort of government to reform the Pension System as enshrined in the Pension Reform Act 2004, taking into cognisance the debate the reform has generated. We try to critically look at the issues that relate to the efficiency and sustainability of the reform, and the capacity of The Reform Policy to achieve the Redistribution, Savings and Insurance functions of Pension Schemes. The study also evaluates the possible effects of The Reform on various stakeholders.

The main limitation to this research is in terms of paucity of relevant literature and data, especially on the Pension Scheme/Reform in Nigeria.

CHAPTER FOUR

4.0 Data Presentation and Analysis

4.1 Introduction

This chapter presents and analyses the data generated from the both primary and secondary sources. In section 4.2, we present an analysis of the efficiency and sustainability of The New Scheme. Section 4.3 presents an analysis of the capacity of The Reform Policy to achieve the Re-distribution, Savings and Insurance functions of a Pension Scheme. Lastly, section 4.4 analyses the potential beneficiaries and losers of the reform.

4.2 Analyses of the Efficiency and Sustainability of the New Scheme

4.2.1 Efficiency Analysis - Pre-Reform and Reform Cost

The total amount disbursed to pay pension and gratuity claims, and to maintain pension institutions between July 2003 and June 2004 amounts to N113, 926, 300, 000.00 (The Nigerian Statistical facts Sheet on Economic and Social Development-June, 2005).

Because the Act took effect in the middle of the year (July 2004), and it had a weak implementation framework (in terms of budgetary provisions), we decided to use figures from the 2005 fiscal year for our pos-reform cost analysis. Therefore, the outlays that constitute post-reform cost are presented in the table below:

Table 7: Reform Cost-2005

S/NO.	Sources of Cost	Amount
1	National Pension Commission Subvention	N95, 000, 000.00
2	Pension-Pay As You Go System	N81, 650, 000, 000.00
3	Pre-1996 Nigeria Railway Corporation Pension	N1, 850, 000.00
4	Life Insurance for Public Servants	N5, 690, 000, 000.00
5	Transfer to Redemption Fund	N16, 858, 386, 530.00
6	Government Pension Contribution (estimate)	N17, 202, 972, 643.00
7	Administrative Charges (estimate)	N397, 732, 106.70
	TOTAL	N121, 895, 941, 279.70

Source: 2005 and 2006 Federal Budget Details.

NB: See Appendix 7 for calculation of Administrative Charges Estimate. Also, the estimate of Government Social Contribution (pension), for 2005 is assumed to be the same with that of 2006 due to the unavailability of 2005 data.

By comparing the pre-reform and reform cost above, it is clear that the cost of the new defined contribution scheme is higher than the former PAYG system, i.e., N121, 895, 941, 279.70 > N113, 926, 300, 000.00. Therefore, we conclude that the reform is inefficient. However, this result is likely to change in years to come as pension liability from the old PAYG system reduces, thus making the new system more efficient.

Work Incentive Effects-Inference From Survey Results

Overview of Samples

Out of a total of 400 questioners administered, a total of 258 employees responded, i.e., we had about 64.5% correspondence rate. 53.1% of the respondents are serving in ABU, 24.4% in NCAT and 22.5% in CHELTECH. This is shown in table 8 below.

Table 8: Structure of Correspondence Rate

Institution	Frequency	Percent
ABU	137	53.1
NCAT	63	24.4
CHELTECH	58	22.5
Total	258	100.0

Source: Field survey, 2005.

Furthermore, the structure of the sexes of respondents in table 9 below shows that 77.5% out of 258 respondents are male while only 20.2% are female. Similarly, table 10 shows that 26.7% of respondents have served for less than 5 years; 20.2% served for between 6 and 10 years; 22.1% served for between 11 and 15 years; 11.2% served for between 16 and 20 years; 15.1% served for between 20 and 30 years; and 3.9% served for over 30 years.

Table 9: Structure of Sexes of Respondents

Gender	Frequency	Percent
No Response	6	2.3
Male	200	77.5
Female	52	20.2
Total	258	100.0

Source: Field Survey, 2005

Table 10: Structure of Length of Service of Respondents

Length of service	Frequency	Percent
No Response	2	.8
<5years	69	26.7
6-10 years	52	20.2
11-15 years	57	22.1
16-20 years	29	11.2
20-30 years	39	15.1
>30 years	10	3.9
Total	258	100.0

Source: Field survey, 2005.

Lastly, the table 11 below indicates that 68.6% of the respondents are in the senior grade level; 14.3% in the intermediate level; while 15.9% are in the junior level.

Table 11: Structure of Grade Level of Respondents

Grade Level	Frequency	Percent
No Response	3	1.2
Senior	177	68.6
Intermediate	37	14.3
Junior	41	15.9
Total	258	100.0

Source: Field survey, 2005.

Perception of Sampled Workers

The following frequency tables provide information on the perception and preferences of sampled workers on certain provision of the New Pension Reform.

Preferences-PAYG or NPS

Tables 12, 13, 14, 15 and 16 above clearly indicates that sampled workers revealed a preference for the old PAYG system. For example, table 14 show that as high as 64.7% of worker would have opted out of the new system if they had a choice while only 30.6% would prefer the new system if they had to choose. This will certainly impact negatively on commitment, productivity and efficiency.

Table 12: Respondents' preferences between the old PAYG and the new contributory system

	Frequency	Percent
No Response	26	10.1
Old	160	62.0
New	71	27.5
Inconsistency in Response	1	.4
Total	258	100.0

Source: Field survey, 2005.

Table 13: Respondents' views on whether or not participation in the new scheme should have been made optional.

	Frequency	Percent
No Response	7	2.7
Yes	216	83.7
No	34	13.2
Inconsistency in Response	1	.4
Total	258	100.0

Source: Field survey, 2005.

Table 14: Respondents' view on whether or not they would have opted out if participation were optional.

	Frequency	Percent
No Response	12	4.7
Yes	167	64.7
No	79	30.6
Total	258	100.0

Source: Field survey, 2005.

Table 15: Respondents' view on whether or not the new scheme has the capacity to insure them against the old age risks they would face after retirement.

	Frequency	Percent
No Response	17	6.6
Yes	62	24.0
No	179	69.4
Total	258	100.0

Source: Field survey, 2005.

Table 16: Respondents' view on whether or not they would move to another job that guarantees steady pension payments till death despite the new scheme in place.

	Frequency	Percent
No Response	19	7.4
Yes	191	74.0
No	48	18.6
Total	258	100.0

Source: Field survey, 2005.

Welfare Implications of the New Pension Scheme

Tables 17, 18, 19 and 20 provide information on the perception of sampled workers on some provisions of the new scheme as it affects their welfare. In general, the workers think that they would be worse off in terms of their welfare under the new system. For instance, table 17 below indicates that 79.5% of workers think that the absence of gratuity in the new scheme will not augur well for retirees as against 16.7% who think it would. This would also impact negatively on work productivity and labour efficiency.

Table 17: Respondents' view on whether or not the stoppage of the payment of gratuity will augur well for future retirees.

	Frequency	Percent
No Response	8	3.1
Yes	43	16.7
No	205	79.5
Inconsistency in Response	2	.8
Total	258	100.0

Source: Field survey, 2005.

Table 18: Respondents' view on whether or not the new system will solve the pension problem in their institution if any.

	Frequency	Percent
No Response	13	5.0
Yes	69	26.7
No	172	66.7
Inconsistency in Response	4	1.6
Total	258	100.0

Source: Field survey, 2005.

Table 19: Respondents' view on whether or not the current contributory scheme will increase or reduce pension benefits.

	Frequency	Percent
No Response	25	9.7
Increase	62	24.0
Decrease	171	66.3
Total	258	100.0

Source: Field survey, 2005.

Table 20: Respondents' view on whether or not the new scheme will minimize cost and thus guarantee higher benefits for future retirees.

	Frequency	Percent
No Response	17	6.6
Yes	85	32.9
No	156	60.5
Total	258	100.0

Source: Field survey, 2005.

Effect on Commitment

Tables 21 below show that as high as 47.3% of sampled workers think that the new system has no effect on their commitment to work, while 27.5% actually say that it would decrease their commitment. Comparing these figures with only 22.5% who say that the new scheme would increase their work commitment, we conclude that the new scheme will lower commitment generally. In addition, the lack of confidence on government capacity to make the scheme work would also dampen commitment. Consequently, productivity and labour efficiency will be adversely affected.

Table 21: Respondents' view on the effect of the new system on their commitment to work.

	Frequency	Percent
No Response	7	2.7
No Effect	122	47.3
Increased Commitment	58	22.5
Decreased Commitment	71	27.5
Total	258	100.0

Source: Field survey, 2005.

Table 22: Respondents' view on whether or not they trusts the government to make the scheme work.

	Frequency	Percent
No Response	14	5.4
Yes	35	13.6
No	209	81.0
Total	258	100.0

Source: Field survey, 2005.

4.2.2 Sustainability Analysis-Case Studies

Going by the assumptions in section 3.3.1 above, the stream of contributions for the two hypothetical workers over the next thirty years have been computed as follow:

Table 23: Yearly contribution series in Naira for two hypothetical employees in the Nigerian Federal Civil Service

Year	Mr. Ayuba	Mrs. Ahmed
1	14,175.12	30,497.52
2	14,501.03	31,659.12
3	14,844.00	32,820.72
4	15,270.48	39,678.72
5	15,672.96	41,061.12
6	17,764.42	46,549.88
7	18,182.74	50,875.40
8	18,812.26	52,521.56
9	19,070.50	54,167.72

10	19,801.78	59,166.92
11	25,058.20	66,893.70
12	25,949.80	68,703.78
13	26,841.16	73,543.62
14	27,732.76	76,351.38
15	28,624.12	79,159.14
16	32,377.90	88,884.18
17	33,269.50	91,924.74
18	34,160.86	94,893.06
19	35,052.22	96,487.62
20	35,943.82	99,683.22
21	40,429.57	112,847.39
22	41,321.17	121,959.95
23	42,212.53	126,579.95
24	43,108.89	131,199.95
25	44,000.49	131,934.11
26	48,400.54	150,679.93
27	48,400.54	156,232.33
28	48,400.54	157,086.01
29	48,400.54	163,387.21
30	48,400.54	169,688.17

Source: Computed From the Current Federal Civil Service Salary Structure

Entitlements From the New Contributory Scheme

The scenario used as our benchmark for the insurance analysis (the first scenario) is used for the analysis of political sustainability. This is presented in the table below:

Table 24: Monthly Pension in the new contributory system

Cases	Ending Balance in RSA	Life Expectancy After Retirement	Monthly Pension*
1 (Mr. Ayuba)	N1, 616, 824.68	120 Months	N13, 473.54
2 (Mrs. Ahmed)	N4, 565, 772.19	120 Months	N38, 048.10

Source: Author (see appendix 1 and 2 for investment schedule)

*Column 3 = column 1/column 2

Estimates of PAYG Entitlements

The annual total emolument of our two hypothetical workers at the period of retirement, going by the current civil service salary structure, amounts to N226, 607.52 for Mr. Ayuba and N857, 251.92 for Mrs. Ahmed (see computation in appendix 9). Their pension and gratuity going by the old system can be calculated using the following formula:

Pension: $Pn = 0.3S + S \times (n - 10) \times 0.02$, for $n \geq 10$ …….4.1

Where,

Pn = Pension

n = number of years in service

S = final total emolument

Gratuity: $Gn = S + S \times (n - 5) \times 0.08$, for $4 < n < 10$ ……4.2

$Gn = S + S \times (n - 10) \times 0.08$, for $n \geq 10$……..…..4.3

Where,

Gn = Gratuity

n = number of years in service

S = final total emolument

Table 25: Estimates of Gratuity and Monthly Pension in the Old PAYG System

Cases	No. Of Years Served	Gratuity*	Pension For Life*
1 (Mr. Ayuba)	30	N589, 179.55	N13, 218.77
2 (Mrs. Ahmed)	30	N2, 228, 854.99	N50, 006.36

Source: Author –compiled from appendix 9

*See computation in appendix 9

Comparative Analysis and Implications for Political Sustainability

Now, comparing the figures from the old and new schemes, the amount of monthly pension benefit is slightly higher for Mr. Ayuba in the new scheme i.e., N13, 473.54 > N13, 218.77. However, in the case of Mrs. Ahmed, she receives higher benefit from the old scheme, i.e., N50, 006.36 > N38, 048.10. Note that there is the possibility of the retiree outliving his or her estimated expected lifespan after retirement in the new system. If this happens, the RSA will dry up and the retiree might live the rest of those years in poverty. In addition, the workers' right to a Gratuity in the new scheme is conditional and would further reduce the amount of his pension even if he qualifies. This is not the case in the old system, that is, the worker's right to gratuity is automatic. In total, therefore, the workers receive higher benefits from the old system because of their unconditional right to gratuity and the possibility of receiving pension for life. Therefore, the new scheme is not likely to be politically sustainable (in comparison with the old one) because it does not guaranty higher benefits and hence welfare for future retirees.

4.3 Analysis of Re-distribution, Saving and Insurance Functions

4.3.1 Re-distribution Function

In assessing the redistribution function of a pension scheme visa-vis the New Pension Reform Act, it is immediately clear that due to the design of the scheme, i.e., an individual account defined-contribution scheme, there is no re-distribution from those who work (and contribute) to those who do not work or who have low life time income (and do not contribute) (see section 1 sub-section 1 and section 11 sub-section 1). This means that those who have zero or near zero income will die of poverty in their old age.

The minimum pension guarantee in the new scheme is tied to an unspecified number of years of contribution (see section 71 sub-section 1). In other words, if you do not contribute for a specified number of years, and the balance in your RSA is too low buy you a minimum standard of living, you are likely to wallow in penury.

This contrast sharply with the concept of re-distribution in the Swedish System where, although the Guarantee Pension is linked to Income Pension, those who lack an Income Pension will get a Guarantee Pension at the maximum rate. Those who have an Income Pension below the guaranteed level will receive a Guaranteed Pension supplement.

4.3.2 Savings Function:

Total government contribution for civil servants in the 2006 budget is N17, 202, 972, 643.00 (See 2006 Budget Detail). This, however, represents only 7.5% of the total contribution. Doubling this figure to include employees' contribution amounts to N34, 405,945,286.00. This figure can be used as a proxy for the amount of savings in 2005 since the total number of civil servants would not have changed significantly between 2005 and 2006.

Furthermore, four months after the beginning of contribution under the new scheme, about N15billion was collected and it is estimated that the deduction of 15% of monthly emoluments from the public sector alone will generate over 40billion Naira annually for the new pension industry. (Daily Trust Thursday June 9, 2005). According to Oladumoye (2004), the estimated size of the pension fund market is put at N300billion with a projected growth rate of about 15% per annum.

Our case studies could also be used to proxy the level of savings in the new system. Individual savings by the Mr. Ayuba and Mrs. Ahmed over the 30 years (benchmark scenario-see appendices 1 and 2) amounts to N926, 180.98 and N2, 697,118.12 respectively. On the average, therefore, their annual savings is N30, 827.70 and N89, 903.94 respectively. Multiplying these figures by about 160, 000 federal government worker (30% at the senior level and 70% the junior level) gives the following figures as our estimate of annual savings:

Junior Workers: 70/100 x 160, 000 = 112, 000

Total Savings for Junior Workers = 112, 000 x N30, 827.70

= N3, 452, 702, 400.00

Senior Workers: 30/100 x 160, 000 = 48, 000

Total Savings for Senior Workers = 48, 000 x N89, 903.94

=N4, 315, 389, 120.00

Therefore, total annual savings for the total number of government employees (160, 000) is:

N3, 452, 702, 400 + N4, 315, 389, 120

= N7, 768, 091, 520.00

Thus, there is no doubt that the new contributory pension scheme will achieve the saving functions of a pension system. Note, however, that the level of savings will ultimately depend on

the extent of coverage of the scheme and level of compliance by both employers and employees. Ceteris paribus, this high level of savings should translate to higher retirement benefits for workers.

4.3.3 Insurance Function

The balance in the RSA of the two hypothetical cases in the three different scenarios (see appendix 1-6) are shown in the table below:

Table 26: Balance in Retirement Savings Account

Scenario	Mrs. Ahmed	Mr. Ayuba
1 (benchmark)	N4, 565, 772.19	N1, 616, 824.68
2	N3, 066, 475.42	N1, 061, 339.03
3	N1, 223, 207.09	N398, 663.18

Source: Appendix 1-6

First Scenario

The total annual emolument of our two hypothetical workers at the period of retirement going by the current civil service salary structure amounts to N226, 607.52 for Mr. Ayuba and N857, 251.92 for Mrs. Ahmed (see appendix 9). Their pension and gratuity gong by the old system can be calculated using the pension and gratuity formula (see equations 4.1, 4.2 and 4.3 above). Therefore, total benefit in the old and new system can be summarised in the table below:

Table 27: Benefits in the old and new system- Scenario 1

Cases	Pension (PAYG) (1)*	Gratuity (PAYG) (2)*	Pension (NPS) (3)*
1 (Mr. Ayuba)	N13, 218.77	N589, 179.55	N13, 473.54
2 (Mrs. Ahmed)	N50, 006.36	N2, 228, 854.99	N38, 048.10

Source: Arthur- compiled from appendixes 1, 2, and 9

*Column 1 and 2 (see appendix 9 for computation)

*Column 3 = Balance in RSA/120 months

Now, comparing these figures from the old and new schemes, the amount of monthly pension benefit is slightly higher for Mr. Ayuba in the new scheme i.e., N13, 473.54 > N13, 218.77. On the contrary Mrs. Ahmed Clearly receives higher benefit from the old system, i.e., N50, 006.36 > N38, 048.10. However, note that the workers' right to a Gratuity in the new scheme is conditional and would further reduce the amount of his pension even if he qualifies. There is also the possibility of the retiree exceeding his/her expected lifespan and the RSA drying up. If this happens, the retiree will spend the rest of retirement days in poverty. Thus, the workers receive higher benefits altogether from the old system because of their unconditional right to gratuity. Therefore, the capacity of the new scheme to insure retirees against uncertainty and poverty is weak in comparison with the old scheme because it does not guaranty higher benefits for future retirees.

Second Scenario

Table 28: Benefits in the old and new system - Scenario 2

Cases	Pension (PAYG) (1)*	Gratuity (PAYG) (2)*	Pension (NPS) (3)*
1 (Mr. Ayuba)	N13, 218.77	N589, 179.55	N8, 844.49
2 (Mrs. Ahmed)	N50, 006.36	N2, 228, 854.99	N25, 553.96

Source: Author- compiled from appendixes 3, 4 and 9

*Column 1 and 2 (see appendix 9 for computation)

*Column 3 = Balance in RSA/120 months

Now, comparing these figures from the old and new schemes, the level of pension benefits are higher for both the junior and senior worker in the old scheme i.e., N13, 218.77 > N8, 844.49 and N50, 006.36 > N25, 553.96 respectively. In addition, the workers have unconditional right to gratuity. In sum, the new scheme has a weak capacity to insure retirees against uncertainty and poverty in comparison with the old one because it does not guaranty higher benefits for them.

Third Scenario

Table 29: Benefits in the old and new system – Scenario 3

Cases	Pension (PAYG) (1)*	Gratuity (PAYG) (2)*	Pension (NPS) (3)*
1 (Mr. Ayuba)	N13, 218.77	N589, 179.55	N3, 322.19
2 (Mrs. Ahmed)	N50, 006.36	N2, 228, 854.99	N10, 193.39

Source: Author- compiled from appendixes 5, 6 and 9.

*Column 1 and 2 (see appendix 9)

*Column 3 = Balance in RSA/120 months

Again, comparing these figures from the old and new schemes, the level of pension benefits are higher for both Mr. Ayuba and Mrs. Ahmed in the old scheme i.e., N13, 218.77 > N3, 322.19 and N50, 006.36 > N10, 193.39 respectively. In addition, the workers have unconditional right to gratuity. Therefore, the new scheme has a weak capacity to insure retirees against uncertainty and poverty in comparison with the PAYG system because it does not guaranty higher benefits for the employees.

Also, it is important to note that since retirement benefits are not indexed, inflationary trends over the period of retirement will further erode the purchasing power of retirees as the real value of their benefits will keep falling. Furthermore, this analyses show that in all the scenarios both workers would hardly qualify for a lump sum withdrawal even if they want it because what would be left will not amount to 50% of their annual remuneration as at the time of retirement.

4.4 Likely Winners and Losers of the Nigerian Pension Reform

Privatisation of a pension system brings forth winners and losers. The privatization of the Nigerian Pension System will also create winners and losers.

4.4.1 Winners:

i. Firstly, the winners when the private sector takes over a government function are the vendors – the pension administration industry. In this case they are the Pension Fund Administrators and Pension Fund Custodians.

ii. Employers also gain because they are exempted from paying pensions.

iii. Also, high-income workers may have better investment advice and have longer carriers. Thus, they also stand to gain when pension schemes are privatized.

iv. The state wins at first by leaving the pension "business". However, if pensions are inadequate, the government or more accurately taxpayers, lose by paying more welfare benefits in future.

v. Also with privatisation, individual equity is promoted and the political risk that government might default on pension promises is avoided. This can be advantageous to workers and retirees.

However, it is important to note that with privatization, retirees and workers no longer gain unambiguously when wages and productivity rises. In fact, workers could be torn between wanting sharp rises in share value even if they are fuelled by deep wage cuts unemployment.

4.4.2 Losers:

i. Employers lose long-term relationship with workers encouraged to accrue pension benefits. This may have detrimental consequences for the economy depending in the lost productivity effects of employers' pension programs.

ii. Certain category of workers also loose. They include disabled workers, workers outside formal labour markets, and long-livers.

iii. Women are likely losers because of culture, biology, and economics they raise children, live longer, and are paid less.

iv. The state incurs the expenses of regulating and monitoring the "private" system for malfeasance and union may participate more, especially if legislation allows group affiliation.

4.5 Summary of Findings

The analyses of information gathered reveals that the Nigerian Pension Reform is inefficient (in terms of the overall cost of the scheme) compared to the old PAYG system. It also serves as a disincentive to work and, therefore, lowers the productivity of workers. This further decreases its efficiency. The reform is also politically unsustainable. This is because pension benefits in the new system are lower compared to the old PAYG system.

The analyses of the two hypothetical cases in all the three scenarios also revealed that their welfare during retirement is better and more predictable under the old PAYG system. The result of all the scenarios shows that benefit levels in the new system is sensitive to inflation and interest rate and cannot "fetch" a retiree a higher welfare standard compared with the former PAYG system. Therefore, it has a lower capacity to insure them against poverty and uncertainty and, by implication, is unlikely to be politically sustainable.

The analysis of the provisions of The Act also show that due to the design of The New Scheme, it cannot re-distribute income from the higher income earners to workers with zero or low lifetime income during retirement. Although it will generate a sizeable amount of savings both at the national and the individual level, this depends on the overall success of the scheme in terms of coverage and compliance.

CHAPTER FIVE

5.0 SUMMARY, CONCLUTION AND RECOMMENDATIONS

5.1 SUMMARY

This study has attempted to evaluate the Nigerian Pension Reform 2004. In doing so, we have observed that Pension Reform is a contemporary global issue with immense economic and socio-political implications. The huge deficit of about N2trillion in former PAYG Pension System in Nigeria led to the introduction of a New Contributory Pension Scheme. The New System generated a lot of debate among stakeholders. Some of the key issues raised include the suitability of the model, stakeholders' participation, existing pension liabilities, undefined benefits, governance/representation, arbitrariness, excess contribution rate and constitutional problems. We have tried to situate this debate within the context of the economics of Pension Scheme/Reform as a Social Security System by evaluating the efficiency and sustainability of the Pension System of the Pension Reform, and the extent to which it would achieve the re-distribution, savings and insurance functions of a Pension Scheme.

After a thorough review of the relevant theoretical and empirical literature, and comparative analysis of the Swedish, Nigerian and the Chilean Pension Systems, we presented a conceptual analyses of the concepts of efficiency, sustainability and the re-distribution, savings and insurance functions of Pension Schemes. The evaluation of the economic efficiency of a Pension Scheme/Reform entails maximizing the rate of return and hence, ensures maximum benefit possible at the minimum cost. Also, a Pension System is financially sustainable if the current value of projected pension payments and other expenses (outflows) over a 75 years period is equal to or less than the current value of projected revenue to the system (inflows) over a 75 year period. The re-distribution (poverty alleviation), savings (capital formation) and insurance

(requisite resources to insure against old age risks) functions of a pension scheme are the three basic functions of a pension scheme.

The results of the analyses show that the Nigerian Pension Reform is inefficient in terms of cost minimization and financially sustainable by design. The results also show that it impacts negatively on labour productivity and thus, lowers its efficiency in this respect. Findings in the two hypothetical case studies in all the three scenarios revealed that their welfare during retirement is better and more predictable under the old PAYG System. In other words, benefit levels in the new system is sensitive to inflation and interest rate and is unlikely to "fetch" a retiree higher welfare standard compared with the former PAYG system. Therefore, it has a weak capacity to insure them against poverty and uncertainty and, by implication, is unlikely to be politically sustainable.

Although, The New Reform Policy will increase the level of savings both at individual and the national level, it has no provision for the effective re-distribution of income from richer to poorer segments of the society.

Lastly, the likely beneficiaries of The Reform include the government, pension administration industry, employers, high income workers and worker who do not have drop out years. Conversely, likely losers include low-income workers, women, disabled workers and those outside the formal labour markets.

5.2 CONCLUSION

The evaluation of The Reform based on the data available so far show that it is less efficient than former PAYG system in terms of cost minimization. The results also show that it impacts negatively on labour productivity and hence, lowers its efficiency in this respect.

The analyses further reveal that the reform is economically sustainable by design because inflows into the pension fund cannot be more than outflows from the fund at any point in time. This effectively shifts the sustainability question from an economic one to a political one. Thus, the findings of the analyses show that The Reform cannot be sustained politically because the old PAYG system provides higher retirement benefits than the new contributory system.

The analysis also show that, due to its design, The New Scheme's capacity to achieve the re-distribution function of a Pension Scheme is limited by a worker's ability to contribute, or contribute for a certain minimum number of years. It also has less capacity to insure retirees against uncertainty and old age risks because (a) it offers lower benefits (compared to the former PAYG system) and (b) because of the sensitivity of benefits to inflation and interest rate changes. However, the savings function will be achieved, but this is also limited by the extent of the success of the whole reform policy visa-vis coverage and the level of compliance.

Lastly, the likely winners of The New Reform Policy have been identified to be mainly the pension administration industry and the government. Employer and the male sex are also to benefit more than employees and women respectively. This is because this system shares the burden of providing for retirement benefit between workers and employer and, the male sex earns more and have fewer brakes over their working life compared to women.

Perceived Misconceptions of the Pension Reform Act 2004

- The act appears to see pensions merely as an invest-able pool of funds and the pensioner as an account number. This perception negates the aim and objective of a pension scheme as a social security system.
- Over-reliance on asset size as a safeguard for Pension Fund Administrator and Pension Fund Custodian to qualify for registration. A better guarantee is the active involvement of

stakeholders. This over-reliance on size may result in registration of only a few Pension Fund Administrators and Pension Fund Custodians and the failure of anyone of them will have a negatively impact on many retirees.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. We recommend that The Act should be amended to reflect the re-distribution function of a pension scheme in line with the Swedish model of tiered pension system. That is, the minimum pension guarantee should be linked to an income pension. Those who have zero income should get a flat rate basic pension. Those whose contributions fall below a guaranteed level could receive a guaranteed pension supplement. This will impact positively on work incentive and productivity and enhance the insurance function of the scheme.

2. Efficiency could be improved by further reducing the rate of administrative charges by merging the PFAs and PFCs to form one institution. The percentage of the administrative charges that goes to the Pension Commission should also be eliminated since government funds it. As earlier stated, offsetting the pension liability from the PAYG system will also impact positively on efficiency.

3. The ability of pension funds to maintain living standards during the retirement of the contributors is indeed critically dependent on the performance of the financial markets, the rate of inflation, economic growth and other macroeconomic indicators. Therefore, the simultaneous strengthening of the infrastructure of the financial market and the economy should support the development of funded pension systems in Nigeria and benefits should be indexed against

inflation. This will go a long way in improving the level of retirement benefits and hence, the scheme's political sustainability and its capacity to achieve the insurance function.

4. The Commission should regularly examine the adequacy of the Act in achieving efficient pension system for Nigeria as a nation. Room should be given for review of the Act whenever it is found to be inadequate to regulate the activities of players in the pension administration industry.

References

1. Aaron, H. J. (1966), "The Social Insurance Paradox" Canadian Journal of Economics and Political Science, Vol. 32.

2. Aaron, H. J. and Robert D. Reischauer (1998), "Countdown to Reform", Century Foundation Press, New York.

3. Abdul, S. J. (2004), "Pension Administration in Nigeria-The Past to the Present" Text of Paper One Delivered at the Seminar/Workshop for Accountants, Internal Auditors, and Administrative Officers of National Orientation Agency, Lokoja-Nigeria.

4. Abel, Andrew B. (1986) "Assessing Dynamic Efficiency: Theory and Evidence. NBER Working Paper No. 2097

5. Adam Shams W., (2004) "An Evaluation of the Pension Scheme of Ahmadu Bello University, Zaria". An Unpublished Undergraduate Project Submitted to the Department of Economics, Ahmadu Bello University, Zaria-Nigeria.

6. AFL-C10 (1996), Capital Strategies: Leveraging Financial Resources to strengthen our Work places and Communities. A Digest for Union Leaders. AFL-C10, Washington DC.

7. Alli Amnim, M. M. (2004). "Transitional Arrangements and the Role of Operators". Text of Paper Two Delivered at the Seminar/Workshop for Accountants, Internal Auditors and Administrative Officers of National Orientation Agency, Lokoja-Nigeria.

8. American Academy of Actuaries (2002). "Quantitative Measures for Evaluating Social Security Reform Proposals" ISSUE BRIEF

9. Ajit Singh, (1996). “Pension Reform, the Stock Market, Capital Formation and Economic Growth: A Critical Summary on the World Bank’s Proposals”. Centre for Economic Policy Analysis, Working Paper Series.

10. Arenas de Mesa, A and F. Bertranou (1997), “Learning from Social Security Reforms: Two Different Cases, Chile and Argentina”, World Development 25 (3), 329-348

11. Arenas de Mesa, Alberto and Veronica Montecinos (1999), “The Privatisation of Social Security and Women’s welfare: Gender Effects of the Chilean Reform”, Latin American Research Review 34: 3: 7-37.

12. Assar Lindbeck, (2000), “Pensions and Contemporary Socio-Economic Change”. Institute for International Economic Studies, Stockholm University-Seminar Paper 685.

13. Assets and Resource Management Company Ltd (2004), “Pension Reform in Nigeria-A Solution in Sight?” Lagos - Nigeria.

14. Balogun, B. (2003). “Tax and Fiscal policy Structure Appropriate for the Nigerian Pension System”. All Nigeria Pension Stakeholders Summit.

15. Barr, Nicholas. (2000). “Reforming Pensions: Myths, Truths, and Policy Choices”, IMF Working Paper 139

16. Barr, Nicholas (1987), The Economics of the welfare State, Stanford: Stanford University Press.

17. Barrientos, A. and L. Firinguetti, (1996), “Individual Capitalisation Pension Plans and old-age Pension Benefits for low paid Workers in Chile” International Contributions Labour Studies.

18. Blanchard O. J. and S. Fischer, (1989). Lectures on Macroeconomics. Cambridge, MA, MIT Press.

19. Bosworth B. and Burtless G (2002), "Pension Reform in the Presence of Financial Market Risk". Centre for Retirement Research, Boston College.

20. Casey, B. H. (2004), "Evaluating Fundamental Pension Reform" The Pension Institute, Cass Business School City University, London.

21. Demirgurg-Kung A. and Schwarz, A., (1996), "A Reform Proposal for Costa Rica's Pension System", Finance and Development, September, pp. 44-46.

22. Devesa-Carpio, Jose E. and Carlos Vidal-Melia, (2002), "The Reformed Pension Systems in Latin America". World Bank Pension Reform Series, May 2002.

23. Diamond, P. (1994) "Insulation of Pension from Political Risk". Working Paper No. 4895, National Bureau of Economic Research, Boston.

24. Dorothy Wilson, (1997). The Welfare State in Sweden. Heinemann, London.

25. Emeka Chinwuba, (2003). "Legal and Regulatory Framework for Pension Schemes in Nigeria" All Nigeria Stakeholders Summit.

26. Eugen, I. Mihaita (2001), "Lessons From the Latin American Pension Reforms: Developments in Central and Eastern Europe", MET-Network 6th Research Seminar, Brighton Business School, University of Brighton.

27. Ezekiel O Chiejina, (2003)."Proposed Bill on Pension Reform" All Nigeria Pension Stakeholders Summit.

28. Fashina Oladipo, (2003). “Issues in Pension Scheme for Workers”. www.nigerdelta congress.com.

29. Feldstein, M. (1996), “The Missing Piece in Policy Analysis: Social Security Reform” Working Paper No. 5143, National Bureau for Economic Research, Boston,

30. Felix N. Akpe. “Implication, Possible Benefits of Proposed Pension Reform Bill” The Guardian December 16, 2003.

31. Fox, L. and E. Palmer (2001). “New Approaches to Multi-pillar Pension Systems: What In the World is Going On? In New Ideas About Old Age Security. Holzman, R. and J. E. Stiglitz, Eds. Washington, DC: World Bank, pp 90-123

32. Francis, A, (1998), Business Mathematics and Statistics, Letts Educational Aldine Place, London W12 8AW.

33. Gary Burtless, (2002). “Evaluating Fundamental Pension Reform in Japan and the United States” The Brookings Institution.

34. Ghiladucci, T. and Liebana, P. L. (1998). “Union Role in Argentine and Chilean pension Reform” Department of Economics, University of Notre Dame.

35. Ghilarducci, T., Hawley, J., and Williams, A. (1997), “Labour’s Paradoxical Interests and the Evolution of Corporate Governance”, Journal of Law and Society. 24 (1), 26-43.

36. Gillion, C. and Bonvilla, A. (1992), “Analysis of a national private pension scheme: the case of Chile”, International Labour Review, Vol. 131, No 2.

37. Goran Norman and Daniel J. Mitchell (2000), “Pension Reform in Sweden: Lessons For American Policy Makers”. The Heritage Foundation. No. 1381.

38. Huber, Evelyne (1995), "Assessment of State Strength" in Peter H. Smith editor, Latin America in Comparative Perspective: New Approaches to Methods and Analysis. Boulder: Westview.

39. Ivor M. Takor, (2003). Paper on Pension Reform Bill Presented at the All Nigeria Pension Stakeholders Summit.

40. Jacobs, M. (1994) Short Term America: The causes and Cures of our Business Myopia. Harvard Business School Press, Cambridge, Mass.

41. Joakim, Palme (2003) "The Great Swedish Pension Reform" Swedish Institute.

42. Kay, Stephen J. (2003), "State Capacity and Pensions", Research Department, Federal Reserve Bank of Atlanta.

43. Katz Oslon, L. (1982) The Political Economy of Aging. The State, Private Power, and Social Welfare. Columbia University Press, New York.

44. Lawong, D. B. (2005), "Pension Reform in Nigeria: Comparative perspective and lessons from Chile"

45. Lazonick, W. (1992) "Organisational Capabilities in the American Industry: The Rise and Decline of Managerial Capitalism". In organisation and Technology in Capitalist Development, ed. W. Lazonick, pp265-284, Aldershot, UK.

46. Lindbeck, A. and M. Persson (2003), "The Gains From Pension Reform" Journal of Economic Literature, Vol 41, pp 74-112

47. Longman Dictionary of Contemporary English, 2000 Edition.

48. McGillivary, W. (1998) Retirement System Risks. International Labour Organisation, International Social Security Association, Unpublished Manuscript, Geneva, Switzerland.

49. Maiturare, M. N. (2006). "The New pension scheme: Administration and Actuarial Issues" ASSU Seminar on the New PensionScheme, ABU, Zaria.

50. McKinnon, R. and Charlton, R (1999). "Mandatory Private Pensions: CautionaryTales for DCs". Glasgow Caledonian University, Glasgow.

51. Micheal, Tanner (1998), "Solving the Global Public Pension Crisis: Perspective From Four Continents" CATO Online Policy Report, Vol. XX Number 2.

52. Mikula, B.D., Elias, F., Holmgren, N., and Lundkvist, L. (2003) "The Swedish Pension Model in the Context of Pension Reform". A poster presentation at the International Micro Simulation Conference on Population Aging and Health. Canberra.

53. Mitchell, Olivia S. (1999). "Evaluating Administrative Cost in México's AFORES Pension System" Pension Research Council Working Paper, Wharton School, University of Pennsylvania, Philadelphia.

54. Mitchell, Olivia S. (1998). "International Models For Pension Reform" Pension Research Council, Working Paper 98-5. Wharton School, University of Pennsylvania, Philadelphia.

55. Modigliani, F. and Muralidhar, A. (2004), "Rethinking Pension Reform", Journal of Pension and Economic Finance, Cambridge University Press.

56. Mora M. (2005), "Pension Reform in the Czech Republic: Ageing Rapidly, Reforming Slowly". ECFIN Country Focus.

57. Muchnik, Daniel (2001), "Reforma Previsionaly Deude Externa." Clarin. August 12, 2001.

58. Mulligan, Casey B. and Xavier Sala-i-Martin, (1999). "Social Security in Theory and Practice (1): Facts and Political Theories". NBER Working Paper.

59. Mulligan, Casey B and Xavier Sala-i-Martin, (1999). "Social Security in Theory and Practice (11): Efficiency Theories, Narrative Theories and Implications for Reform" NBER Working Paper.

60. NICON CORPORATION, ABUJA."Outline of the Proposed Contributory Penson Scheme in Pension Administration".

61. Noel Timms and David Watson, (1976). Talking About Welfare: Readings in Philosophy and Social Policy. Routledge $ Kegan Paul London Henly and Boston.

62. Olaniyi S. Onifade (2001), "An Examination of the Nigerian Public Service Pension System"

63. Orszag P. R. and J. E. Stiglitz (2001). "Rethinking Pension Reform: Ten Myths About Social Security System", in New Ideas About Old Age Security. Holzman, R. and J. E. Stiglitz, eds. Washinton, DC: World Bank, pp 17-56

64. Oskar Gans, (1996). "The Economics of Social Security in Developing Countries: Positive and Normative Considerations" Economics – A biannual Collection of Recent German Studies, Vol. 54.

65. Osuagwu S.A.U, (2002). "Legal Framework in Public Service Pension Administration and Management". Seminar for Officers Responsible for Pension Matters.

66. Palmer, Edward (2003). “The Swedish Pension Reform Model: Framework and Issues”. Social Protection Unit, Human Development Network, the World Bank.

67. Pampel, F. C. and J. B. Williamson, (1993) Old Age Security in Comparative Perspectives. Oxford University Press, New York.

68. Pensions Act 1990 of Nigeria.

69. Pensions Act 2004 of Nigeria.

70. Pension Reform in China: Systemic or Parametric?

71. Phelps, E. S. (1966), “The Golden Rule of Accumulation: A Fable for Growthmen”, American Economic Review.

72. Pinera, J (1988) “Discurso del Minisro de Trabajo y Prevision Social, con Motivo de la Aprobacion de la Reforma Previsional (Radio and TV Speech. November 6, 1980) In Sistema Privado de Pensiones en Chile, ed. S. Beaza and R. Manubens, pp.319-338, Centro de Estudios Prublicos, Santiago.

73. Provident Alliance Limited (2005)

74. Schwarz A. M. and Demirgue-Kunt A. (1999), “Taking Stock of Pension Reform around the World”. HNDSP, DECRG, World Bank.

75. Solow, R. M. (1956), “A Contribution to the Theory of Economic Growth”, Quarterly Journal of Economics.

76. Stephen J. Kay, (2001). “Politic s Economics and Pension Reform in the Southern Cone”. Latin America Research Group, Federal Reserve Bank of Atlanta, Atlanta.

77. Stephen J. Kay, (2003). "State Capacity and Pensions" Research Department, Federal Reserve Bank of Atlanta, Atlanta.

78. Steurerle, C. E. and J. M. Bakija, (1994) Retooling Social Security for the 21st Century: Right and Wrong Approaches to Reform. Urban Institute Press, Washington D.C.

79. Stiglitz, J. E. (1989) "Financial Market and Development" Oxford Review of Economic Policy, 5(4).

80. The International Labour Office (1998), "Internal Guidelines for the Actuarial Analysis of a National Social Security Pension Scheme" Financial, Actuarial and Statistical Branch, Social Security Department, Geneva.

81. The Guardian Newspaper, 30 December 2003.

82. The Vanguard Newspaper, October 16th, 2003.

83. THISDAYonline. file://A:\THISDAYonline2.htm

84. Turner, J. A. (1997), "Economic Analysis of Mandatory Defined Contribution Pension Systems", International Labour Offfice, Geneva, Switzerland.

85. Usman Ciroma. "NSITF and the Pension Nightmare". This day online, 2003.

86. Uthof, A. W. (1993). "Pension System Reform in Latin America and…" in Y. Akyuz, G.

87. Uzoma Patrick, (1987). Pension Scheme in Nigeria. Spectrum Books Ltd, Nigeria.

88. Website of the Office of Public Communications. "Senate Passes BPE, Pensions Bill", July 2004.

89. Website of the Presidential Research and Communication Unit file://A:\Presidential%20Research%20&%20Communications%20Unit%20-%20News%…

90. World Bank, (1994). Averting the Old Age Crises: Policies to Protect the Old and Promote Growth. Oxford University Press, New York.

91. World Pension Archives, (2003)

APPENDIX 8 – SAMPLE QUESTIONNIRE

Department of Economics
Faculty of Social Sciences,
Ahmadu Bello University, Zaria.

Dear Respondents,

I am a postgraduate student of the Department of Economics, Faculty of Social Sciences, Ahmadu Bello University, Zaria. I am conducting a research on The Nigerian Pension Reform. This is in partial fulfilment of the award of M.Sc. Economics.

Anonymity of the respondent is guaranteed. Information given will be strictly confidential and used solely for academic purposes. Honest answers will be appreciated.

INSRUCTION: Please tick the answers of your choice in the spaces provided and, where necessary, fill in the blank spaces.

SECTION A - BIODATA OF RESPONDENTS

1. Are you a male or a female employee? [1] Male {} [2] Female {}

2. Which of these institutions are you serving? [1] ABU {} [2] NCAT {} [3] CHELTECH {}

3. How long have you served? [1] Less than5 years {} [2] 6-10 years {} [3] 11-15 years {} [4] 16-20 years {} [5] 20-30 years {} [6] 30 years and above {}

4. What is your grade level in this institution? [1] Senior {} [2] Intermediate {} [3] Junior {}

SECTION B - AWARENESS OF THE REFORM

1. Are you aware there is a new contributory pension scheme in place? [1] Yes {} [2] No {}

2. Are you aware that retirement benefits under this new arrangement will depend on the rate of contributions by the employer and employee, investment returns and administrative expenses? [1] Yes {} [2] No {}

3. Are you aware that there is no gratuity in this new arrangement? [1] Yes {} [2] No {}

4. Are you aware that 7.5% of your monthly emolument (i.e. the sum of basic salary, rent and transport allowance) is currently being deducted? [1] Yes {} [2] No {}

5. Are you aware that in this new contributory system, pension funds shall only be managed by Pension Fund Administrators and assets held by Custodians? [1] Yes {} [2] No {}

6. Are you aware that you do not have access to the money or the Custodian except through your Pension Fund Administrator? [1] Yes {} [2] No {}

7. Are you aware that the National Pension Commission has the overall function of regulating and supervising the new pension system? [1] Yes {} [2] No {}

8. Are you aware that Pension Fund Administrators and Custodians are not yet fully operational and your contributions are currently being kept in a special account at the Central Bank of Nigeria? [1] Yes {} [2] No {}

9. Are you aware that the Pension Fund Administrator and Custodian will charge you for administering your account and keeping your money/asset and there is no explicit ceiling to what they can charge you? [1] Yes {} [2] No {}

10. Are you aware that the new system does not cover current retirees? [1] Yes {} [2] No {}

11. Are you aware that workers with three years or less to retire as at July 1st 2004 are not eligible to participate in this new system? [1] Yes {} [2] No {}

12. Are you aware that participation for workers that have three years or more to retire as at July 1st 2004 is compulsory? [1] Yes {} [2] No {}

13. Are you aware that there is a disparity between the rate of contribution for civil servants and military personnel to the scheme (i.e. 7.5% for civil servants and 2.5% for military)? [1] Yes {} [2] No {}.

14. Are you aware that, other things being equal, you cannot have access to your contributions before the age of 50 years? [1] Yes {} [2] No {}

15. Are you aware that entitlements from the previous pay-as-you-go system will be acknowledged through the issuance of Retirement Bonds, which shall be redeemed upon retirement of the employee and added to his Retirement Savings Account? [1] Yes {} [2] No {}

16. Are you aware that the government intends to redeem these bonds with funds accumulated in the Retirement Benefit Bond Redemption Fund by paying into the fund an amount equal to 5% of total monthly wage bill payable to public service employees? [1] Yes {} [2] No {}

17. Pension Transitional Arrangement Department are saddled with the responsibility, among others, of making budgetary estimates of the benefits of existing pensioners and other officers exempt from the scheme, and also receive budgetary allocations from the government to pay pensioners as and when due. Are you aware it exists? [1] Yes {} [2] No {}

18. Are you aware that no Chief Executive Officer or Director of a Pension Fund Administrator shall be appointed without the prior written approval of the commission? [1] Yes {} [2] No {}

19. Are you aware that the value of retirement benefits in this new arrangement will be affected by inflationary trends in the country? [1] Yes {} [2] No {}

20. Are you aware that the new scheme does not cover state and local government workers? [1] Yes {} [2] No {}

21. Are you aware that the new scheme does not cover workers in the informal sector of the economy? [1] Yes {} [2] No {}

SECTION C - EFFICIENCY OF THE REFORM

1. Do you think the stoppage of the payment of gratuity in the new scheme will augur well for retirees? [1] Yes {} [2] No {}

2. How does the new contributory pension scheme in your institution affect your commitment to work? [1] No Effect {} [2] Increased Commitment {} [3] Decreased Commitment

3. Do you think the contribution rate is adequate considering the minimum wage in the country? [1] Too High {} [2] Too low {} [3] Adequate {}

4. Do you think this contributory pension scheme will solve the pension problem in your institution if any? [1] Yes {} [2] No {}

5. If yes, do you agree that Pension Fund Custodians and Administrators or the local office of establishment should manage it? [1] Establishment Office {} [2] {} Professionals

6. Do you think the current contributory scheme will increase or reduce pension benefits? [1] Increase {} [2] Reduce {}

7. Do you think the new scheme will promote investment in employee training and reduce quit rates? [1] Yes {} [2] No {}

8. Do you think the provision made for current retirees in the new arrangement is adequate and will lead to the prompt payment of their benefit? [1] Yes {} [2] No {}

9. Do you think the new scheme ought to have covered both serving and retired civil servants without any discrimination? [1] Yes [2] No {}

10. Do you think provision ought to have been made for state and local government workers in this new arrangement? [1] Yes {} [2] No {}

11. Do you think the new scheme will minimise cost and thus guarantee higher benefits for future retirees? [1] Yes {} [2] No {}

12. Which do you think is better; the old pay as you go system or the new contributory system? [1] Old {} [2] New {}

13. If Old, why? ……..

14. If New, why? …….

15. Do you think participation in the new scheme should have been made optional? [1] Yes {} [2] No {}

16. If it were optional, would you have opted out? [1] Yes {} [2] No {}

17. Do you think the new scheme ought to have covered workers in the informal sector of the economy? [1] Yes {} [1] No {}

SECTION D- SUSTAINABILITY OF THE REFORM

1. What are your expectations when you retire from this institution? [1] Pension {} [2] Gratuity {} [3] Both {}

2. Do you think your expectations will be realised under the new contributory pension scheme? [1] Yes {} [2] No {}

3. Do you think the disparity in the rate of contribution between the Civilian and the Military is justified? [1] Yes {} [2] No {}

4. Do you trust the government to make the scheme work? [1] Yes {} [2] No {}

5. If Yes, why?.....

6. If No, why?.....

7. Do you think that wide consultations were made before this bill was signed into law? [1] Yes {} [2] No {}

8. Do you think the National Pension Commission has done enough in enlightening stakeholders on the new Pension Reform Act, 2004? [1] Yes {} [2] No {}

9. Do you think the new scheme will be financially sustainable? [1] Yes {} [2] No {}

10. Do you think the new arrangement will guarantee social harmony amongst stakeholders? [1] Yes {} [2] No {}

SECTION E - INSURANCE FUNCTION

1. Do you think the new scheme has the capacity to insure you against the old age risks that you will face after retirement? [1] Yes {} [2] No {}

2. Does the new pension scheme increase or decrease your tendency to save now for your old age? [1] Increase {} [2] Decrease {}

3. If time or age was on your side and you got a job elsewhere that guarantees steady pension payments till death, would you leave despite the new scheme in place? [1] Yes {} [2] No {}

4. Do you think that despite the new scheme 'unlawful and corrupt practices' by some staff to supplement future income will increase or decrease? [1] Increase {} [2] Decrease {}

SECTION F - SAVINGS FUNCTION

1. Do think the new scheme will increase savings amongst workers? [1] Yes {} [2] No {}

2. If such a compulsory saving scheme were not in place, would you have been able to save for your old age? [1] Yes {} [2] No {}

SECTION G – REDISTRIBUTION FUNCTION

1. Do think the new contributory scheme will redistribute income from higher income workers to lower income workers? [1] Yes {} [2] No {}

2. Who do you think the new scheme will benefit? [1] Retirees {} [2] Government {} [3] Pension Fund Administrators and Asset Custodians {} [4] 1 and 2 {} [5] 2 and 3 { } [6] all of the above { } [7] 1 and 3 { }.

APPENDIX 7: CALCULATION OF ADMINISTRATIVE CHARGES ESTIMATE.

WE USED THE BENCHMARK SCENARIO (FIRST SCENAIO) FOR THE CALCULATION OF THE ADMINISRTATIVE CHARGES.

ADMINISRTATIVE COST ESTIMATE FOR JUNIOR EMPLOYEES:

TOTAL ADMIN. COST IN 30 YEARS = N49, 331.69

AVERAGE ADMIN COST = N49, 331.69/30

= N1, 644.39

THEREFORE ADMIN. COST ESTIMATE FOR 112, 000 JUNIOR EMPLOYEES IN THE FEDERAL CIVIL SERVICE IS:

=N1, 644.39 X 112, 000

=N184, 171, 642.70

ADMINISRTATIVE COST ESTIMATE FOR SENIOR EMPLOYEES:

TOTAL ADMIN. COST IN 30 YEARS = N133, 475.29

AVERAGE ADMIN COST = N133, 475.29/30

=N4, 449.18

THEREFORE ADMIN. COST ESTIMATE FOR 48, 000 SENIOR EMPLOYEE IN THE FEDERAL CIVIL SERVICE IS:

=N4, 449.18 X 48, 000

=N213, 560, 464.00

TOTAL ADMINISTRATIVE CHARGES ESTIMATE FOR 160, 000 CIVIL SERVICE EMPLOYEES IS: N184, 171, 642.70 + N213, 560, 464.00

=N397, 732, 106.70

SOURCE: INVESTMENT SHEDULE AND ……

APPENDIX 9: CALCULATION OF PENSION BENEFITS IN THE OLD AND NEW PENSION SYSTEM IN THE THREE SCENARIOS

PENSION BENEFITS IN THE NEW SYSTEM

FORMULA = ENDING BALANCE IN RSA/LIFE EXPECTANCY AFTER RETIREMENT

(120 MONTHS)

FIRST SCENARIO: MR. AYUBA = $\frac{1,\ 616,\ 824.68}{120}$ = N13, 473.54

MRS. AHMED = $\frac{4{,}565,\ 772.19}{120}$ = N38, 048.10

SECOND SCENARIO: MR. AYUBA = $\frac{1,\ 061,\ 339.03}{120}$ = N8, 844.49

MRS. AHMED = $\frac{3,\ 066,\ 475.42}{120}$ = N25, 553.96

THIRD SCENARION: MR. AYUBA = $\frac{398,\ 663.18}{120}$ = N3, 322.19

MRS. AHMED = $\frac{1,\ 223,\ 207.09}{120}$ = N10, 193.39

PENSION BENEFITS IN THE OLD SYSTEM

FORMULA: PENSION (Pn) = $0.3S + S \times (n - 10) \times 0.02$, for $n \geq 10$

Where,

Pn = Pension

n = number of years in service

S = final total emolument

MR. AYUBA'S PENSION: Pn = pension factor (0.7) x S

=0.7 x 226,607.52 = N158, 625.26

Monthly Pension = 158, 625.26/12

= N13, 218.77

MRS AHMED'S PENSION: Pn = pension factor (0.7) x S

= 0.7 x 857,251.92 = N600, 076.34

Monthly Pension = 600, 076.34/12

= N50, 006.36

FORMULA: GRATUITY (Gn) = S + S x (n – 5) x 0.08, for $4 < n < 10$

Gn = S + S x (n – 10) x 0.08, for $n \geq 10$

Where,

Gn = Gratuity

n = number of years in service

S = final total emolument

MR. AYUBA'S GRATUITY: Gn = gratuity factor (2.6) x S

= 2.6 x 226,607.52

= N589, 179.55

MRS. AHMED'S GRATUITY: Gn = gratuity factor (2.6) x S

= 2.6 x 857,251.92

= N2, 228, 854.99

COMPUTATION OF ANNUAL TOTAL EMOLUMENTS FROM THE CURRENT FEDERAL CIVIL SERVICE SALARY STRUCTURE

ANNUAL TOTAL EMOLUMENT = ANNUAL BASIC SALARY + ANNUAL

ACCOMODATION ALLOWANCE + ANNUAL TRANSPORT ALLOWANCE.

MR. AYUBA'S TOTAL ANNAUL EMOLUMENT

= 129, 490.32 + 64, 745.04 + 32, 372.52

=N226, 607.88

MRS. AHMED'S TOTAL ANNUAL EMOLUMENT

= 428, 626.96 + 321, 469.44 + 107, 156.52

= N857, 252.82

:

APPENDIX 6: INVESTMENT SCHEDULE FOR MRS. AHMED- THIRD SCENARIO

`Yrly contrtn (15%)	Total in fund	Rate of return 20%	Gross amt in fund	Adm Cost 3%	Inflatn rate 23.09%	Net e a r
30,497.52	30,497.52	6,099.50	36,597.02	182.99	8,450.25	
31,659.12	59,622.91	11,924.58	71,547.49	357.74	16,520.31	
32,820.72	87,490.16	17,498.03	104,988.19	524.94	24,241.77	
39,678.72	119,900.19	23,980.04	143,880.23	719.40	33,221.95	
41,061.12	151,000.00	30,200.00	181,200.01	906.00	41,839.08	
46,549.88	185,004.80	37,000.96	222,005.77	1,110.03	51,261.13	
50,875.40	220,510.01	44,102.00	264,612.01	1,323.06	61,098.91	
52,521.56	254,711.59	50,942.32	305,653.91	1,528.27	70,575.49	
54,167.72	287,717.87	57,543.57	345,261.45	1,726.31	79,720.87	
59,166.92	322,981.19	64,596.24	387,577.43	1,937.89	89,491.63	
66,893.70	363,041.62	72,608.32	435,649.94	2,178.25	100,591.57	
68,703.78	401,583.90	80,316.78	481,900.68	2,409.50	111,270.87	
73,543.62	441,763.93	88,352.79	530,116.71	2,650.58	122,403.95	
76,351.38	481,413.56	96,282.71	577,696.27	2,888.48	133,390.07	
79,159.14	520,576.86	104,115.37	624,692.24	3,123.46	144,241.44	
88,884.18	566,211.52	113,242.30	679,453.82	3,397.27	156,885.89	
91,924.74	611,095.40	122,219.08	733,314.48	3,666.57	169,322.31	
94,893.06	655,218.66	131,043.73	786,262.39	3,931.31	181,547.99	
96,487.62	697,270.71	139,454.14	836,724.85	4,183.62	193,199.77	
99,683.22	739,024.68	147,804.94	886,829.62	4,434.15	204,768.96	
112,847.39	790,473.90	158,094.78	948,568.68	4,742.84	219,024.51	
121,959.95	846,761.28	169,352.26	1,016,113.53	5,080.57	234,620.62	
126,579.95	902,992.30	180,598.46	1,083,590.76	5,417.95	250,201.11	
131,199.95	959,171.65	191,834.33	1,151,005.98	5,755.03	265,767.28	
131,934.11	1,011,417.78	202,283.56	1,213,701.34	6,068.51	280,243.64	
150,679.93	1,078,069.12	215,613.82	1,293,682.95	6,468.41	298,711.39	
156,232.33	1,144,735.47	228,947.09	1,373,682.56	6,868.41	317,183.30	
157,086.01	1,206,716.86	241,343.37	1,448,060.23	7,240.30	334,357.11	
163,387.21	1,269,850.03	253,970.01	1,523,820.04	7,619.10	351,850.05	

	169,688.17	1,334,039.06	266,807.81	1,600,846.87	8,004.23	369,635.54
T	2,697,118.12		3,548,172.91		106,445.19	
C						
T						
A						
I						

SOURCE: COMPUTED FROM TABLES 6 AND 23 112